

HIGH ALTITUDE SOARING IN THE BUNYAN AREA

Airspace Aspects

Version 4

Caution:

These notes are a precis of the best information available as on 11 Sep 2018, covering most of the relevant issues for glider pilots flying from Bunyan. Readers remain responsible to ensure that they operate in accordance with the latest information as per the relevant, current aeronautical publications.

HIGH ALTITUDE SOARING IN THE BUNYAN AREA

BACKGROUND

Purpose of these notes is to provide pilots flying from Bunyan with a set of notes on how to operate within the airspace structure around Bunyan, particularly in respect of high altitude soaring. Pilots should consider these notes as information only and remain personally responsible to ensure that they operate in accordance with the latest information as per the relevant, current aeronautical publications. For the purpose of these notes, if there has been any doubt as to the interpretation of the regulations the more conservative approach has been taken. This will, at least, help to keep us out of trouble and out of jail!

AIRSPACE REFRESHER - GENERAL

Before discussing Bunyan specifics I recommend that all pilots refresh themselves on the various classes of airspace applicable to Bunyan operations (G,E,C and A)

Class G airspace:

- Gliding operations are conducted VFR on a “see and be seen” basis.
- Gliders fitted with radio use the relevant gliding or area frequency.

Class E airspace:

- Gliding operations must be conducted VFR
- Gliders must be fitted with a radio and pilots must operate on the appropriate frequency.
- No clearance is required and communication with ATC is not required.
- Gliders (and other aircraft which don't have a generator driven electrical system) do not need a transponder to operate in Class E airspace.

i.e. glider pilots in class E airspace have the same freedoms as in Class G airspace
However, pilots should note:

- From AIP Australia ENR 1.1-3.2.2 – *Quote*:
 - VFR flights entering and operating in Class E airspace should:
 - a. avoid published IFR routes, where possible;
 - b. monitor the appropriate frequency Class E frequency and announce if in potential conflict; and
 - c. take appropriate action to avoid potential conflict. *End of Quote.*

Class C airspace:

- All aircraft require an air traffic clearance to operate in Class C airspace.
- Gliders cannot always expect to be given clearance, since aircraft operating in Class C airspace normally require transponders. (To arrange an approval for a specific flight in Class C airspace, particularly without a transponder can be troublesome, is subject to agreement with the relevant ATC unit, and beyond the scope of this brief).

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Class A airspace:

- Air traffic clearance is required.
- VFR flight not permitted.
- Transponders must be used.
- While VFR flight in Class A airspace without a transponder is normally prohibited, the GFA has negotiated an exemption with CASA to permit gliders to operate in a Class A, subject to specific conditions. The Bunyan specific conditions will be described later.

Operations at a non-towered aerodrome: Cooma – Snowy Mountains.

Cooma – Snowy Mountains aerodrome has regular public transport flights, mostly once, sometimes twice a day, operated by Regional Express (Rex). Rex is aware of our operations and normally call on 122.7 as they approach our area from the north, on descent; the rest of the time they are on CTAF frequency. It therefore behooves us to operate in accordance with CTAF procedures. Current aeronautical publications need to be consulted for the full picture but the notes below cover some of the considerations for glider pilots operating in the vicinity of Cooma SM.

- Cooma-SM CTAF is 118.1
- The CTAF must be monitored inside 10nm and up to altitudes where inbound/outbound traffic might be expected.
- Make an inbound and/or intentions call when passing 10nm inbound.
- Make appropriate position reports to alert other traffic of your presence/position.
 - Avoid direct pilot-to-pilot dialogue unless necessary for safe separation.
- Consider monitoring CTAF outside 10nm when to the north and north east of Cooma-SM since inbound traffic often change to CTAF frequency up to 30NM from the airport.

Polo Flat Airfield 6nm to our south is also a CTAF 118.1. Polo Flat is privately owned and operated and is predominately a recreation aviation airfield. Operations are not regular and when inactive stock can be on the airfield. Aeronautical publications (ERSA) advises users of Polo Flat that gliders are operating within the CTAF on 122.7. Accordingly, when operating in the Bunyan environs we remain on 122.7. Use common sense when leaving the immediate Bunyan area to the south and monitor the CTAF 118.1 as appropriate.

