Environmental Impact Assessment

Mt Larkins Bivouac

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Reveiwed by MWH - Simon Beale
For DOC Concession application for lease for biv site

F 2 Description of Existing Natural Environment

Location background

This area has traditionally been Crown Land, part of Wyuna Pastoral Lease. Tenure Review has been completed for this area in January 2007.

As the area is newly gazetted DOC land it will be some time before a Conservation Management Strategy is prepared and completed for long term administration of the Richardson Area. For now the area will be managed under the neighboring Mt Aspiring National Park CMS.
For the purpose of identifying features, values (and policies) that currently relate to new areas of

DOC administered land, it may be worthwhile to consider CMS and Impact Zoning of DOC areas nearest the newly reviewed area. This is Greenstone/Caples (Dart Ecological District)to the west across Lake Wakatipu and Mt Aurum (Richardson–Shotover Ecological District) to the east.

Location/ Area
The location is described as the saddle area of Stone Creek /north face of Mt. Larkins in the Richardson Mountains.

Features
Predominantly tussock with Beech forest pockets.
Above the tree line, the low alpine zone is characterized by snow tussocks, alpine shrubs such as dracopyllum and speargrass. Making up the alpine zone are mountain daisies, buttercups, dwarf cushion vegetation, herbfields and fellfields that are growing to different extents and altitude depending on exposure to frost heave and snow cover.
The high alpine zone features snow cover for five to six months of the year on glacial cut bare faces and screes.
Fauna includes keas, goats, rock wrens, scree wetas, alpine grasshoppers and magpie moths.

Values
There are large areas of natural landscape with pristine habitats, unmodified vegetation and stable soils.
Heritage values are high with significant areas of modified landscape from 100 years of Scheelite mining activity. There are sluicing scars, disused mine drives, huts, water races, bridal paths and bulldozed four wheel drive tracks dissecting many faces in the low alpine to alpine zone. Scheelite mining occurred ' where they found it.... ' resulting in mine sites and tracks being located higher than 1800m altitude (Larkins Slip mine and Black Peak).
Scenic values are high as a result of the elevated open nature of the landscape with substantial panoramic views.
Recreation and tourism values are high with historic use prior to tenure review mainly relating to motorized access allowable on the mining tracks and helicopter accessed recreation.

Description of Bivouac

E Description of service/ Activity

The biv will provide a place to accommodate visitors to the high alpine zone. The biv will be providing basic safe shelter – cold at night but warm during the day. The position of the biv on a high sunny saddle at 1850m on the 2300m Mt Larkins massif will prove popular for recreation all year round. There is a historic scheelite mine track and merino trail all the way to the hut from the valley floor.

The 6 bunk biv is designed to suit winter operation at the high snow fall site. It will be open to the public and never locked. The structure will be basic shelter with no running water. Visitors will bring their own food and equipment - melting snow for water. All hut grey water and sewerage will be contained in a holding tank toilet.

The biv will be able to host winter visitors that hike and ski tour up to the area or arrive by helicopter. The site is under the Queenstown to Milford flight corridor and close to Glenorchy airstrip - helicopter use is normal for the area. In summer the hut will be able to host hikers and mountain bikers descending the existing track which passes through historical scheelite mine sites. The all year round hut activity can be serviced by two helicopter landing per day (2 x four seater or 1 x six seater)

The cost of staying in the biv will be $25 per night per visitor. It will be able to be booked directly or through agents. A visitor book and honesty system will be in place to allow for visitors that may come upon the biv and stay.

The venture will be small scale. The biv and toilet have a small footprint on the high alpine site mainly featuring screes and mosses. In winter the activity at the site is on snow. In summer, visitor footsteps have impact but vegetation is stable with bedrock close to the surface. Permanent stock tracks which are beneficial to follow lead directly to the biv site.

Construction Activities

The construction work will be undertaken in a 9 day period of settled weather. Earthworks for foundations will entail removing dirt and bedrock to create holes allowing placement of concrete and piles in a 2.7m radius under the structure. No leveling of the ground will be necessary.

Twelve 12mm steel rods will be drilled and grouted into bedrock as anchors for the hut and toilet torque set cable systems.

Concrete will be dry pre-mix and transported by helicopter .

