

APPENDIX 6

Flying Sites: Perth Hills

*This appendix provides detailed information
on each of the proposed flying sites*

Eastings and Northings are given in GDA94.

Flying sites in the Perth Hills region.

1.0 Introduction

HGAWA is seeking to commission two new flying sites in the Perth Hills region. This document is an appendix to *HGAWA EMP for Flying Sites in CALM Managed Land (2005)* that provides background information on relevant regulatory and management aspects of foot-launched gliding.

This submission has been prepared for following reasons:

- Perth, and WA in particular is not the best place in world for para- or hang gliding sports. This is due to the limited number of inland hill-launching sites due to the mostly flat terrain of the Perth coastal plain, heavily wooded hills in the ranges and flatlands of the interior Wheatbelt.
- HGAWA members currently have the use of three inland flying locations that are either privately owned or privately managed. These are the only sites within a day's return driving. Due to the age of owners, one of these properties has now been sold. This site at Toodyay, which historically was the first tow-launched gliding site in WA, will inevitably be lost as development occurs.
- The currently available sites near Perth have limited use. As with any launching site, the available sites have restricted seasonal use in relation to the wind direction they face. Mt Bakewell at York has launches facing into the summer south easterlies and Toodyay and Serpentine depend on winds backing from north west to south west in the cooler months
- There are a several beach flying sites that have completely different flying characteristics to inland flying sites. Inland sites are amenable to thermal flying where several thousand feet altitude can be gained for cross-country flying. Dune sites are predominantly used by those living close to the coast. Existing sites are at Warnborough, Cottesloe, Mullaloo, Burns Beach and Two Rocks. Dune preservation structures have closed the Mullaloo site and have restricted use of Warnborough due to the physical risk these present to pilots. Not all beach sites are suitable for hang gliding, and those that are, are of marginal value to the hang gliding community.
- Perth does not have any launching sites for the predominant SSW summer winds, or NW to ENE winter winds.
- There are good reasons for wanting to fly in National Parks

These are public lands that should be available for public use, provided there are no adverse impacts on the environment. Where there are natural launching sites on public land, these are highly regarded because minimal disturbance is required

for commissioning and the natural beauty of the locality adds considerably to the enjoyment of both getting there and flying.

2.0 Mount Dale

The proposed Mt Dale launch site (Figure1) is located approximately 500m directly north of the Mt Dale communications towers. The location is a natural¹ launching site (Photo 1) located on a granite outcrop overlooking spectacular valley views to the north east (Photo 2). Located nearby are other granite outcrops that would serve as top-landing sites. In the valley below are bottom-landing sites (Photo 3) that can be accessed by roads that are open to the public. These are either granite outcrops, cleared areas for pine forest or roadways.

2.1 Site Data

Launch Site Location: 433 924 East, 6 445 856 N; 1637ft amsl.

Launch Direction: North east

Seasonal use: Winter when winds lie in the NNE to ENE direction.

Level of pilot expertise: Intermediate with site introduction.

History of site usage: This is a proposed site not previously used for launching.

Landing sites: There is a top-landing site 250 m to the NNE of the launch and another approximately 500 m to the WSW of launch. There are bottom-landing sites on outcrops and open and cleared areas in the valley below (Photo 3)

Getting there: There are two approach routes; either via Pickering Brook Road; RHS Ashendon Road; LHS Mt Dale Road; or via Brookton Highway, LHS Ashendon Road, RHS Mt. Dale Road. The Ashendon Road (from Brookton Hwy) and Mt Dale turn-offs are well marked. However, the Ashendon/Pickering Brook intersection (in pine forest) is not sign-posted. Ashendon is wide and well-made road that cannot be missed. High-tension power lines run parallel to Ashendon Road on its east; if you cross these on the Pickering Brook Road, you have gone too far.

