Department of Conservation
Te Papa Atawhai

Officer's Report to Decision Maker:

APPLICANT: RIVERSTONE HOLDINGS LIMITED (RHL)

CONCESSION APPLICATION (NOTIFIED)
MONORAIL AND MOUNTAIN BIKE TRACK 'FIORDLAND LINK EXPERIENCE',
SNOWDEN FOREST AND FIORDLAND NATIONAL PARK.

PERMISSION RECORD NUMBER: SO-26649-OTH

FILE: PAC-14-18-34

1 DECEMBER 2011

The purpose of this report is to provide an analysis of the application within the context of the legislation, the statutory planning framework and actual and potential effects, so the Decision Maker can consider the application; confirm that it should be notified; and make a decision in principle whether it should be granted or declined, subject to public notification.

This report is prepared pursuant to section 17S(4)(a) of the Conservation Act 1987.

Contents

EXECUTIVE SUMMARY

The Department has received a concession application from Riverstone Holdings Limited (RHL) for the construction, operation, and maintenance of a monorail which would run from the Mararoa River (near the Mavora Lakes Road) for approximately 29.5 km through the Snowdon Forest Stewardship Area, which is part of the Te Wāhipounamu (*South West New Zealand*) World Heritage Area.

A construction track would be constructed parallel to the monorail. RHL proposes this construction track would remain in use after monorail construction, for monorail maintenance and mountain biking.

At point 29.5km from the Mararoa River, the monorail route would exit the Snowdon Forest Stewardship Area and would cross approximately 14km of private land to come out at Te Anau Downs on State Highway 94 (to Milford Sound). At point 29.5km the mountain bike track would diverge from the monorail track crossing private land, to continue for a distance of approximately 17km across (mostly) parcels of public conservation land to also come out at Te Anau Downs.

Two termini buildings (and associated parking and access roads) are proposed, one on marginal strip alongside the Mararoa River, the other on land held as part Fiordland National Park at Te Anau Downs.

RHL have applied for a 200 m-wide corridor 'envelope' in which the monorail, construction track and spur tracks linking the two, would be located. Construction of the monorail and construction/mountain bike track would require the clearance of two separate linear features through the Snowdon Forest Stewardship Area, representing a total clearance of c.22 ha of forest habitat and 4.35 ha of non-forest habitat, and associated effects, on public conservation land held for the purposes of protecting its natural and historic resources.

Construction of the mountain bike track running separately to the monorail would require one linear clearance of approximately 17 km across public conservation land.

This is a large-scale and challenging concession application to assess.
Particular challenges are posed by;

- The envelope approach proposed by RHL whereby final 'on the ground' route location and design (within the 200 m corridor) is finalised once a concession (subject to conditions) has been granted.
- The 'adaptive management' approach whereby final construction specifications and plans and final environmental management plans are finalised after final route selection (to take into account the detail of exact route once final design has been determined).

RHL has carried out and provided substantial environmental impact assessment reports, which are indicative of the scale of potential effects arising from the proposed activities. They have provided draft construction and environmental management plans, and proposed concession conditions to demonstrate the measures available and proposed to avoid, remedy and mitigate potential effects. RHL have put considerable effort and technical expertise into the preparation of construction and environmental management plans and have revised and updated these plans during the course of the concession application process.

The scale of the potential effects has been scoped by RHL (and accordingly assessed by the Department) to an appropriate degree. The Department largely accepts RHL's assessment of environmental effects, and accepts that the final design stage (comprising preparation of final 'on the ground' route location specifications and plans) would reasonably and practicably avoid, remedy or mitigate significant adverse effects as described by RHL's technical experts.

This report recommends that the concession could be granted on the basis of the information available at this point in time. Because final design specifications and plans have not been developed at this stage, this grant is conditional on further audit and approval of final design specifications and plans to ensure that the effects of the final design would not significantly exceed those described and assessed to date.

There is a risk to RHL that significant adverse effects would become apparent only at final design stage, and if these effects that could not be avoided, remedied or mitigated as described in their application, the project could not proceed, or it would be significantly delayed.

RHL is confident that this would not occur, and the material submitted by them indicates a certainty from them that there would be no potential significant unmitigated adverse effects arising from their proposed developments. RHL have accepted proposed concession conditions (detailed in Appendix 1 to this report) whereby final construction is reliant on further approval of final construction specifications and plans.

RHL has offered 'compensation' or 'offset' for effects of the proposed developments (offered as contribution of additional 200 ha to Operation Ark). Compensation can be set by the Minister of Conservation as a condition of a concession. Discussions in this report conclude that compensation for residual adverse effects would be appropriate. The form of this compensation cannot be determined and agreed until after the final route has been selected, as only then will the quantum and type of residual effects become apparent.

This report concludes, having regard to the matters set out in the Conservation Act 1987 and the National Parks Act 1980 (and subject to concession conditions and the outcome of the public notification process) the concession application from RHL to construct and operate a monorail and associated developments on public conservation land could be granted.

As such this report recommends that the Decision Maker, pursuant to a written delegation dated 20 May 1998;

1. **Deem** this application to be complete in terms of section 17S of the Conservation Act 1987;

2. **Approve in principle** the granting of concession lease for a term of 49 years and concession licences and easements for a term of 60 years to Riverstone Holdings Limited, subject to the outcome of the public notification process, the Departments standard concession conditions, and special concession conditions identified in Appendix 1 of this report for;

(i) Monorail;
Easement for construction, operation and maintenance of a Monorail on marginal strip, stewardship area, and national park [within the area shown on the map attached in Appendix 1] (200 m wide easement increasing to 300 m wide at 'Bluff Slip')

(ii) Construction Track/Mountain Bike Track
Easement for the construction and maintenance of a construction track (including spur tracks) and adaptation of that construction track at the conclusion of construction of the Monorail to a Mountain Bike Track on stewardship area [within the area shown on the map attached in Appendix 1] (200 m wide easement increasing to 300 m wide at 'Bluff Slip')

(iii) Kiwi Burn Terminus;
Lease of 1350m^2 for construction, operation and maintenance of a of terminus building, and Easement for access roading and car parking and other associated facilities on marginal strip (Mararoa River) [as shown on the map attached in Appendix 1];

(iv) Te Anau Downs Terminus;
Lease of 1350m^2 for construction, operation and maintenance of a of terminus building, and Easement for access roading and car parking and other associated facilities on Fiordland National Park (Te Anau Downs) as shown on the map attached in Appendix 1;

(v) Cycle Link Route;
Easement for construction and maintenance of a Mountain Bike Track across public conservation land [as shown on the map attached as Appendix 1];

(vi) Kiwi Burn Public Hut
Licence for the construction and maintenance of a public hut in the Kiwi Burn Valley, at a final location to be determined in consultation with the Grantor, [but within the area shown on the map attached as Appendix 1];

(vii) Mountain Bike Track Public Toilets;
Licence for the construction, maintenance and servicing of public toilets at a location or locations along the Mountain Bike track, at a final location to be determined in consultation with the Grantor; and

(viii) Other Public Recreational facilities;
Licence for the construction, maintenance and servicing of any other public recreational facilities (including but not limited to road-end car parking, toilets, day shelters and signage) as provided for or required by this Concession.

3. Having regard to the matters set out in this report, **determine** that the intent to grant the application be notified for public comment pursuant to section 17T (4) and 17T (5) of Conservation Act 1987.