Construction materials and labour will be heli-transported to the site in three loads. Excavated material from the foundation work and all rubbish will be removed from the site with back flights. Construction labour will remain on site for the duration of the activity.

The construction phase will be managed to ensure minimal disturbance to the site. Photographs of the site before and after will demonstrate this.

H Assessment of effects on the environment

Physical/Visual effects

The removal of ground cover, earth and rock during construction of the foundations will result in a small loss of alpine vegetation at the site. This will not result in a significant visual effect due to this occurring under the structure.

The area directly around the hut will not be modified.

The visual effect of the physical presence of the hut and toilet is significant when visitors or aircraft are approaching from the east or north east within 200m distance of the hut.

From other directions the visual effect of the hut is insignificant. It is not visible from any place in the Head of the Lake Area or the Glenorchy to Queenstown road. When hiking to the biv it can only be seen during the last 5 minutes of the journey. It is a challenge to identify the hut even from the high saddle of Mt Larkins at 2250m altitude looking north directly over the hut site.

Social Effects

Effects of the Construction Activities

During the construction period of 9 days in Jan-March there will be minimal disruption to other area users as the hut site is remote. Currently it is estimated that less than 50 visitors would visit Mt Larkins in the summer season.
Noise at the site will be limited to a short period for the operating of rock drills and hand tools for construction.

Four helicopter flights during construction will result in noise at the valley floor during landing approach and take off to/from Glenorchy airstrip - approximately 60 seconds per flight.
Flight turn around times will depend on load and weather conditions. Generally flights to the site for a B2 from Glenorchy airstrip are less than 8 minutes turnaround. Approximately 65 % time is

ascent and 35 % descent. It is estimated that visitors to the area would hear diminishing helicopter noise for no longer than a minute per flight.

Effects on Amenity/Recreation values

The Mt Larkins bivouac will contribute to the recreational opportunities in the Head of the Lake area. Glenorchy is the gateway to walks in Mt Aspiring National Park which have huts in valleys or on bush line that are busy in summer but are not operational in winter. In the Forbes Mountains there is Esquilant bivouac at 2250 metres altitude on Mt Earnslaw - operational all year round,used by climbers but not suitable for ski tourers.

It is planned that Mt Larkins bivouac will be suitable as a ski touring base for multiple day trips for small groups. The Richardson Mountains is gradually becoming administered by DOC through tenure review . When remaining pastoral leases of Temple Peak and Rees Valley complete their reviews, it is most likely that the wider area will be administered as a Conservation Park.

A new CMS will be drawn up and part of this process will be public submissions representing interest from the community for overnight ski touring trips based at alpine bivouacs.

It is likely that management policies will relate to classification of the area as a Moderate Impact Zone. Section 8.3.3 of Mount Aspiring National Park Management Policies states the

Objective of the Moderate Impact Zone

….is *to allow a greater degree of impact in the more accessible areas of the park and more varied uses than elsewhere…*

Management Policy

…Huts may be provided at strategic locations to shelter those using the tracks/routes..
Huts will be provided on walking tracks… at locations a maximum of one average day's walk from road end or nearest hut.
Concessions may be permitted, including the provision of facilities in accordance with policies of the management plan..

Explanation of 8.3.3

…Facilities are often needed to enable the full enjoyment of the recreation resources of the park and these can be provided without unacceptable environmental degradation if care is taken in their provision….

Section 8.20 Huts Policy

…Huts may be provided by concessionaires in the Moderate Impact Zone only
Camping sites may be provided adjacent to hut sites….

Section 8.20 Explanation

…The standard (of hut) should reflect the character of the tramping track or route….

...Larger huts are recognized as providing a less pleasant experience and are not considered to be in keeping with the remote, unspoilt character of the park. Smaller buildings, sympathetically sited, are advocated.
...Safety in such isolated country needs to be provided for....

Prior to tenure review pastoral leasees have granted permission for public to utilize existing farm tracks and roads for motorized access to alpine areas above the bush line resulting in day trips being suitable.
The pattern of outcomes from tenure review show that hiking from the valley floor becomes the main access allowable- resulting in the public taking longer to reach alpine areas. The provision of huts for multiple day trips will allow the public to enjoy areas of new conservation land that are too remote to access by day walks. From a safety point of view it will be beneficial to promote overnight accommodation in huts in case people are ' caught out ' with changing weather or injury.