2.2 Existing Environment

Launch Site The proposed launch site consists of a large open area on a granite outcrop. Behind the launch site are tall shrubs and then a line of Jarrah and Marri trees against the 4WD access track. To the south and north of the launch are wooded Jarrah/Marri slopes well clear from the site that do not present a risk to pilots. Apart from one Wandoo gum (*Eucalyptus wandoo*) located about 80 m below and in front of the launch (Photo 4), there are no other trees or vegetation that present a risk to launching pilots.

¹ A “natural” launching site is one where minimal disturbance is required to facilitate commissioning - including launch area, bottom and top landing sites.

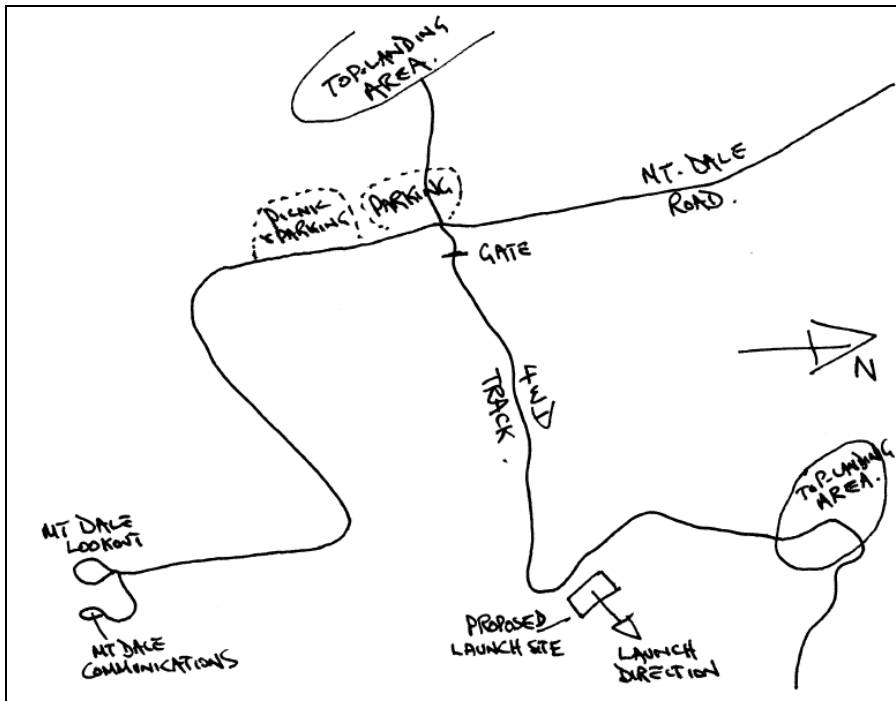


Figure 1. Mud Map of the Mount Dale Launch Site

Soils and vegetation. The site consists of either bare granite with a scattering of rocks and shallow red sandy clays in cracks and depressions over granite. There is a proliferation of low groundcovers on shallow soil that accumulates to the rear of the granite. Vegetation includes scattered perennials, ground covers and woody shrubs to about 25 cm.

The DRF species *Tribonanthes purpurea* has been identified in the locality of Mt Dale. It is a tuberous, perennial herb 3 to 4 cm in height with pink to purple flowers. It is found in seasonally wet soils in moss swards and herbfields among granite rocks (Florabase). were in flower when the site was visited on 2 October 2006.

Access to launch site. Access to the site is via 4WD vehicle track from the Mt Dale Road at the Omeo Road junction at the foot of the ascent to Mt Dale. There is a locked metal barrier at the entrance to the 4WD track. HGAWA would wish to negotiate the use of the 4WD track for vehicle access at least for the use of hang glider pilots. This is because hang glider aircraft weigh between 23 and 35 kg, depending on the model. The distance and gradient would prohibit carrying such a load. Paraglider canopies come in at a much lighter 5 kg. However, harnesses and reserve parachutes add an additional 10 kg to the load for both glider types.

Car Park An informal carpark is located at the intersection of the access track and Mt Dale Road; additional parking is available approximately 60 m further up Mt Dale road at the picnic spot.