4. Having regard to the matters set out in this report, **determine** that public notice be given pursuant to section 49 of Conservation Act 1987 and that notice be given in the Herald, Dominion Post, Christchurch Press, Otago Daily Times and Southland Times.

REPORT STRUCTURE

This report contains the following sections:

Part 1: Summary of proposal, including description of the proposed activities and location and status of the public conservation land subject of the application.
Part 2: Information available for Consideration.
Part 3: Natural, Recreational, Historic and Cultural Values of the Land under Application.
Part 4: Acknowledgement of 'Complete' Application.
Part 5: Analysis of the proposal in respect of Matters of Relevance to the Minister of Conservation.
Part 6: Other information for consideration, comment from the Papatipu Runanga, Te Runanga o Ngāi Tahu and Southland Conservation Board.
Part 7: Conclusions.
Part 8: Proposed Concession Conditions.
Part 9: Applicant's Comments
Part 10: Recommendations.

Appendices;

Appendix 1 – Proposed Special Conditions

Appendix A - Information for Consideration

i. Concession Application Overview Document (Riverstone Holdings).
ii. List of Documents Comprising Concession Application.
iii. List of Reports and Advice Commissioned Pursuant to 17 S (4) Conservation Act 1987.
iv. Applicant response to audit reports July and September 2010
v. Applicant's comment section 17U(4) Conservation Act 1987 and alternative site Kiwi Burn Terminus (4 February 2011).
vi. Comments from Southland Conservation Board (6 December 2010).
vii. Applicant response to Preliminary Draft Determination Report (21 October 2011)

Appendix B - Summary of Provisions of General Policy for National Parks

Appendix C - Departmental Standard Concession Conditions [Lease and Easement]

1.0 SUMMARY OF PROPOSAL

1.1 TYPE OF CONCESSION SOUGHT:

The Department has received an application from Riverstone Holdings Limited (RHL) for a concession (easement) for the construction, operation, and maintenance of a monorail which would run from the Mararoa River (near the Mavora Lakes Road) for approximately 29.5 km through the Snowdon Forest Stewardship Area, which is part of the Te Wāhipounamu (*South West New Zealand*) World Heritage Area.

A construction track would be constructed parallel to the monorail, with spur tracks every 200m for access to the monorail.[1] RHL proposes the construction track would remain in use after monorail construction, for monorail maintenance and mountain biking.

RHL have applied for a 200 m-wide corridor in which the monorail, construction track and spur tracks would be located.

The monorail route would cross private land after leaving Snowdon Forest, but the mountain bike track would diverge in the Henry Creek catchment, and be located mostly on parcels of public conservation land en route to Te Anau Downs. The width of easement sought where mountain bike track separates from monorail is 10m.

RHL have also applied to construct two monorail termini facilities and associated roading, one on marginal strip on the eastern side of the Mararoa River, and the other at Te Anau Downs in Fiordland National Park.

In addition to a concession, any roading at Te Anau Downs will also require authorisation pursuant to section 55(2) of the National Parks Act 1980.

The concession application comprises a suite of documents as outlined in section 2 of this report below. RHL's concession overview document summarising the key points of the application and key findings of RHL's various technical appendices to the application, is attached to this report as Appendix A(i).[2]

1.2 TERM SOUGHT:

An easement is sought for all activities. The easement is sought for a term of 60 years .During the consideration of this concession – it has become apparent that some aspects of the activity would be more appropriately authorised via a lease[3]. RHL have applied for a term of 49 years for those aspects of their application which would be authorised via a lease.[4]

RHL state;

[1] 29km of monorail track on public conservation land. Piers 20 m apart. Spur tracks to service every 10 - 15 piers. Assuming one spur track to every 10 piers, one spur track every 200 m. 29000 divided by 200 = 147 spur tracks
[2] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009.
[3] See section 5.3 of this report 'Considerations regarding Type of Concession'
[4] Letter from Riverstone Holdings 4 November 2011

'The size of the overall capital investment involved requires a period of concession of this duration to best provide for an adequate security of return to investors.

Riverstone is seeking a concession at this stage in the project to provide future certainty with respect to land access before investing further significant funds in the project. This certainty is required so that Riverstone can carry out detailed (and potentially expensive) site investigations, design and planning of the project confident in the knowledge that it will be allowed access to conservation land for construction, operation and maintenance purposes. In addition, once the easement is confirmed by the Minister, the Department will be in a position to work with Riverstone during the detailed design, construction and ultimately operation phases of the project.'[5]

Discussion of the appropriateness of the term is sought as set out in section 5.4 of this report.

1.3 DESCRIPTION OF THE PROPOSED ACTIVITY; SECTION 17S(1)(A):

Section 17S of the Conservation Act 1987 requires RHL to provide details relating to the application. These are outlined below:

1.3.1 THE APPLICANT

The Applicant is Riverstone Holdings Limited (RHL). The application states RHL is a private company which is 100% New Zealand owned. The principal shareholder of RHL is the Infinity Investment Group. *'Infinity is one of the largest developers and South Island and is currently involved in projects with a combined value in excess of $1.5 billion'* [6]

1.3.2 DESCRIPTION OF THE ACTIVITY

RHL propose a visitor transport package the 'Fiordland Link Experience' from Queenstown to Lake Te Anau. The 'Experience Journey' would have three sections:

1. Queenstown to Mt Nicholas Station – 20km via a catamaran, southwest across Lake Wakatipu. (Not on public conservation land)

2. Mt Nicholas Station to Kiwi Burn Terminus – 45km by an all-terrain vehicle (ATV) from wharf facilities up the Mt Nicholas, Von and Mavora Lakes existing back country roads to a terminus located between the Mavora Lakes road and the swing bridge over the Mararoa River. (Proposed Kiwi Burn terminus on public conservation land)

3. Kiwi Burn Terminus to Lake Te Anau – 43.5km by an electrically powered monorail through tussock land, Snowdon Forest and farm land to a terminus close to the lake shore at Te Anau Downs. (Approximately 29.5 km across public conservation land, and terminus building and access in Fiordland National Park)

[5] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009 p. 8
[6] Riverstone Holdings Limited *Department of Conservation Application for Concession Monorail and Mountain Bike Track,* November 2009. (nb Riverstone Holdings Limited is a registered Company 643090)

To enable monorail construction, a separate construction track parallel to the monorail route (with separation varying between 20-80 m) is proposed. Spur tracks would connect the construction track to the monorail route.

The construction track would be modified to a mountain bike track and monorail maintenance track upon completion of the construction works.

The monorail track and construction/mountain bike track would be located within a 200-300 m wide easement corridor where the monorail runs on public conservation land. Where the monorail enters private land, the mountain bike track alignment separates from the monorail alignment and would remain within public conservation land, for a distance of approximately 17 km.

Two termini buildings are proposed -- one at the Mararoa River (Kiwi Burn terminus), the other at Te Anau Downs.

1.3.3 MONORAIL

The electrically powered straddle monorail would carry 160 passengers plus crew and make between three and six trips a day depending on the season, demand and daylight hours. RHL states the monorail cars would run on rubber pneumatic tyres which would reduce noise and increase the comfort of the passengers, and the trip would pass though tussock land, forest, and farmland and cross a number of significant rivers offering expansive views at various points.