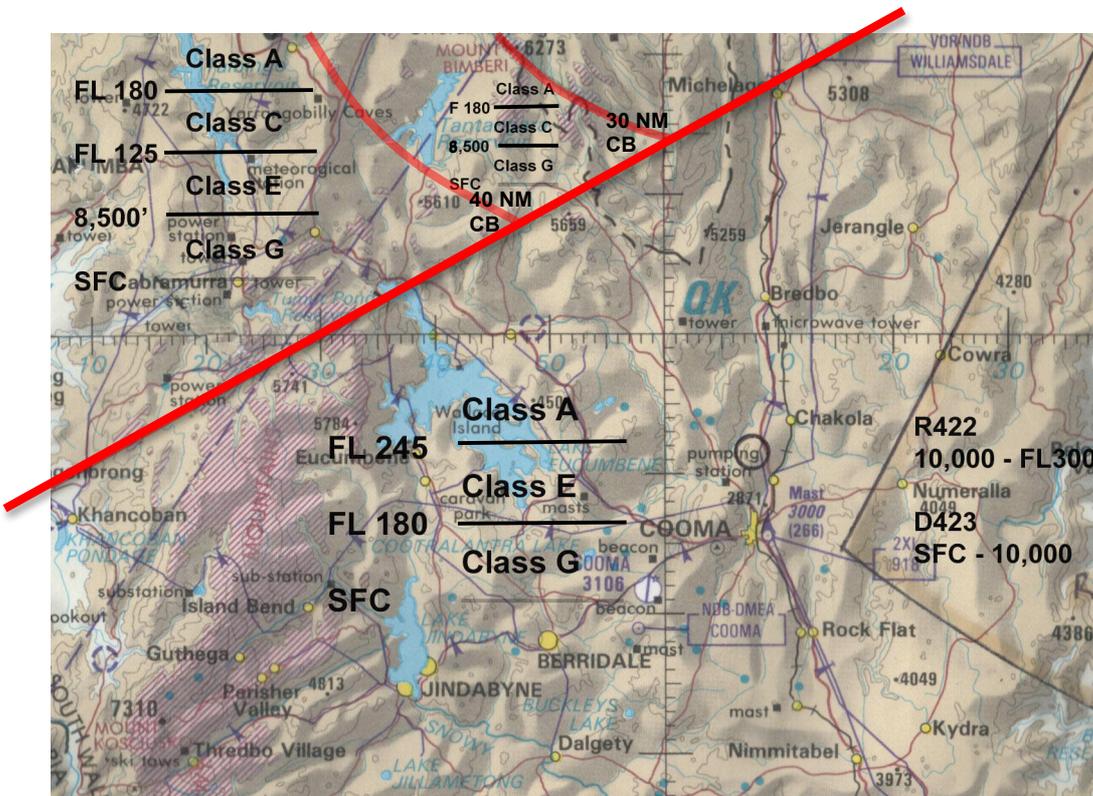
Note: For those that have ‘dual watch’ radios suggest that you use this feature to monitor 118.1 on the standby frequency when in the vicinity of these airfields, if wanting primary on say 122.7.

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AIRSPACE IN THE BUNYAN AREA

The diagram below shows the relevant airspace structure in the Bunyan Area.



The significant feature is the boundary line extending through the Northern Tip of Lake Eucumbene and Michelago (diagonal red line above). (Please ignore R422 and D423- they no longer exist)

North of the Eucumbene – Michelago line

Some class E and G airspace exists north of the Michelago - Eucumbene line. Study of the map reveals that E/G airspace at best reaches up to FL 125, thus averaging less than 8,000 ft AGL. Further, inside 40 NM DME there is no Class E, and Class G airspace extends up to only ~ 2-4,000 ft AGL. Inside 30 NM DME it's only ~ 0-2,000 ft AGL! Without obtaining clearance into Class C airspace this area has almost no practical use for a number of reasons, including:

- 1) The useful bit for wave flying purposes is small.
- 2) Drifting back into the class C airspace is a significant risk.
- 3) It is capped at FL125 which makes it marginal for wave exploitation.
- 4) Chances of falling out of the wave, due to altitude constraints, are increased.
- 5) Outlanding prospects are poor.

Accordingly, operations north of the Eucumbene – Michelago line will not be discussed any further in these notes.

Simply stay out!!

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South of the Eucumbene – Michelago line

This is where your flying will be done – pay attention!

- Above FL245 is Class A.
- From FL180 to FL245 is Class E airspace.
- From the surface to FL180 is Class G airspace.