Photo 1. Proposed Mount Dale Launch site looking south. A bird-watching hide is located in the forest in the background of the photograph



Photo 2. View from the proposed launch site looking north east



Photo 3. Bottom- landing areas in the valley below the launch site.

Other facilities: Facilities include the Mt Dale lookout, a picnic area and the Bibbulmun Walking Trail. A bird watching hide is located on the NE slope of Mt Dale. There is also a network of old dirt roads, now closed to vehicle traffic that can be used by hikers and walkers. There are public toilets located near the intersection of Mt Dale Road and the 4WD access track. The communications centre, above the Mt Dale lookout, includes aircraft navigation beacons.

Landing Sites. There are bottom-landing areas in the valley below the launch site on cleared land, roads and granite outcrops and there is a top-landing site about 250 m to the NNE of the launch with an interconnecting track between the two. The top-landing site is an open area of about one hectare consisting of 4WD track, an open area of low woody shrubs to about 1 m and open granite outcrop that the vehicle track traverses to reach the valley below. This area would be suitable for landing a paraglider. However, there is insufficient space here for landing a hang glider. A suitable hang glider landing area is located on a large open space located on a granite outcrop about 100 m to the west of Mt Dale Road on Omeo Road (Photo 5). Pilots would in every instance prefer to use the top-landing sites. Bottom landing sites would only be used if circumstances prevented a top-landing.

Public uses of the Mt Dale area: Given the available facilities, other uses of the locality would include hiking, bush-walking, picnicking, bird-watching and sight-seeing. The communications towers would be visited from time to time by maintenance technicians. Allowable sporting activities could include regaining.

2.3 Site Requirements

The wingspan of a hang glider or paraglider varies between 8 to 10 m. A launch site normally requires about 100 m² for layout and glider launch with a total open area of about 400 m² that excludes any trees or tall shrubs. The larger 400 m² area is required to ensure that gliders do not get entangled in vegetation should turbulence veer or collapse a paraglider canopy to one side during the launch procedure. Additionally, on inland sites, turbulence can be created around tall vegetation that adds risk to the launch procedure. The proposed site is open and includes an area much greater than 400 m² that will not require any disturbance.

Very little disturbance of the existing granite outcrop would be required. To prepare the site, a clear area of about 100 m² is required. In this area, all low woody shrubs would be removed, by cutting at the base, with any loose rock and stone being moved to one side or used to fill cracks in the outcrop. Perennials need not be disturbed. No other work need be done on the launch site itself to prepare for a safe glider take-off.

To ensure a safe flight away from the launch immediately after take off, one Wandoo gum (*Eucalyptus wandoo*) (Photo 4) immediately in front of and below the launch would need to be felled. This could be sawn off leaving a sizable stump that will regrow with time. Regrowth from the stump could be coppiced as may be required.

A short footpath of about 15 m length would be required between the 4WD track and the proposed launch site.



Photo 4 . Tree located below and immediately in front of launch direction.

2.4 Management Objectives

The following are key management objectives that relate to the sustainable use of a given site in terms of vegetation and landforms and ensuring that the proposed use does not intrude on the landscape and that the proposed use retains equity for all users of the park

➤ *Pilot safety*

Note that safety is a priority issue of the Civil Aviation Authority which is delegated down through the Hang Gliding Association of Australia to HGAWA and local flying clubs.

Prior to general use the site requires a site visit by a HGAWA Senior Safety Officer. Should the assessment prove positive, test flights would be undertaken to assess the risks of the given flying site. HGAWA protocols require that no pilot should fly at a given site without a site induction from another who has site experience. First flights would be undertaken by a Senior Safety Officer of the relevant gliding sport and this knowledge passed on to other pilots before being allowed to launch at the site.

A site inspection has already been undertaken by the Western Soarers Hang and Paragliding Club Senior Safety Office, Mr R Williams. Mr Williams has determined that the site is suitable for further safety assessment subject to the felling of the tree directly in front of the launch site (Photo 4).