RHL notes that the design of the monorail train set would be finalised 'after their concession application has been determined'. The following indicative information is provided:

Capacity	160 plus crew
Length	68 metres
Speed maximum	90km/h (at 4% grade)
Speed average	75kph
Sector distance	43.8km (including private land)
Sector travel time	33 min
Maximum grade	6.5% (1:15.4)
Turning	30m radius at 15km/h
Vehicle Height	2.4m above rail
Vehicle Width	2.4m - 2.6m
Power	Electricity 1000kVA at 11000 volts
Track Construction period	30 months

The monorail track is proposed as a single track with three passing bays at the 10, 20 and 30 km marks.

Approximately 1474 supporting piers measuring 500 mm by 400 mm wide would be placed at 20 m intervals.[7] The height of these piers would vary as necessary to establish a consistent track grade, traverse waterways and ground undulations. The objective of this construction methodology is to minimise ground excavation along the monorail track route.

[7] Piers at approx every 20m across 29.5 km of track = approx 1474 piers.

The top of the rail is anticipated as one to two metres above the ground; however this height would vary from one to six metres above ground level to allow vehicular or pedestrian access and to maintain a constant track grade.

The monorail track would initially cater for one train, and there would be a turning circle at each end.

To provide for expansion of the Fiordland Link Experience capacity, RHL states that the ability to run up to four train sets on the track at any time would be required. This possibility would be catered for by installing three passing bays on the monorail track, which in effect are additional sections of track approximately 100 m long.

1.3.4 CONSTRUCTION TRACK/MOUNTAIN BIKE TRACK

A 3 m wide construction track would be required running alongside monorail route. This track would have a number of 3 m wide spur tracks from the construction track to the monorail line. RHL states;[8]

> *'The construction/mountain bike track can be located to avoid trees, minimise impact on vegetation and to take advantage of the topography to minimise earthworks. It is envisaged that the construction track would become a permanent mountain bike track at the completion of the monorail construction. The 3m wide mountain bike track would also be located to provide a visual separation from the monorail. At this stage this* (separation) *is intended to be 20-30m on sloping ground with the track generally on the uphill side, and 70-80m in flat country.*
>
> *A number of 3m wide spur tracks would be required to gain access to the monorail during construction of foundations and piers. It is envisaged that one spur track would provide access to a number of foundations (10-15) that can be constructed linearly (i.e. from the farthest foundation back) without affecting overall project progress.*
>
> *The route for the construction/MTB track and the spur tracks would be selected to ensure that there is always a significant barrier of bush visible from the monorail train (i.e. there is no view straight down a track or route). The junction points where the spur tracks meet the monorail route would be selected to minimise bush clearance and could have special reinstatement and replanting treatment.*
>
> *The construction track would be located to cross streams at the most advantageous location (e.g. where the stream is at its narrowest or the banks highest) reducing or eliminating the impact on the stream environment. At stream crossings, the main track or spur track would make use of light bridging units spanning bank to bank, thereby minimising disturbance to the stream itself. At the major rivers, permanent lightweight bridges will be required for mountain bikes.*
>
> *The main construction track and the spur tracks would be routed to avoid trees wherever possible, thereby preserving as much of the canopy as possible.*

[8] Riverstone Holdings Limited *Department of Conservation Application for Concession Monorail and Mountain Bike Track*, November 2009, Appendix E; Preliminary Engineering Assessment of Monorail Proposal (OPUS). Section 6.2.

The construction and spur tracks would follow a route that takes advantage of better topography and avoids crossing environmentally sensitive swampy ground that the monorail crosses, accepting that access to each foundation would be necessary but for only a few trips for equipment.

During construction the construction track will need to have passing bays for vehicles travelling in opposite directions. These will be incorporated into the junctions with the spur tracks which are spaced at approximately 200-300m and located to avoid trees and ecologically sensitive areas. The majority of these will be reinstated at the end of the construction phase.

The construction/mountain bike track will require maintenance and will therefore need to be designed for long term vehicle traffic. This track could also be used for emergency access for the mountain bike track users or for the monorail.'

RHL has made no assessment as to who would use this mountain bike track (i.e. target user group, volumes of use) however notes the existence of the Governments National Cycleway initiative.[9] This mountain bike proposal, they note, would complement other proposed cycle ways. It is worth noting (despite not subject of this concession application and this report) that RHL has stated an intention to construct a further mountain bike track from Te Anau Downs to Te Anau at some point in the future should this concession be granted.

1.3.5 MOUNTAIN BIKE TRACK WHERE IT SEPARATES FROM THE MONORAIL TRACK 'CYCLE LINK ROUTE'

Where the monorail track enters private land (at approximately 29.5 km from the Mararoa River) a separate mountain bike track is proposed on public conservation land south of the monorail track, to exit also at Te Anau Downs. RHL prefers to construct a public mountain bike track on public conservation land, as it is sensible that a facility intended for public use avoids potential tenure issues resulting from being partially located on private land.

RHL has carried out a Terrestrial Ecology Survey of the proposed 'Cycle Link Route'[10], which confirms the intended route for this track. Apart from this report, RHL has provided no other specific detail in respect of the track, but states that they would construct this section of track to appropriate standards stipulated by the Department, and subject to final design specifications and plans and construction management plans.

It should be noted that this section of track (approximately 17 km) would be a purpose built mountain bike track, and not a construction track which is then adapted for public mountain bike use.

1.3.6 MARAROA RIVER (KIWI BURN TERMINUS)

The November 2009 Concession Application sought to construct a terminus building, part of the monorail track and associated roading on marginal strip at the swing bridge across the Mararoa (and start of the tramping track to the Kiwi Burn).

[9] The New Zealand Cycleway Project *Nga Haerenga* – Ministry of Tourism
[10] Mitchell Partnerships Limited. *Terrestrial Ecology of the Proposed Cycle Link Route for the Fiordland Link Experience.* Mitchell Partnerships Limited. January 2010.

On 4 February 2011 RHL amended their application to another part of the same marginal strip, 1.7 km downstream from the original site proposed [11]. This change was made in response to comment from the Department that potential effects on other users might be reduced by use of this alternative site, and removing the monorail and terminus from the existing carpark/swingbridge access point to the Snowdon Forest.

Readers of this report need to be aware that some descriptions and assessments in the 2009 application in respect of the Kiwi Burn Terminus have now been superseded (as of February 2011). Where it is necessary in this report to distinguish between the original terminus application site and that sought as per the February 2011 application amendment – the original site proposed (at the swing bridge crossing the Mararoa River) is referred to as Kiwi Burn 1, the subsequent amended site (being 1.7 km downstream from the Mararoa Swing bridge) is referred to as Kiwi Burn 2.

Developments proposed comprise the monorail track, a terminus building, sewerage disposal field/fields, and roading. An indicative site plan is included in the 2011 engineering assessment for this site attached as Appendix A ix.[12]

These developments are all proposed to be located on marginal strip administered by the Department. This part of the marginal strip is approximately 4.45 ha, and 140 m wide at the road edge. It is incised by a small stream, which RHL says is seasonally dry (although the Department considers that given the catchment this would be infrequent)[13]. As such there is less flat land available at this site than at Kiwi Burn 1.

The proposed footprint of the terminus is 1350 m^2 (building) plus approximately 900 m^2 (roading).

A construction depot in the vicinity of the terminus is proposed. RHL states that this would likely be located on private land.