So, for operations south of the line through Michelago and the northern tip of Lake Eucumbene we are in a very fortunate position. We are able to climb to FL245 without having to obtain ATC clearance, or talk to any ATC agency.

Note: Do not cross to the north of the line. Crossing the line into A or C class airspace by even half a wingspan without a clearance is an airspace infringement. There is no allowable tolerance. Pilots operating VFR in Class G or E airspace are wholly responsible for providing the necessary navigation allowances on their side of the boundary to allow for error. To infringe controlled airspace without a clearance is an offence under law.

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OPERATIONS AT BUNYAN - BELOW FL 245

In reality, 99% of your flying will be done below FL 245, south of the Eucumbene-Michelago line. A low point of 7,000' AMSL will easily give you diamond height without having to exceed FL245.

Radio and altimetry procedures.

Below FL 180 (Class G airspace):

- We should operate on 122.7 around the airfield
- Listen out on the G class area frequency Melbourne Centre 120.75, as appropriate
 - Within the Cooma Airport CTAF (10NM, surface to altitude commensurate with expected inbound/outbound traffic) you must be on 118.1 and comply with CTAF procedures. Further, consider listening out on 118.1 when to the north and north east of the CTAF since inbound traffic often change to CTAF frequency up to 30NM from the airport.
- Above 10,000 set your altimeter subscale to “standard altimeter” of 1013mb and now use the terminology “Flight Level one one five” in lieu of “Eleven thousand, five hundred feet”.
 - (You will need to have noted the subscale value with 2,500 ft selected before taking off at Bunyan so you can reset the altimeter on descent.)

FL 180 – FL 245 (Class E airspace).

- Maintain VFR.
- Ensure you are monitoring Melbourne Centre 120.75 and listen out.
- Take appropriate action to avoid potential conflict.

SUMMARY Below FL 245

It's really very, very simple if you apply good airmanship, radio discipline and proper procedures as follows:

- Carry a map with all the relevant information marked on it.
- Stay south of the line through Michelago and the northern tip of Lake Eucumbene with adequate margin for error to ensure no airspace infringements,
- Below FL180, operate on Bunyan frequency 122.7, listening out on Melbourne Centre 120.75 as appropriate, taking steps to avoid potential conflict.
- From FL180 - FL145 monitor Melbourne Centre 120.75
- Avoid the Cooma Airport CTAF, but use 118.1 if within,
- Set the altimeter subscale to 1013 when above 10,000ft, and
- Do not climb above FL245.

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Here is some additional information that may be of use for those that do not have a navigation system with the Australian Airspace depicted.

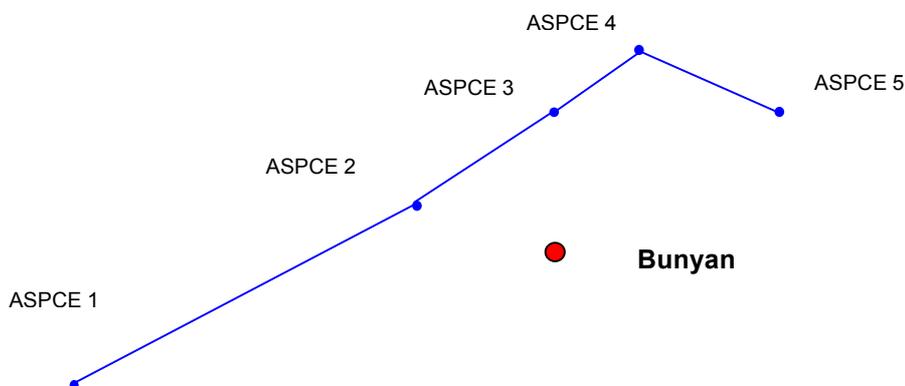
- A list of Waypoints which might be useful for planning purposes, and.

Useful Waypoints

Waypoint	Latitude (S)	Longitude (E)
ASPCE1	36 14'52	147 56'10
ASPCE2	35 51'58	148 48'04
ASPCE3	35 33'27	149 25'31
ASPCE4	35 25'48	149 38'33
ASPCE5	35 43'00	150 30'00

Joining these waypoints together will produce a sequence which will provide the CTA boundary which runs through the Northern tip of Lake Eucumbene over Michelago, thence further north and finally out to the east to keep you clear of A and C airspace.