➤ *Ensuring visitor safety*

The proposed launching site is well away from areas likely to be frequented by other park visitors. Local areas of interest include the Bibbulmun Walking Track, picnic and lookout all located at some distance from the launch site and beneath a canopy of trees that would be avoided by pilots. There is a bird watching hide located in Jarrah/Marri woodland about 250 m south of the Launch Site. Activities at the launch site would be unlikely to disturb birdwatchers due to the terrain and screening vegetation. The top-landing sites are not located where members of the public are likely to be found, especially during the proposed winter-time use of the site. Insofar as the landing area is concerned, the HGFA Operations Manual requires strict separation of airborne gliders and members of the public.



Photo 5. Landing area located to the West of the Mount Dale Road looking north west. Omeo Road crosses from left to right in the middle ground.

➤ *Protection of the environment.*

The launch site (Photo 1) is stable due to the underlying granite.

An area of 10 x 10 m will have woody shrubs removed by cutting at the base of the stem. One Wandoo gum below the launch site will be required to be removed and if any rocks are present within the 100m launch area, these will be moved aside or used to fill cracks in the granite.

Launch Area: The launch area would require removal of woody shrubs in a 100 m² area that are both common and widespread both in the locality and within the local region. Removal of low shrubs will not cause soil erosion as the site is located on a solid granite outcrop. Perennials would be unlikely to be affected as foot traffic on and around the launch site is likely to be only occasional.

Declared Rare and Priority Listed Flora: The DRF species *Tribonanthes purpurea* has been identified in the locality of Mt Dale. It is a tuberous, perennial herb 3 to 4 cm in height with pink to purple flowers. It is found in seasonally wet soils in moss swards and herbfields among granite rocks (Florabase). Blossom on flowering shrubs and perennials were photographed, for later identification, on 2 October 2006 when all vegetation on the site was in flower. *T. purpurea* was not identified amongst the photographs taken. To avoid damage to spring perennials, pilots will requested to avoid walking on shallow soils that accumulate to the rear of the granite during the spring growth period.

Tree felling: The felling of one Wandoo gum will not cause an adverse environmental impact. The tree is not of sufficient age to include nesting hollows and is of a species that is both common and widespread in the locality and greater region. When felling the tree, the trunk and canopy should be allowed to fall onto the slope below the tree which will provide additional habitat at that level.

Footpath: The footpath between the 4WD track and the launch site would not require the removal of any plants and would thus be unlikely to cause erosion. To minimise damage to the vegetation, a footpath would be marked out with surveyors' tape to ensure the same pathway was always used. If erosion is noted in the future, advice would be sought from the DEC District officer to remedy the problem.

Granite outcrops are "islands" in a sea of forest that provide habitat for reptile species. Loose boulders and rocks on the outcrop are an important refuge for lizards. Small rocks within the immediate area of the proposed launch site would not be removed, but would be moved to one side or used to fill cracks, thus retaining the habitat.

Top landing sites: The top-landing *areas* that are granite outcrops appear to have been subject to previous disturbance by off-road vehicles and stripping of rocks and boulders, probably for the landscaping market. Landing on these open areas with either paragliders or hang gliders is highly unlikely to cause any adverse impact on these locations any more than an occasional person walking across these.

Bottom landing site: The impact of a pilot landing on any given area would be no more than that of one person walking across the area on a rare occasion or the passage of a local kangaroo. Any given bottom-landing would be on a random basis if and when weather conditions allow a flight to take place.

Die-back: Spreading of die-back is an issue to be considered in any parkland or reserve area. However the Mt Dale area is not quarantined and is a popular area that is visited by sight seers, hikers along the Bibbulman Trail and short-distance bush walkers who utilize local roads and paths as well as technicians attending the communications equipment, Conservation and Forestry Department workers.

The proposed launch site is immediately adjacent to a track frequently used by DEC and Forestry vehicles and bush walkers as well as visitors to the nearby bird hide. Consequently occasional visits by pilots to the proposed launch site will not increase the risk of die back spreading in this area.