The terminus building is proposed at approximately 80 m long and 13 m wide, and would provide shelter and toilets for both monorail passengers and day visitors to the area[14].

Given the lack of flat land, the terminus building is proposed to be sited in the gully and below the level of the road. RSH state this has 2 advantages (from the original proposed location near the Mararoa swing bridge), firstly that the terminus would be less visible from the road, and secondly that by dropping the level of the terminus the monorail would not need to climb to the higher river terrace.[15]

Wastewater generated from the terminus building would be treated using a septic tank based system, with tanks buried adjacent to the terminus building, and treated effluent would be discharged into a disposal area. RHL has not at this stage selected a suitable system but state they would do so once detailed investigation of soil types and infiltration rates has been carried out. The application notes a disposal field of approximately 2000 m² would be required for treated effluent based on initial user numbers.

[11] 4 February 2011, letter from Riverstone Holdings LTD including 3 attachments – Engineering Statement Alternative Kiwi Burn Terminus (Opus) Recreation Assessment (Greenaway) and Terrestrial Ecology Assessment (Mitchell Partnerships).
[12] Opus International Consultants LTD *Engineering Statement Alternative Kiwi burn Terminus* 27 January 2011.
[13] C Visser, C Hankin, site visit 21 February 2011.
[14] Riverstone Holdings Limited *Department of Conservation Application for Concession Monorail and Mountain Bike Track*, November 2009, Appendix E; Preliminary Engineering Assessment of Monorail Proposal (OPUS). Section 4.12.2, p. 21.
[15] Opus International Consultants LTD *Engineering Statement Alternative Kiwi Burn Terminus* 27 January 2011.

The facility would require an estimated 15,000 l of water per day (proposed to be taken from the Mararoa River). The Department of Conservation does not administer the Mararoa River. Water take is an activity for which Resource Consent would be required.

Proposed access road (Kiwi Burn)

RHL intend to form and seal the access road to the Kiwi Burn terminus from the intersection with Mavora Lakes Road. This access road is proposed at approximately 200 m in length (including turnaround loop) and at least 6 m wide.

1.3.7 TE ANAU DOWNS

RHL intend to construct a monorail terminus and the end of the monorail track at Te Anau Downs, on grassland adjoining the existing lease area[16] of Fiordland National Park Lodge.

The indicative site plan supplied by RHL as figure 2.3 of the concession overview document (Appendix A(i)) shows a terminus building, monorail track, access road to the terminal building, and turning area.[17]

The proposed terminus size is not specified in the application but would be larger than the Kiwi Burn Terminus. The terminus building would include toilet facilities, information kiosk, related retail and restaurant/café, administration facilities, a platform (with one side of platform for monorail access from ground level and one side for coach access) and turning and queuing facilities for monorail and coaches.

Sewerage from the terminus facility would be disposed of via the existing septic system at the Hotel.

RHL proposes that a temporary construction yard and permanent (monorail) maintenance facility be located on private farmland close to the terminus building.

Riverstone have provided an image of the proposed Te Anau Downs terminus building as seen from the lodge. Note this only shows the terminus building, and not the monorail track that would run alongside it, nor the access road proposed.

Image of Te Anau Downs Terminus seen from lodge [18]

[16] A company in which the Applicant is the major shareholder currently holds this existing lease.
[17] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009.
[18] Riverstone Holdings Limited *Department of Conservation Application for Concession Monorail and Mountain Bike Track,* November 2009, p. 45

1.3.8 PASSENGER CONSOLIDATION AND CAR PARKING FACILITY

RHL notes that they are prepared to fund the construction and operation of a 'vehicle consolidation facility' at Te Anau Downs. They envisage this facility would be a place where visitors to Milford Sound/Piopiotahi could consolidate from private vehicles (cars and campervans) into coaches for the road between Te Anau Downs and Milford Sound/Piopiotahi. Secure parking facilities would be provided and an area developed where people could transition from car to coach.

RHL notes a number of potential benefits arising from this initiative;

> *'From a visitor experience perspective, all people arriving by car, including the driver, would be able to enjoy the spectacular scenery along this section of the route. Passengers could also get greater knowledge of the area through the commentary provided on all or some coaches. From a conservation and tourism perspective there would be less pressure on car parking facilities at Milford Sound/Piopiotahi. It could also facilitate a new approach to manage the scheduling of vehicles at stops along the Milford Road thereby reducing the congestion that currently occurs at the popular sites. Certain coaches could schedule to stop at some attractions on the way to and from Milford Sound/Piopiotahi. From a safety and congestion perspective this consolidation would mean there would be largely professional and experienced drivers on this difficult sector of road. Accidents would be less likely to occur and the traffic flow would be improved.'* [19]

At this stage there is no plan or design for this facility, RHL stating that this design would be developed in the detailed design phase. Accordingly this report cannot consider the detail of the proposed passenger consolidation and car parking facility; however the proposal is noted as something that the Department would discuss with RHL at a later stage.

1.3.9 CONSTRUCTION ACTIVITIES

The Preliminary Engineering Assessment provided by RHL [20] notes the monorail alignment would have some scope to be adjusted to avoid large trees, banks, bluff and creeks.

The proposed construction methodology is as follows:

- Construction of terminal buildings first and then construct track from both ends.
- Temporary construction track to be installed along the monorail route and one permanent construction track parallel to monorail route with spur tracks at regular intervals to connect the monorail route with the construction track. (The permanent construction track to be used as mountain bike and monorail maintenance track once construction is complete).
- Clearance of vegetation along monorail route to give a corridor of 4-6 m width and minimum of 12 m height.
- Clearance of vegetation along construction /mountain bike track and connecting spur tracks to give corridor of 3 m (clearance height not specified).
- 'Typical separation' of monorail and cconstruction /mountain bike track to be 20 – 30 m on slopes and 70 – 80 m on the flat.

[19] Section 4.4 Riverstone Holdings Limited *Department of Conservation Application for Concession Monorail and Mountain Bike Track,* November 2009.
[20] Opus International Consultants Limited. 2009. *Fiordland Link Experience Preliminary Engineering Assessment of Monorail Proposal.* Opus International Consultants Limited. Christchurch. (Appendix E).

- Alignment of monorail to be chosen to minimise earthworks and to avoid significant trees.

Foundation & Pier Construction:

- Set-up three main construction depots and their access roads on private farm land. These construction depots are accessible by public road or using existing farm roads.
- Survey to set-up initial pegging of routes for clearance followed by detailed survey for foundations and piers and for design and construction of beams (four teams of two with a 4WD truck each).
- Vegetation clearance along the construction road, the spur tracks, and the monorail route (four teams of two people with 12 t excavator each and 4WD support vehicle each). Cut material mulched or removed off site.
- Stripping of topsoil, installation of erosion & sediment control and construction of construction road the spur track and the monorail track (four teams of 3-4 with 12 t excavator and 4WD trucks). Topsoil to be cleared to one side for later re-use.
- Erosion and sediment control in accordance with Auckland Regional Council TP90.
- Construction road to be in accordance with DoC Track Construction and Maintenance Guideline (VC1672) with light bridging over streams.
- Major rivers would need to be bridged for mountain bikers.
- Piling of river foundations (two teams of 4-5 with 35 t piling rig per team). Construction of access including environmental management measures to each piled foundation and erection of piled foundations. River crossings accessible via public road and/or farm roads/tracks.
- Excavation and placement of pad foundations, piers and backfilling (18 teams of 3-5 with 12t excavator each). Excavation of foundation placing excavated material nearby, placement of foundation and pier by excavator and, following curing of grout, to secure the precast pier into place. Foundation to be backfilled with excavated material with only small surplus material quantities.
- Excavation and placement of foundation with driven piles & pier & backfilling (pile driving attachment for 12 t excavator). Same plant, equipment and methodology as for pad footings plus pile driving attachment to excavator.