Effects on Other Resource Users

1. Effects on Foot visitors

Foot visitors to the alpine area are defined as hikers, campers, parapenters, snow shoe/ski tourers and climbers. On land below 1000m altitude there are also mountain bikers and horse trekkers.

A concession granted for a lease to operate Mt Larkins biv will result in a minor effect for current foot visitors who interact with the north face of Mt Larkins, Stoneburn saddle and the Larkins Slip to valley floor scheelite mine track access track. Currently it is estimated that there are less than 50 foot visitors per year.

It is likely that the presence of the biv will cause an increase in the number of hikers, climbers, ski tourers, and mountain bikers visiting the area by using the track .The cumulative effect of increase in visitors over say 20 years may be defined by 6 new people each day staying in the biv every night of the year - this maximum is 2190 visitors. The direct effect in the first few years of operation is estimated to be 300 visitors in winter and 100 visitors in summer.

2. Effects on Heli-ski visitors

Traditionally there has been little heli-skiing done on the Wyuna mountains as most of the concessioned terrain is not suitable. The previous holder of the heli- ski concession for 15 years was Southern Lakes Heli Ski. This company would mainly use the expansive south face of Mt. Larkins which is part of Mt Creighton pastoral lease, not Wyuna. The south face is a gold mine for heli-ski operators with it's pregnant rolling slopes and long runs but there are no slopes like this on the Wyuna side of Mt Larkins. The north face is steep, Stoneburn saddle has good rolling terrain but the run is short. Heli pads in Stoneburn creek and east off Stoneburn saddle are challenging from the safety aspect with 'rotor blade close to ground 'heli pads. Runs off Mt Butement and Wallers Spur are not well defined with shifting fall lines and sun baked, often

patchy snow conditions. Runs off Black Peak and Macintosh are rocky and short.

The current Heli-ski Concession holder for Wyuna is not a heli ski operator so the concession is being sub let to a new Queenstown based heli-ski operator - Alpine Heliski Ltd. This company was established in 2004 and is currently the most progressive heli ski operation in the southern lakes area with increasing numbers of clients.

Alpine Heliski Ltd. is supportive of the Mt Larkins bivouac (see appendix letter of support).
They see the presence of bivouacs in alpine areas as havens of safety with facilities for back country users.
They respect multi day ski touring trips as activities which are becoming popular and that their current heli ski clients may mature into participating in – providing further and interchangeable work for guides.
They have the view that not all terrain within a heliski concession area is used for heli-skiing. In all mountain areas there are sites which suit ski touring trips with routes radiating out and returning to a base.
They see the presence of multi day ski tourers and bivouac bases as being congruous with heli-skiing.
They understand that multiple day ski touring trips deliver high reward for the participants with so much time spent interacting with the mountains by staying in them compared to short visit heli skiing.
Their view is that the Mt Larkins biv will have a significant *symbiotic* effect resulting in an increase in the recreation and guiding industries.

3. Effects of helicopter operations

There is a requirement for two helicopter landings per day to service the bivouac activity. This represents an increase in work for helicopter operators and is positive for that industry.

For helicopter accessed recreation in the Head of the Lake area planning is essential to use helicopters from Queenstown that may already be in the area so that there is minimal ferry from Queenstown cost.

Most helicopter companies are helpful in this respect and for Mt Larkins biv winter visitors it will be normal to plan to use the same helicopter operator undertaking heli-skiing on Mt Larkins or heli skiing staged from Glenorchy airstrip, to fly in visitors to the Mt Larkins biv. Even though delivering visitors to a bivouac for multi day ski touring or climbing is not heli–skiing, this plan is mindful of the CAA ' safety understanding ' that only one heli-ski operator be allowed to operate in a concessioned area.
(It is interesting to note that it is normal for different helicopter companies to land at permitted scenic landing sites within heli-ski concessioned areas while heli skiing is operating)
The two landings per day is not considered significant when compared to a lakeside lodge being permitted over 27 landings per day (The lodge is adjacent to Glenorchy airstrip, 2 km from Glenorchy and 7 km from the biv site). Also a sky diving operation is based at Glenorchy Airstrip. They have few conditons applying to their use of the airstrip and are have unlimited landings and takeoffs.