Waypoint Sequence



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OPERATIONS AT BUNYAN - ABOVE FL 245

For operations above FL245 things are more complex since we are asking for access to Class A airspace under VFR flight rules without a transponder. To achieve this the Canberra Gliding Club has negotiated with both the Civil Aviation Safety Authority (CASA) and AirServices Australia (AsA) access to a section of Class A airspace in the vicinity of Bunyan. This airspace is divided into two areas:

- Snowy Mountain Wave Soaring Area - Low, and
- Snowy Mountain Wave Soaring Area - High

Further, access to these areas has been divided into two categories:

- Individual or Random Flights, and
- Programmed Multiple Operations (e.g Annual Wave Soaring Camp)

For Individual or Random Flights only one aircraft at a time will be cleared into controlled airspace, noting that IFR flights will have priority for the airspace.

For Programmed Multiple Operations, or if simultaneous use of the area is required, i.e. more than one aircraft at a time, a special use airspace titled 'Protective Airspace' needs to be established and a NOTAM issued. This airspace does not confer any priority to glider pilot access, and ATC will still give priority to IFR traffic, rather it simply relieves the ATC controller from the responsibility of separating the glider traffic. Establishment of this airspace cannot be accomplished quickly.

Letter of Agreement. A Letter of Agreement (LOA) has been raised between AirServices Australia and the Canberra Gliding Club, which specifies the conditions for access to Snowy Mountain Wave Soaring Areas. The LOA is attached and any pilot wishing to access the areas must operate in accordance with the agreement. Rather than repeating all the information here, pilots are to study the attachment and operate in accordance with it.

Selected Notes.

- 1) For wave soaring above FL245, flight details must be notified to Melbourne Centre at least one hour before requesting clearance into the Snowy Mountain Wave Soaring Area. (Details advised via phone or VHF – see the LOA sect 5.)
- 2) Pilots must obtain clearance into the Snowy Mountain Wave areas, whether on an individual flight or wishing to access the declared 'Protected Airspace'.

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- 3) Radio procedures and pilot responsibilities are different between Individual operations and Operations within Protective Airspace
- 4) Whilst the Protective airspace is larger than the Snowy Mountains Wave Areas, glider pilots must always stay within then confines of the Wave areas.

The Canberra Gliding Club is designated as responsible for ensuring that pilots in command of operating gliders into Class A Airspace from Bunyan under the authority of the Canberra Gliding Club are briefed on this LOA and any conditions specified by CASA.

Accordingly the club requires that all pilots operate in accordance with this document, including the attached LOA and receipt of this document constitutes the necessary pilot briefing.

Please help us guard the privilege of access to class A airspace by knowing and adhering to the procedures contained in the LOA.

On the following pages are topographical map versions of the Snowy Mountain Wave Soaring Areas, both Low and High.

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SMWSA - AIRSPACE BOUNDARIES

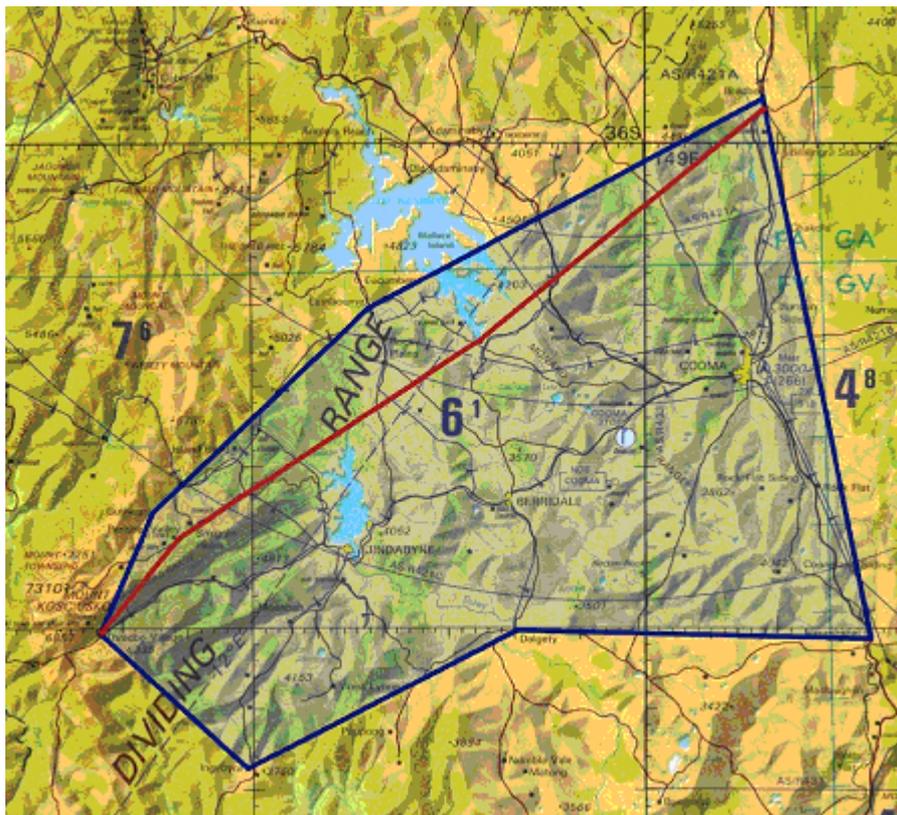
As previously described and as contained in the LOA, The SMWSA comprises two areas, one above the other, known as the Snowy Mountains Wave Soaring Area – LOW and – HIGH respectively. (You will note that Michelago – Lake Eucumbene has **no** relevance above FL245.)