Component Transportation:

- Depot to construction front- travelling to the construction front would be; 4WD utility towing a fuel browser, 4WD equipment with mechanical and hydraulic breakdown gear and mechanic, 4WD towing compressor, and survey team.
- Foundation pads & piers - equipment to bring in precast concrete foundations in the open/flat terrain – 10 t Hiab plus, 4WD or specialised tracked vehicle in difficult terrain.
- Placement of piers. A completely self contained vehicle able to carry all materials for mixing and pumping of grout into each foundation with no spillage will be used to grout in the piers. (4WD grouting equipped utility vehicle).
- Transportation of river foundations. Vehicles to follow route created for the piling rig. (flat bed truck with reinforced cage and concrete trucks).

Erection of Monorail Beams

- Beams to be brought in on a jinker operating on the completed monorail beam from the construction depot.
- Beams to be placed by launching gantry with one gantry operating from each depot (3-4 gantries required).
- Placement of longer spanning beams at river crossings with two rough terrain cranes where access permits.

- Completion of monorail running surface (four crews of two). Implementation of final running surface (exact scope of work to be confirmed with monorail supplier).

Rehabilitation:

- Removal of temporary construction track on the monorail alignment and the erosion & sediment control measures (four teams of 3-4 people with 12 t excavator each and 4WD trucks removing metal & silt fences).
- Rehabilitation & Restoration.

The construction period estimated at 30 months, based on a total number of 115 employees.

1.4 DESCRIPTION OF LOCATIONS WHERE ACTIVITY IS PROPOSED

Route maps supplied by RHL are attached to this report in Appendix A (i) figure 2.1. A written description (including photographs) of the proposed route is included in section 2.2 of Appendix A (i).[21]

Sections of the monorail and construction track / mountain bike track, totalling approximately 29.5 km and including both terminal buildings would be on public conservation land administered by the Department, as described below:

- The access road from Mavora Lakes Road to, and the Kiwi Burn terminus site, and part of the monorail would be on marginal strip alongside the Mararoa River;
- The length of the monorail from 0km to 29.5km (from Kiwi Burn Terminus end) would be mainly within Conservation Stewardship Area (Snowdon Forest), which is part of the Te Wāhipounamu *South West New Zealand* World Heritage Area;
- The terminus site, road access to and end part of the monorail track at Te Anau Downs would be in Fiordland National Park;
- The mountain bike track where it separates from the monorail route crossing private land (a distance of approximately 17 km) would be mainly on Conservation Stewardship Area and potentially some Marginal Strip.

Conservation Unit	Name	Gazetted Land Status	Activity
D420008	Snowdon Forest	Stewardship Area s.62 Conservation Act 1987	29.5 km/200 m wide easement for monorail track, construction / mountain bike track. Activities in bed of Upukerora and Whitestone Rivers.[22]
D30139	Marginal strip, Whitestone River	Marginal Strip – s.24 Conservation Act 1987. (Southern side of Whitestone	Short section (approximately 500 m) of monorail construction access road/ mountain

[21] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009. P 13-19 inclusive.
[22] Bed of Mararoa River is administered by LINZ.

		River)	bike track on the true right of Whitestone River.
D420008	Snowdon Forest	Stewardship Area s.62 Conservation Act 1987	Approximately 17 km unspecified width easement for mountain bike track 'Cycle Link Route'. (Following part of Henry Creek track)
D430146	Marginal Strip, Mararoa River	Marginal Strip – s.24 Conservation Act 1987.	Part monorail track and construction access road, mountain bike track, Kiwi Burn terminus and terminus access.
D420030	Marginal strip Henry Creek	Movable marginal strip (adjoining Henry Creek track) s.24 Conservation Act 1987.	Mountain bike track potentially touching the edge of this area
D420006	Conservation Area Te Anau downs	Stewardship Area s.62 Conservation Act 1987	Mountain bike track
D42005	Conservation Area Te Anau Downs	Stewardship Area s.62 Conservation Act 1987	Mountain bike track
D40001/D40002	Conservation Area Lake Mistletoe, Te Anau Downs	Stewardship Area s.62 Conservation Act 1987	Mountain bike track
	Fiordland National Park	National Parks Act 1980	Monorail Track (Te Anau Downs) Anau Downs terminus and access to terminus

2.0 INFORMATION AVAILABLE FOR CONSIDERATION

Section 17S of the Conservation Act 1987 prescribes the information which is to comprise the concession application.

Information submitted directly by RHL to the Department, reports commissioned by the Department in response to that information, and other relevant information (not directly submitted by RHL) collectively comprise the application pursuant to section 17S.

- **From Applicant**

Section 17S (1) and (2) sets out the information to be supplied by RHL. To satisfy the requirements of section 17S (1) and (2) RHL have submitted an application and supporting documents (the concession application). This material comprises a concession application overview document attached as Appendix A (i) and 14 specialist technical descriptions and assessments as listed in

Appendix A (ii) of this report. In summary, the concession application contains the following information:

- Section 2.2 of the concession application overview describes the proposed route of the monorail through land administered by the Department.

- Section 4 of the concession application overview describes the proposed monorail, two terminus buildings, passenger consolidation and car park facility at Te Anau Downs, and other infrastructure.

- Section 3 of the concession application overview provides a summary of the existing environment, and Section 8 provides an assessment of the environmental effects.

- The proposed route is shown on drawings 30 to 34 in Appendix A of the Fiordland Link Experience Preliminary Engineering Assessment of Monorail Proposal which forms Appendix E of the application.

- Appendix E of the application (Preliminary Engineering Assessment of Monorail Proposal) gives a more detailed overview of the proposed construction methodology including proposed mountain bike track standard (Department of Conservation Track Construction and Maintenance Guideline (VC1672)) and erosion and sediment control measures during construction (in accordance with Auckland Regional Council Technical Publication 90 (ARC TP90)).

- The Hydrology and River Geomorphology Assessment forms Appendix F of the concession application and describes the nature of the rivers along the proposed monorail route and assesses the impact of the proposed activities on these rivers.

- Appendix G contains an Assessment of Potential Effects on Aquatic Ecology and the Noise Assessment forms Appendix H.

- The Terrestrial Ecology Report in Appendix I of the application describes the fauna and flora along the proposed monorail corridor and assesses the impact of the proposed activities on fauna and flora.

- Appendices J, K, L and M contain the Landscape Effects Report, the Tourism Assessment, the Assessment of Recreation Effects and the Cultural Impact Assessment respectively.

The Department invited RHL to comment on external audit reports pursuant to section 17S (5) of the Conservation Act 1987 (described below). This response (July 2010) is attached to this report as Appendix A (iv). In summary, this response contains the following;

- Description of the extensive nature of research and technical assessments carried out by Riverstone Holdings to develop the concession proposal and application;
- Further information regarding management of effects and mitigation – including draft Forest Management Plan, Draft Predator and Weed Control Management Plan, Draft Concession Concessions, and 'offer' of compensation for effects; and
- Specific comment on Audit reports.