4. Effects on the Local Economy

The effects on the local economy will be positive. Our company recognizes the importance of supporting and promoting local economic growth and development. The Mt Larkins Biv will be well placed to support other local businesses.

For example – sport and camping shops will be able to sell or hire clothing, camping, touring, climbing, snow shoeing and snow safety equipment for visitors heading to the biv who don't have their own equipment.

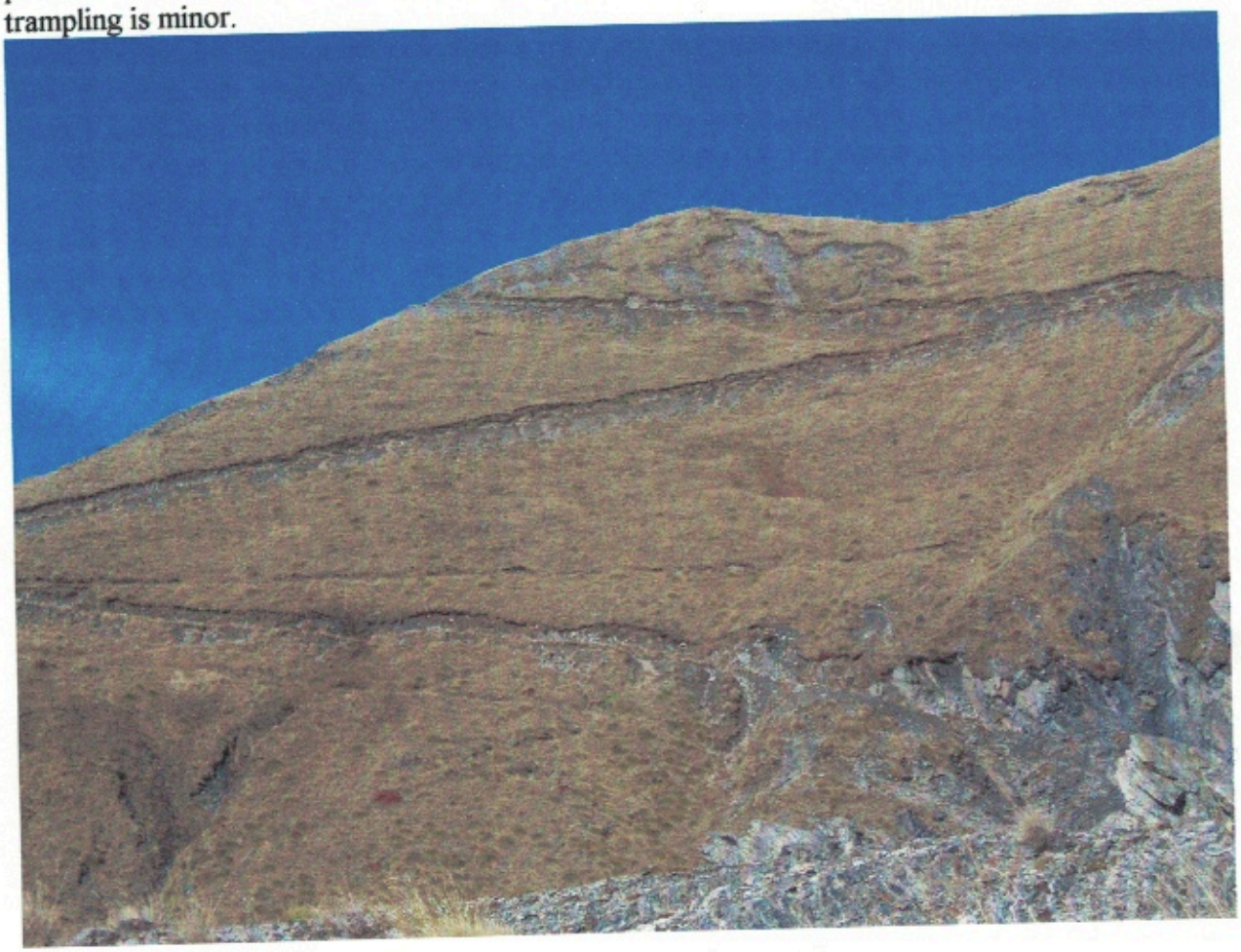
Local guides will be able to employ themselves guiding Mt Larkins visitors on different types of multiple day trips based at the biv.