The SMWSA LOW area extends from FL245 to FL300, and SMWSA HIGH area above FL300

Both areas have been designed to incorporate as much of the potential wave area as possible, avoiding the air route structure. Air Route Q38 is the limiting factor to the north of the area and limits how far north we can operate. Since good wave conditions will often exist north of the SMWSA, pilots must pay particular attention to remaining within the area when near the northern boundary and not be enticed out of the area by the promise of more or better wave.

Snowy Mountains Wave Soaring Area - LOW

The blue shaded area shows the area from FL245 to FL300



Geographical features and coordinates for the LOW area are as follows:

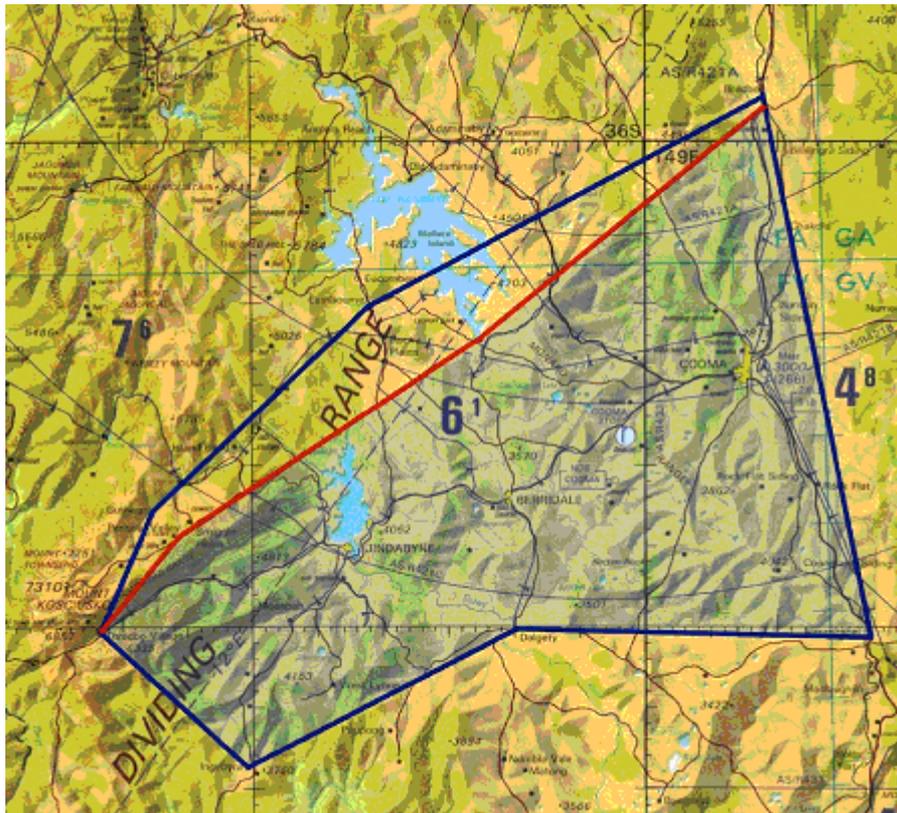
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Bredbo Village	35 57S	149 09E
Eastbourne Village	36 10S	148 39E
Guthega Village	36 23S	148 22E
Thredbo Village	36 30S	148 18E
Ingebyra Village	36 39S	148 30E
Dalgety Village	36 30S	148 50E
Nimmitabel Village	36 30S	149 17E
Bredbo Village	35 57S	149 09E