Use of vehicle track: The proposal to allow vehicle access to the track up to the launch area would require parking adjacent to the launch area. The track is well developed and is linear for a distance of about 250 m along the top of the ridge behind the proposed launch area (Figure 1). This would provide adequate space for vehicles to be parked, one behind the other on the edge of the track. At the northern end of the track where it crosses the granite outcrop, there is ample space available to do a three-point turn without the wheels touching vegetation.

➤ *Provision of adequate facilities*

The proposed site would be used by Perth Pilots and is likely to experience at most 10 to 15 people on the site at any one time when weather conditions are optimal for the site. Pilots usually car-share to minimise travel expenses; consequently, there should be less than half the number of vehicles required than pilots on site. However, it would be very unlikely for such numbers to be achieved on a regular basis.

There are parking areas at the base of the hill on Mt Dale Road with sufficient space for a large number of vehicles with adjacent public toilets. On two weekend visits to the site in the best of spring weather in September and October, there were not more than two other cars parked during each visit – this indicates the probable moderate level of use at the two lower car parks.

It is also proposed that vehicle access be allowed up the track from the Mt Dale Road to the proposed launch site.

Pilots would most likely visit Mt Dale in winter months when other users of the park could be in lower numbers.

➤ *Equity of use*

There would be no exclusivity of use or exclusion of any other group of users of the Mt Dale area. The parking facilities are adequate to cope with any group of pilots together with other park visitors, especially during winter months.

Use of the proposed launching area would not encroach upon nor interfere with activities at the bird-watching hide. This is located some 125 m distant and is hidden by surrounding forest and shrubland from the proposed launch site. The best time for bird-watching would be in spring whereas gliding activities would most likely take place in winter. On two visits in spring, the hide was not observed to be in use which indicates a low level of patronage.

3. Churchman's Reserve

The proposed Churchman's Reserve Launch Site (Figure2) is located on a hill overlooking Jarrah/Marri forest sloping to the north and small holdings in the valley floor on Soldiers Road to the east of Armadale. The launch site is located in the Churchman's Reserve which is part of the Darling Range National Park.

Note that this proposed site includes many of the issues covered in Section 2 above for the Mt Dale location. Consequently, any common issues will not be revisited in this section.

3.1 Site Data

Launch site location: N 6 443 680; E 411 582

Launch direction: NE

Most suitable: NNE to ENE winter winds.

Level of pilot expertise: Intermediate with site introduction.

History of site usage: This is a proposed site not previously used for launching.

Landing sites: There is a very large top-landing area located in cleared land to the south of the launch area (Figure 2). Bottom-landing sites are located on private land below the proposed launch site. Landing rights will be negotiated with private land holders.

Getting there: Access is via Brookton highway, Soldiers Road, RHS Beeloo Road to the carpark. Alternatively, access can be via Waterwheel Road off Albany Highway, LHS Canns Road, RHS Churchman Brook Road, LHS Beeloo Road.

3.2 Existing Environment

Launch Site: The launch site (Photo 6) is located within 100 metres of an established vehicle track. The site presently consists of an open area on mostly bare granite outcrop. Tall shrubs and Jarrah Marri woodland lie to the rear of the outcrop. There are a number of tall dead trees to the west of the proposed launch and tall shrubs to the east. Jarrah/Marri forest lies below the launch with no significant trees that could be a hazard to the launching pilot. Some smaller trees that lie below and within 50 m of the launch may need to be trimmed from time to time to ensure an unobstructed flight away from launch.

Landing Sites. The preference is always for pilots to use top-landing sites. However, safety considerations require that any flying site include safe areas for bottom landing should the need arise. There are bottom-landing areas on private land in the valley below the launch site. Conditions for the use of these sites will be negotiated with the

landholders. There is a top-landing site in a large open area to the south of the launch. This is an open grassed area within the Churchman's Reserve.