Helicopter operators will get more flying time.

5. Effects on Terrestrial Ecosystems

Removal of ground cover mosses and plants for foundations under the small biv and toilet footprint represents a minor loss of alpine vegetation.

The construction activity will be minor disturbance to the area and will only be for a short term. The direct effect of winter visitors will occur on the snow pack with minimal cumulative adverse effects on plants and mosses under the snow. Visitors during summer will mainly have foot impact on the stock tracks around the biv and toilet.
Mosses and plants directly outside the biv where visitors will congregate will be monitored to observe the effects of trampling of flora. If this small area comprising less than 4 square metres area is shown to be adversely effected - a readily available low impact interlocking ' grid guard ' product can be laid with minor disturbance to effected mosses and plants ensuring the effect of trampling is minor.



6. Effects on Cultural values

Ngai Tahu have advised they have no interest this part of the Richardson Mountains. The biv will have a positive effect on the outdoor recreation culture predominating in the southern lakes region.

7. Effects of Discharge of Contaminants

Most of the discharges of contaminants to the environment will occur during earthworks associated with preparing foundations for the biv and toilet structure. Principle contaminants concern sediment released by storm water runoff from areas of disturbed ground and noise arising

from use of tools and rock drills. These effects will be temporary.

The processes of visitors cooking in the hut and helicopter use will discharge contaminated gases into the atmosphere. This has an adverse effect on the atmosphere but no terrestrial effect -a steel containment tray will be provided to be used if visitors require re-filling white spirit or kerosene cookers to ensure no spillage of fuel reaches ground. Signs will direct visitors to ensure biv is

well ventilated during cooking. The biv is designed with permanent vents integrated within the centre dome skylight and floor rim including use of double doors to be variably open during cooking.

There will be no other effects or discharges of contaminants from visitors staying in the biv. Signs will direct visitors to place all grey water from cooking, cleaning and washing into the toilet holding tank.
The holding tank will contain all grey water, urine and faecal matter. Full tanks are flown off mountain by helicopter and replaced with empty.
Full tanks are to be emptied by registered local tank septic tank emptying contractor SJ Allen Ltd or similar.

All rubbish is the responsibility of each visitor to remove off the mountain. Helicopter landings will not leak contaminants as they are highly serviced machines

Outline of Monitoring Programme

Photographs taken of the site on an ongoing basis will be used to monitor the effects of visitor impact on the environment. Photographs will be taken annually during Autumn before the next season's snow arrives.
The effects to monitor relate to ensuring flora and fauna are not adversely effected by trampling or spillage of contaminants and that ground cover is stable with no increase in erosion.

Q Consultation Undertaken

1. Tangata Whenua – discussion with Mark Soloman, Nga Tahu Ceo regarding interest in land.
2. Crown Agency – Phil Murray of Knight Frank regarding recreation permits.
3. Queenstown Lakes District Council – chief planner John Edmonds regarding local district plan
4. DOC staff – Owen Graham, Chris Eden, the late Brian Ahern, Tony Perrit, Ken Stewart, Jeff Connell, Greg Lind and Richard Clarke
5. Other Wyuna Concessionaires – John Darby of Pisidia Cabo Holding Ltd and Ian Wilkins director of Southern Lakes Heliski

Further Information supplied

1. Letter from BF Whitlam Ltd Civil and Structural Engineer
2. Letter from Greg Lind
3. Letter reply from applicant to Greg
4. Letter of support from Alpine Heliski Ltd
5. Letter of support from Pisidia Cabo Holding Ltd
6. Visitor book from Mt Larkins Biv
7. Mt Larkins clearfile

Consistency with Statutory plans

The proposed activity is consistent with management plans and Conservation Management Strategies for the area.
The proposal complies with district plans – the Mt Larkins area was zoned Rural M (mining) under the Transitional District Plan and is zoned Rural Uplands under the District Plan.
Recreation activities are discretionary while an accommodation building requires a non-complying activity consent.
Resource consent is required and an application will be completed for process by the Queenstown Lakes District Council following the outcome of application for a DOC lease.

Financial Information

The situation regarding planning permits, carrying out improvements and operating the activity is a work in progress funded from capital provided by other business activities of the applicants. At this stage there is no requirement for loans.