Snowy Mountains Wave Soaring Area - HIGH

The blue shaded area shows the area above FL 300



Geographical features and coordinates for the HIGH area are as follows:

Bredbo Road River Bridge	35 58S	149 09E	Note: Not Bredbo Village!
South Tip of Eucumbene	36 13S	148 48E	
Perisher Village	36 24S	148 24E	
Thredbo Village	36 30S	148 18E	
Ingebyra Village	36 39S	148 30E	
Dalgety Village	36 30S	148 50E	
Nimmitabel Village	36 30S	149 17E	
Bredbo Road River Bridge	35 58S	149 09E	

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SMWSA OPERATIONAL PROCEDURES

If a climb above FL 245 appears possible, the following procedures will give you access to the SMWSA.

Remember, the LOA is the authoritative document and the following notes are simply an 'aide de memoir'.

- Notification of at least one hour prior to a request for clearance into the area must be given to Melbourne Centre via 120.75 or 119.4 or by telephone (numbers as per LOA)
- If by radio - Radio call eg: "Melbourne Centre, glider XXX, will be requesting clearance to operate in the Snowy Mountains Wave Soaring Area Low, up to flight level XXX after time XXX."
- Subsequent to the above, pilots must contact Melbourne Centre on 120.75 to request clearance to operate within the Snowy Mountains Wave Soaring Area – LOW. This call should be given immediately prior to entering the area. Passing FL 240 in the climb would be appropriate
 - Eg "Melbourne Centre, glider XXX, request clearance to operate in the Snowy Mountains Wave Soaring Area Low, up to flight level XXX
 - (The height that you nominate should be a sensible altitude to which you have a reasonable possibility of being able to climb to.)
- Subject to traffic, pilots will be cleared to operate within the requested area and a maximum height will be nominated.
 - Pilots are to read back their clearance including the maximum height.
- If an 'Individual operations' entry,
 - Pilots are to remain on 120.75 and operate on 30 minute reporting schedules
 - EG "Melbourne Centre, Glider XXX, Snowy Mountains Soaring Area FL XXX, operations normal
- If a 'Protected Airspace' entry:
 - After being cleared to enter, pilots are to operate on 122.7.
 - Air Traffic services will not be provided between gliders
-
- A clearance within Snowy Mountains Wave Soaring area – HIGH should only be requested if operations above FL300 are expected to occur
- When leaving the area pilots will report leaving FL245 on descent
 - EG "Melbourne Centre Glider XXX departing the Snowy Mountains Wave Soaring Area leaving FL245 on descent"
- Radio Failure
 - In the event that pilots become aware, or suspect, that they have suffered a radio failure then as soon as possible pilots should leave

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FL245 on descent and land. Whilst within the area they should continue to broadcast intentions and report when leaving FL245, prefixing calls with, "Transmitting Blind". After landing pilots are to report their arrival to Melbourne Centre, as soon as practicable, as per the LOA. (Which you will be carrying!!)

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Snowy Mountain Wave Soaring Areas

Letter of Agreement

Up until, end of day 19 Sep LOA in force is LoA_249 Version 12

As of 20 Sep 18 LoA_249 Version 13 will be in force.

Whilst the changes do not materially affect the operational procedures both versions are currently on the Canberra Gliding Club Website.

For glider pilots wishing to enter the Snowy Mountain Wave Soaring Areas you are responsible to access these documents and be familiar with them. Below is an extract from LOA_249 Version 13 to remind pilots of their responsibilities.

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3 Pilot briefing

The Canberra Gliding Club is responsible for ensuring that pilots in command of gliders operating into Class A airspace from Bunyan under the authority of the Canberra Gliding Club are briefed on this LoA and any conditions specified by CASA.

4 Operations within Snowy Mountains Wave Soaring Areas

Gliders operating in the Snowy Mountains Wave Soaring Areas must comply with all applicable CASA regulations and this LoA. Where specific approval is required for particular operations, pilots must ensure that such approval is arranged or held by the Canberra Gliding Club. This LoA does not obviate gaining such approval, nor grant exemption from compliance with any CASA regulation.