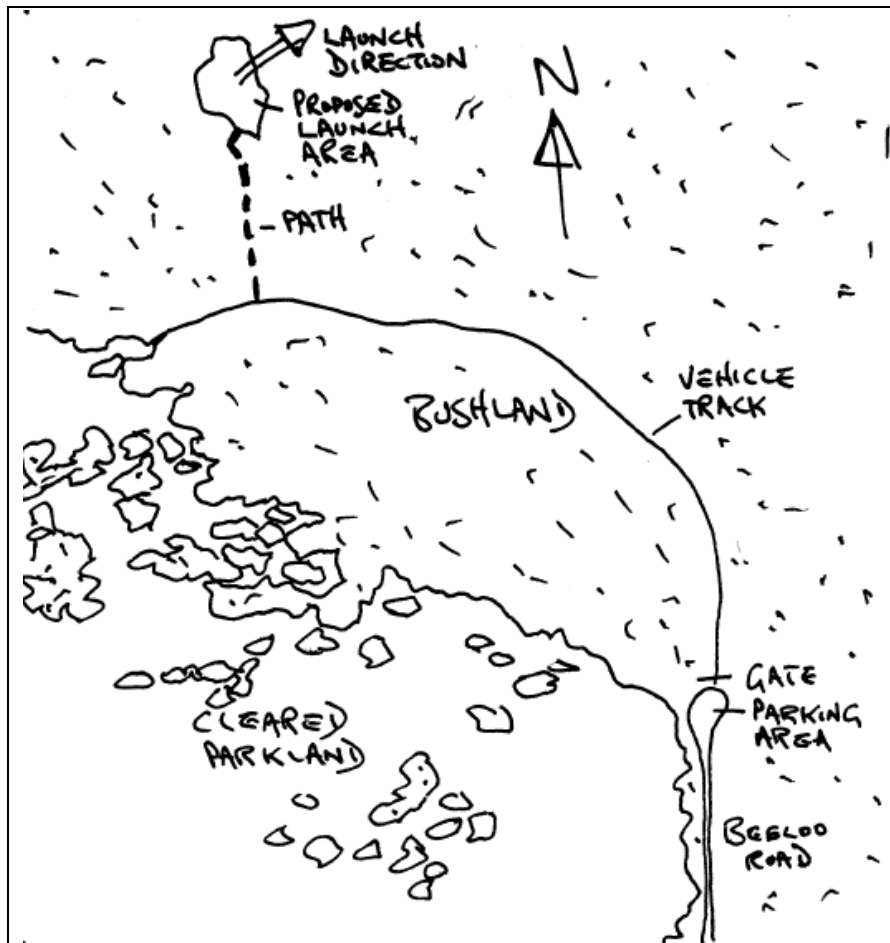


Figure 2. Mud Map of the Churchman's Reserve Launch Site

Access to the Launch Site: Access is on a vehicle track between the car park and the launch site. There is a locked metal barrier on the exit from the car park to the access track.

Access to Top-Landing Sites: Access is on an existing vehicle tracks and open land.

Soils and vegetation: The site is an almost solid bare granite outcrop with shallow sandy clays in cracks and in a shallow depression to the rear of the site. There are occasional woody shrubs and perennials rooted in cracks with groundcovers, perennials and low woody shrubs on shallow soil to the rear of the site. There is a small Marri tree located on the central area of the proposed launch area which would have to be removed for commissioning the site. Behind the launch site are tall shrubs to 2m and further back is a Jarrah and Marri woodland at a distance from the proposed launch. There are a few tall dead trees on the eastern margin of the site.

Car Park A formal carpark is located at the northern end of Beeloo Road.

Other facilities: Other facilities include walking trails and suitable sites for rock-climbing.

Public uses of the Churchman's Reserve: The locality is mostly used by people who live nearby. Churchman's Reserve is a popular area for walking and enjoying bush land and the outdoors. The Climber's Association of WA has permission to use rock faces in the park for rock climbing.