In December 2010, the Department sought comment from RHL in regards to alternative locations for the structures proposed, in relation to section 17U (4) of the Conservation Act 1987. RHL's response to this request, including an amendment to the location of the proposed Kiwi Burn Terminus, is attached as Appendix A (v) and is discussed in the body of this report.

Comment on a draft determination report sent to RHL for comment was received by the Department on 21 October 2011. This response, attached as Appendix A (vii), includes updated and revised proposed concession conditions, and updated Draft Management Plans as follows;

- Implementation Protocol
- Construction Management Plan
- Vegetation and Habitat Management Plan
- Recreation Users Management Plan
- Operational Management Plan

- **Internal and External Reports and Advice**

Section 17S (4) (a) of the Conservation Act enables the Minister to commission reports/advice on matters raised by the application. To this end the Department commissioned audit of the application from a suite of external and internal technical specialists, including assessments of effects on terrestrial and aquatic ecology, visual landscape, historic and archaeological values, and recreation as they relate to public conservation land. A list of this advice is attached as Appendix A (iii) of this report.

- **From Iwi**

Kaitiaki Roopu considered the application at a meeting on 2 December 2010. They stated they were in support of the applicants Cultural Impact Assessment.

The application was sent to Te Runanga o Ngai Tahu for comment in December 2010 (hard copy and via email). No comment has been received.

- **From Southland Conservation Board**

The Southland Conservation Board provided comment to the Department at a meeting on 2 December 2010. Their comments relate to the effects of the activity, and the provisions of the Mainland Southland Conservation Management Strategy, and is attached as Appendix A (vii).

The matters raised by the Southland Conservation Board are discussed in the body of this report.

3.0 NATURAL, RECREATIONAL HISTORIC AND CULTURAL VALUES

This section of the report summarises the key natural, cultural, and historic values of the area under application. This summary is provided to outline the conservation context in which the potential effects of the monorail and associated activities must be considered.

These descriptions are drawn from land tenure and management objectives for these areas, information submitted by RHL, and external and internal technical review of the concession application.

Te Wāhipounamu *South West New Zealand* World Heritage Area

Fiordland National Park and the Snowdon Forest Stewardship Area are in the Te Wāhipounamu *South West New Zealand* World Heritage Area. This World Heritage Area is one of the worlds 400 or so special natural and cultural sites, as recognised by UNESCO. The World Heritage Area consists of 2.6 million hectares of protected lands on the West Coast, Canterbury, Otago and Southland.

World Heritage Areas are designated under the World Heritage Convention because of their 'outstanding universal value'. World Heritage status does not affect the underlying protected status for which the land is held under New Zealand law; rather it places an obligation on the host nation to 'take appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, preservation and rehabilitation of this heritage'.[23]

The Department is obliged to manage the World Heritage Area in such a way that its integrity is preserved. Although this World Heritage Area contains internationally popular tourist destinations like Milford Sound, Mount Cook and the glaciers of Westland National Park, its overwhelming landscape character is wild and unpopulated, and IUCN have recognised it as one of the world's great areas of wilderness.[24]

In respect of the Snowdon Forest Stewardship Area, the presence of red tussock (a rare habitat within the Southland area) is one feature which has contributed to this areas inclusion in the world heritage area. The short tussock grasslands in this area are also rare.

Landform

The proposed monorail route traverses the lower subalpine slopes of the Dunton and Livingston Ranges between 202 – 675 m asl. The route travels from the rugged foothills of the Livingstone Mountains and Dunton range in the east, to the rolling terrain/low relief on the sloping lake terraces adjacent to Lake Te Anau[25].

The proposed route crosses a range of topographical features, including outwash terraces, colluvial fans, valley floor, hillsides, low passes, rivers, streams and gullies.

The application identifies that the route crosses two non-active seismic faults; '*the Hollyford Fault, to the immediate west of Dunton Range and running north/south through Dunton Swamp,* and *the Moonlight Fault which runs along the Mararoa River valley past the proposed Kiwi Burn terminus site.*'[26]

Flora and Fauna Values

[23] World Heritage Convention 1972
[24] Mainland Southland-West Otago Conservation Management Strategy 1998 – 2008 s. 6.1
[25] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,*
4 November 2009 p.21.
[26] ibid

The proposed monorail route crosses a broad area of mountain, red and silver beech forest with short excursions into the grassland and tussock grassland along the river flats of the Mararoa, Whitestone and Upukerora valleys. The surveys undertaken on behalf of RHL[27] indicate that the forest supports a variety of threatened bird species, and crosses important habitat.

The Department's external technical audit of the application largely concurs with RHL's assessment of the flora and fauna values of the area under application. The site is regarded as mostly intact and supporting important habitats of indigenous fauna.[28]

The Snowdon Forest Stewardship Area is 50695 ha[29]. RHL calculates that 46750 ha of the Snowdon Forest Area is forest habitat. The remaining 3945 ha is made up of non-forest habitat, comprising wetlands, low altitude valley floor grassland habitat, and subalpine/alpine areas.

The non – forested habitat in valley floors (red and short tussock grasslands and wetlands), are of particular ecological significance because they are rare in the context of the Snowdon Forest Stewardship Area and the Snowdon – Upukerora Ecological District. In the context of the Snowdon Forest, a desktop exercise carried out by the Department calculates this valley floor habitat in the Snowdon Forest Stewardship Area to be in the order of 452 ha (and accordingly 0.9% of the protected habitats in the Snowdon Forest)[30]. These non-forested valley floor habitats are rare because in the past they have been the most desirable and subsequently most commonly modified environments for farming activities. The non-forested valley floor habitat through which the monorail is proposed are not totally unmodified (there are exotic species present in these areas), nor are they all totally natural, as to some extent these areas will be a result a 'burn off' and grazing in the past[31]. However these habitats are of significant ecological value (and this is recognised by RHL), and they are rare.

The red tussock/short tussock grasslands are recognised in the World Heritage status of the Snowdon Forest Stewardship Area. Other habitats along the route such as the tall red beech forest are of national importance and the Snowdon Forest Stewardship Area generally is regarded as regionally important. .

The following habitats have been identified by RHL, and are considered to be of conservation significance along the route:

- Red beech forest which is tall and open with numerous cavity-bearing trees. This forest provides the most important habitat for threatened fauna within the area including nesting sites for kaka, yellow-crowned parakeet and yellowhead, and roost sites for long-tailed bats. Trees greater than 80 cm dbh and located within 500 m of a forest edge are especially important for long-tailed bat roost sites (Sedgeley & O'Donnell 1999, Blakely & Didham 2008[32]).

[27] Lee and Elliott (1995), Boffa Miskell (2006) and Mitchell Partnerships Limited (2009) as cited in concession application, and Mitchells 2010.
[28] Wildland Consultants, April 2010, *Audit of Terrestrial Ecological Assessment for the Fiordland Link Experience Proposed Monorail Development, Contract Report* 2401 prepared for Department of Conservation Southland Conservancy P.O. Box 743 Invercargill.
[29] CMS page 310.
[30] Calculations made from GIS Genery / Visser 26 Jan 2011
[31] B Rance *pers comm.*
[32] Cited by Applicant

- Moderately tall, dense beech forest with few cavity-bearing trees which provides habitat for insectivorous bird species; rifleman in particular appear to favour this habitat. This was the most common habitat present along the route.