Air Traffic Control (ATC) is required to provide a separation service to all flights operating in Class A airspace.

A variation to the level of service provided to glider operations to allow no Air Traffic Services including no separation service requires the declaration of Protective Airspace.

The following options are available to glider operators:

Option 1

Individual Operations without the declaration of Protective Airspace:

- For individual or random flights
- Operators are separated from other airspace users.

Option 2

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Programmed Multiple Operations with the declaration of Protective Airspace:

- For multiple flights operating during a known period (e.g. Annual Wave Soaring Camp).

4.1 Option 1 – Individual operations

Only one glider at a time will be issued a clearance to operate within the Snowy Mountains Wave Soaring Areas.

Glider will be given priority on a first come first served basis. IFR flights in Class A airspace have priority over Gliders.

A full ATC service will be provided. Gliders will therefore be:

- Separated from all other airspace users
- Required to contact ATC approaching FL245 and request airways clearance. E.g. 'Melbourne Centre, glider ANO, request clearance to operate in the Snowy Mountains Wave Soaring Area, up to FL270'.
- Subject to other traffic, ATC will issue a clearance up to and including the level advised
- Required to remain on 120.75 MHz
- Required to operate on a 30 minute reporting schedule (120.75 MHz)
- Required to report leaving FL245 on descent upon completion of Wave Soaring operations.

Note: Glider must operate within the boundary of the Snowy Mountains Wave Soaring Areas Low or High and to level restrictions as advised in the ATC clearance.

4.2 Option 2 – Programmed multiple operations

Prior to the Annual Wave Camp or when planning to operate more than one glider simultaneously in Class A airspace, it is the Canberra Gliding Club's responsibility to submit an Airspace Change Proposal (ACP) to CASA Office of Airspace Regulation (OAR) to make an assessment for the establishment of Protective Airspace. OAR will promulgate a NOTAM defining the Protective Airspace.

The lateral boundary of the Protective Airspace encompasses both Snowy Mountains Wave Soaring Areas and visual navigation tolerances. Buffers are also applied to contain VFR altimeter errors. See [Appendix C](#) for the definition of the Protective Airspace.

Note: Glider must operate within the boundary of the Snowy Mountains Wave Soaring Areas Low or High and to level restrictions as advised in the ATC clearance.

In conjunction with Protective Airspace NOTAM the OAR will promulgate the Intense Glider Flying NOTAM as per [Appendix C](#). In other instances this may be promulgated by Melbourne ATC.

4.2.1 Operations within the Protective Airspace

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Melbourne Centre (120.75 MHz) is the controlling authority for the Protective Airspace.

Gliders require individual clearances from ATC (120.75 MHz) to enter and operate within the Danger Area. Gliders must report approaching FL245 (the base of Class A airspace) and request clearance advising the upper level of expected operations.

E.g. 'Melbourne Centre, glider ANO, request clearance to operate in the Snowy Mountains Wave Soaring Area, up to flight level 270.'

Subject to IFR traffic, ATC will issue a clearance up to and including the level requested. IFR flights have priority over gliders.

Gliders will not be provided with any Air Traffic Services and are required to operate on the gliding frequency (122.7 MHz) once established within the Protective Airspace.

Gliders must be contactable via the Canberra Gliding Club – Mobile Operations Van contact number below, or on 122.7 MHz.

Gliders must report leaving FL245 on descent to ATC on 120.75 MHz confirming they are clear of Class A airspace.

5 Flight notification

For wave soaring above FL245, flight details must be notified to Melbourne Centre via the contact telephone numbers below (alternatively to ATC direct on 120.75 MHz or 119.4 MHz) at least one hour prior to a request for a clearance. Flight details will be obtained and planned into Eurocat.

6 Clearances

Subject to traffic, gliders will be issued a clearance as per the following:

1. For operations up to and including FL300 the lateral limits of the clearance will be defined as Snowy Mountains Wave Soaring Area – Low
2. If operations above FL300 are requested, the lateral limits of the clearance will be defined as Snowy Mountains Wave Soaring Area – High.

7 Radio fail procedures

Gliders becoming aware that they may have suffered a radio failure should, as soon as possible, leave FL245 on descent and land. They should continue to broadcast intentions and broadcast when leaving FL245.

Broadcasts should be prefixed with 'Transmitting Blind'.

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After landing they must report arrival to Melbourne Centre on the Melbourne Centre –ATC (Console) telephone number.

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