3.3 Site Requirements

Very little disturbance of the existing granite outcrop would be required. To prepare the site, a clear area of about 100 m² is required. In this area, all woody shrubs would be removed (see Photo 7) by cutting at the base. The small Marri tree would have to be removed (see Photo 6), as this is in the centre of the proposed launch area, with any loose rock and debris at the base of the tree being moved to one side or used to fill cracks in the outcrop. No other work need be done on the launch site itself to prepare for a safe glider take-off.

To ensure a safe flight away from the launch immediately after take off, sapling trees in front of and below the launch may need to be partially trimmed to allow a clear line of flight for glider launching.

A footpath of about 100 m length would be required between the access track and the proposed launch site. To minimise damage to the vegetation, this footpath would be marked out with surveyors' tape to ensure the same pathway was always used.

3.4 Management Objectives

The following are key management objectives that relate to the sustainable use of a given site in terms of vegetation and landforms and ensuring that the proposed use does not intrude on the landscape and retains equity for all users of the park.

➤ *Pilot safety*

A site inspection has already been undertaken by the Western Soarers Hang and Paragliding Club Senior Safety Office, Mr. R Williams who has determined that the site is suitable for further safety assessment subject to the removal of the tree located on the launch site.

➤ *Ensuring visitor safety*

The proposed launching site is well away from areas likely to be frequented by park visitors. The top-landing sites are not located where members of the public are likely to be found, especially during the proposed winter-time use of the site. Insofar as the landing area is concerned, the HGFA Operations Manual requires strict separation of airborne gliders and members of the public.



Photo 6. Churchman's Reserve Proposed launch site looking east



Photo 7: Churchman's Reserve – Proposed launch site looking towards the launch direction.

➤ *Protection of the environment.*

The launch site (Photo 6) is stable and non-eroding due to the solid underlying granite structure.

An area of 10 x 10 m will have any woody shrubs (see Photo 7) removed by cutting off at the base. One Marri tree will required to be removed from the centre of the launch site. After removing the tree, any rocks at the base of the tree will be moved from the launch area to the side or used to fill cracks.

Launch Area: Removal of occasional low shrubs will not cause soil erosion as the site is located on a solid granite outcrop.

Footpath: The footpath between the access track and the launch site would not require the removal of any plants and would thus be unlikely to cause erosion.

Tree removal: The removal of one Marri tree (Photo 6) will not cause any adverse impact as this species is both common locally and widespread in the greater region. The tree is not of sufficient age to include nesting hollows.

Reptile habitat: Loose boulders on granite outcrops provide habitat for lizard species. There do not appear to be any rocks on the site; however, if any need to be moved, these would be moved to one side or placed in cracks, thus retaining the habitat.

The top-landing area is a disturbed area, probably previously used for stock grazing. Landing on this open area with either paragliders or hang gliders is highly unlikely to cause any adverse environmental impact.

Bottom landing areas: Local landowners will be consulted and their permission obtained for landing, should the need arise. These areas are all cleared for pasture.

Die Back: The locality is not quarantined. As the areas is already popular with walker, sight seers and rock climbers, it is unlikely that the additional presence of small numbers of pilots would increase this risk.

➤ *Provision of adequate facilities*

The proposed site would be used by Perth Pilots and is likely to experience at most 10 to 15 people on the site at any one time. Pilots usually car-share to minimise travel expenses; consequently, there should be less than half the number of vehicles than pilots using the site. It would be very unlikely for this number of people to be present on more than a few occasions per year.

There is adequate parking space at the car park.

Pilots would most likely visit Churchman's Reserve in winter months when other users of the park could be in lower numbers.

➤ *Equity of use*

There would be no exclusivity of use or exclusion of any other group of users of the Churchman's Reserve. Other users mostly include walkers and rock climbers. The parking facilities are adequate to cope with any group of pilots together with other park visitors, especially during winter months.

Summary: Use of the launch site and top-landing sites present very little in the way of environmental impact or conflict with other users.