- Regenerating forest which is used by numerous bird species and supports the highest diversity of species for forested habitat types. Fruiting shrubs and mistletoe probably provide a significant food source for frugivorous birds, which are not common along the route. This is also the most dynamic habitat where processes such as succession lead to high species turnover. This habitat is adversely affected by the presence of deer.

- Forest edges, which are important areas for both species diversity and forest stability. Such areas provide stability for the forest by creating a zone resilient to disturbance which buffers the forest edge from extreme climatic events. Species diversity is usually high in these areas. Many fruiting shrub species flourish in forest edges, which attract frugivorous birds and lizards (especially jewelled geckos).

- Indigenous grassland, which provides food for granivorous bird species and supports the highest species diversity of all the vegetated habitat types. Lizards, especially skinks, are likely to favour this habitat with common gecko favouring rocky areas. Lee & Elliot (1995)[33] suggested that the key areas of significant grasslands were:

    - Red tussock grassland – this habitat occurs particularly in the valley floor grasslands of Kiwi Burn and near Dunton Swamp. The presence of red tussock grassland was partly behind the decision to include this area in the World Heritage area, also because of presence of an east – west altitudinal gradient.

    - Short tussock grassland – particularly along the Mararoa River flats. The presence of this type of habitat also contributed to the World Heritage Status. This habitat type includes silver (Poa cita) and hard (*Festuca novae-zelandiae*) tussock amongst the species found within it.

- Lower elevation wetlands (at approximately 150 m asl) which are found where the route passes closest to the rivers in the Mararoa, Whitestone and Upukerora River Valleys. The route generally avoids these areas in the Whitestone and Upukerora valleys but crosses some wetland areas in the Kiwi Burn area.

RHL has identified the species likely to be present in the application area, stating that 27 threatened species have been recorded or expect to occur along the route, including two mammals, 12 birds, four lizards and nine plants (as summarised in the table below);

Threatened species found or considered to possibly occur in the vicinity of the proposed monorail route [34]

Common Name	**Scientific Name**	**Threat Status***	**Known to be present / Location**
Bats			

[33] Cited by Applicant
[34] Mitchell Partnerships Limited. 2010. Table 8

Long-tailed bat	*Chalinolobus tuberculatus*	Nationally endangered	Yes/ forest edges and shrublands
Short tailed bat	*Mystacina tuberculata*	Nationally endangered	Possible/forest interior
Birds			
Rifleman	*Acanthisitta chloris chloris*	At risk: declining	Yes/ Widespread
Grey duck	*Anas superciliosa superciliosa*	Nationally critical	Yes/ Mararoa River
New Zealand pipit	*Anthus novaeseelandiae*	At risk: declining	Yes/rough pasture and grassland throughout
Black-fronted tern	*Chlidonias albostriatus*	Nationally endangered	Yes/ Mararoa River
Long-tailed cuckoo	*Eudynamys taitensis*	At risk: naturally uncommon	Yes/forest interior and edges throughout
New Zealand falcon	*Falco novaeseelandiae*	Nationally vulnerable	Yes/forest and open areas
South Island pied oystercatcher	*Haematopus finschi*	At risk: declining	Yes/Upukerora and Mararoa Rivers
Pied stilt	*Himantopus himantopus*	At risk declining	Yes/Mararoa River
Black-billed gull	*Larus bulleri*	Nationally endangered	Yes/Mararoa River
Yellowhead (mohua)	*Mohoua ochrocephala*	Nationally vulnerable	Yes/ red beech forest
South Island kaka	*Nestor m. meridionalis*	Nationally endangered	Yes/ red beech forest
Black shag	*Phalacrocorax carbo novaehollandiae*	At risk: naturally uncommon	Yes/ Mararoa, Whitestone and Upukerora Rivers
Lizards			
Jewelled gecko	*Naultinus gemmeus*	Gradual decline	Possibly/ forest, scrub, tussock grassland
Green skink	*Oligosoma chloronoton*	Gradual decline	Possibly/ tussock grassland, scrub and boulder fields. Recorded nearby
Cryptic skink	*Oligosoma inconspicuum*	Gradual decline	Possibly/ prefers areas of herbs and shrubs rather than grasslands. Tolerates damp substrates
Otago/Southland large gecko	*Hoplodactylus* aff. *maculatus*	Gradual decline	Possibly/ inhabits rock tors, outcrops and screes, native forest, and occasionally shrubland
Plants			
Hook sedge	*Uncinia strictissima*	Nationally endangered	Possibly/recorded nearby
Native iris	*Libertia peregrinans*	Nationally vulnerable	Possibly/Kiwi Burn
Kirkianella	*Kirkianella novae-zelandiae*	Nationally vulnerable	Yes/Te Anau Downs
Yellow mistletoe	*Alepis flavida*	At risk: declining	Yes/ possibly widespread
Tufted hair-grass	*Deschampsia cespitosa*	At risk: declining	(not recorded by Applicant)
Red mistletoe	*Peraxilla tetrapetala*	At risk: declining	(not recorded by Applicant)
Scarlet mistletoe	*Peraxilla colensoi*	At risk: declining	(not recorded by Applicant)

Slender purei	*Carex tenuiculmis*	At risk: declining	(not recorded by Applicant)
	Ranunculus ternatifolius	At risk: naturally uncommon	(not recorded by Applicant)

Note: *****Threat status after de Lange *et al*. (2009) for plants, Miskelly *et al*. (2008) for birds and Hitchmough *et al.* (2007) for other fauna.

Bats

RHL carried out a survey for bats along the proposed route between 23 November and 2 December 2009 [35]. The survey confirmed the presence of long tailed bats in the forests along the monorail route, with the highest density of bat passes recorded in the Upukerora River Valley, with fewer bat passes recorded in the Whitestone Valley and even fewer in the Mararoa River area. RHL's survey did not detect any short tailed bats (but this would not rule out that short tailed bats may be present).

Introduced Species

In addition to native fauna species, various introduced pest animal species are present in the area including deer, pigs, possums, rats, rabbits, mice, ferrets and cats.

There are weed species present in the grassland areas, including at the Mararoa River and Te Anau Downs.

Water Quality and Aquatic Biodiversity Values

The proposed route crosses at least 13 streams and 3 large rivers.

RHL commissioned NIWA to assess and report on the river environments along the route[36]. NIWA undertook field surveys in rivers and streams along the proposed monorail route in May 2009. The Department had this work independently audited[37] and that audit largely concurs with RHL's identification of the freshwater values.

RHL's survey found that the potentially affected waterways are relatively pristine and provide a variety of habitats for aquatic organisms.

Brown and Rainbow trout were widespread and generally common throughout the area.

Non-migratory galaxiids were widespread, and in some places were common or abundant. Migratory fish were uncommon, probably because the sites surveyed were beyond, or close to, the limits of inland penetration for those species.[38]

Periphyton taxa found were known from rivers or wetlands elsewhere in the South Island. The invasive diatom *Didymosphenia geminata* (Didymo) was present in all the large rivers (Mararoa, Kiwi Burn, Whitestone and Upukerora) but was not found in smaller tributary streams.[39]

[35] Mitchell Partnerships Limited. 2010 *Spring Survey Report for Proposed Fiordland Link Experience Monorail Route.* Mitchell Partnerships Limited. January 2010.
[36] NIWA 2009b*. Assessment of the potential effects of the Fiordland Link Experience monorail on aquatic ecology.* (Appendix G). NIWA Client report CHC2009:129.
[37] Goldsmith, R. Ryder, G. March 2010. *Department of Conservation Riverstone Holdings Limited: the Fiordland Link Experience, Concession Application Technical Audit*, Ryder Consulting.
[38] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009 section 3.5.

RHL notes that invertebrate communities are a vital component of food-webs in rivers and streams. Almost all freshwater invertebrates are native to New Zealand, and many are endemic (that is, found nowhere else in the world). The invertebrate communities present in the rivers and streams surveyed were diverse and generally consisted of a high proportion of 'pollution intolerant' EPT (Ephemeroptera, Plecoptera and Trichoptera) taxa, which reflects the high quality of the in stream habitat available.

Thirteen of the 15 tributary sites had a macro invertebrate community index ('MCI') score of over 100 indicating they provide 'good' to 'excellent' habitat for aquatic invertebrates. The Mararoa River gave biotic indices that indicated the freshwater invertebrate habitat was 'fair' while all other main-stem sites were 'good' to 'excellent' habitat. The presence and abundance of Didymo may explain the lower quality scores in the Mararoa River.

Aquatic bryophytes (mosses and liverworts) are important habitat for invertebrate communities. Thirty two bryophyte taxa were identified and bryophytes were found at 22 of the 24 sampling sites although most sites had very low cover. Some of the small tributary streams surveyed were found to support a very diverse community of bryophytes, although this was not true of the larger rivers. The distribution of aquatic bryophytes is controlled mainly by substrate stability, reflecting the fact that these plants have very slow growth rates and do not persist where streambed material regularly overturns.

Five species of native fish and two species of introduced fish were encountered during the survey. Native species included lamprey (*Geotria australis*), longfin eel (*Anguilla dieffenbachii*), flathead galaxias (*Galaxias depressiceps*), Gollum galaxias (*Galaxias gollumoides*) and upland bully (*Gobiomorphus breviceps*).

Lamprey are regarded as threatened (Hitchmough *et al*. 2007) because adult lamprey are sparse throughout New Zealand. One juvenile lamprey was caught in the Mararoa River. Longfin eels are widespread and relatively common, but are regarded as being in decline and the species is regarded as threatened (Hitchmough *et al*. 2007). Eight longfin eels were caught at two Mararoa River sites. A total of 20 flathead galaxias were observed in the Mararoa and Whitestone Rivers and Kiwi Burn. One hundred and eighty nine Gollum galaxias were observed in the Mararoa and Whitestone Rivers and Kiwi Burn with most of them (113) found in a tributary of the Whitestone River. Four upland bullies were found, three in the Upukerora River and one in a tributary of the Whitestone River.

Introduced fish included brown and rainbow trout (*Onchorhynchus mykiss*). The two species of introduced fish combined comprised 66% of the total catch and many of the sites sampled provided good habitat and conditions for trout spawning, rearing and growth.

Recreation Values

The extensive open valleys and easily accessible tops of Snowdon Forest provide opportunities for relatively easy tramping and camping in remote natural areas. An important value of this area is that it provides a contrast both in landscape, and in intensity and types of recreation use and consequently and recreation opportunities, to Fiordland National Park.[40]

[39] NIWA comment that the Mararoa River at Kiwi Burn is thought to be the introduction point for the Didymo into Southland, if not the South Island as a whole.

[40] Section 6.20 Mainland Southland/West Otago CMS p. 308

The proposed monorail route crosses public conservation land managed predominantly as a 'Backcountry walk in' recreation opportunity, and touches the edge of the Snowdon Remote area. The mountain bike track (where it diverges from the monorail track) crosses through a combination of 'Backcountry walk in', 'Backcountry 4X4', and 'Backcountry drive-in' recreation opportunities.

A range of recreational opportunities exist in the area potentially affected by the monorail:

Kayaking; The Mararoa River (which is not administered by the Department of Conservation) is popular for kayaking, and a local canoe club has slalom gates at the Mararoa swing bridge. The standard 'put in' point is the first bridge at South Mavora lakes, and the 'takeout' point is just below the Mararoa swing bridge.

Tramping; The Snowdon Forest provides a range of tramping opportunities from the 'easy/entry-level' tramp from the Mararoa swing bridge to Kiwi Burn hut, to more remote tramping opportunities (but still with relatively easy physical terrain) along routes to the Whitestone and Upukerora River, and a remote tramping opportunity in the Snowdon Remote Area. There are two huts in the area, Kiwi Burn hut (12 bunks) 1.5 hours from road end swing bridge and Army Hut (4 bunks) approximately 4.5 hours from the closest road end.

The track counter a short distance from the swing bridge across the Mararoa River recorded 826 passes in 2003, and 484 passes in 2008. RHL notes that this is relatively low use in comparison to high use sites such as the Kepler track, which receives in excess of 8000 visitors per year.[41]

On average, Kiwi Burn hut receives 187 bed nights per year. For the seven years 1 July 2000 to 30 June 2007, the Kiwi Burn hut book recorded a total of 2257 visitors passing through the hut, and 1307 bed nights. Day visitors figures are likely to be under- represented as day visitors are less likely to fill in the hut book). From the hut book data visitor to Kiwi Burn Hut were a combination of day-trippers and overnight trampers, and predominantly (approx 90%) were New Zealanders.[42]

The walk to the Kiwi Burn Hut is regionally significant, as it is probably one the best easy / entry level tramping opportunities in Southland.[43]

Based on hut book figures, the use of Army Hut is low (with a total of 155 bed nights recorded over a period of eight years). Again these figures are indicative of use as not all visitors will fill in the hut book.

Hunting; Snowdon Forest is used for recreational hunting. 510 recreational hunting permits were issued for the combined Takitumu/Eyre/Snowdon Stewardship Area from 10 September 2009 to 10 September 2010. Although the number of hunting permits does not necessarily represent the level of hunting use (as permits are valid for 12 months), the number of permits issued for this area is approximately 10% of all hunting permits

[41] Track counter at Kiwi burn track entrance, 826 'passes' in 2003, 484 'passes' 2008, compared to 8000 visitors per annum on the Kepler Track. Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* (Appendix L) Rob Greenaway & Associates. Nelson.
[42] Hut Book Reports: Southland Visitor Monitoring Database (DOC Southland)
[43] M. Harbrow Department of Conservation *pers. com*

issued in the Southland Conservancy. Generally the Snowdon Forest area is known as a relatively easy physical access hunting area, used predominantly by local southland hunters. Numerous hunters (and potentially some anglers) access the river flats by four-wheel-drive vehicle. To do so they have to obtain permission to cross private land.[44]

Fishing; The Mararoa, Whitestone and Upukerora rivers are used by recreational (and a small number of guided) anglers. The Whitestone and the Upukerora Rivers receive approximately 1600 - 2000 angler days per annum.[45] These figures include use over the entire length of the river, and do not necessarily reflect use on the stretches of river along the proposed monorail route. Although some anglers will be using these parts of the river, this use is relatively low.

Historical and Cultural Values;

There are currently no recorded archaeological sites near or adjacent to the proposed monorail route.[46]

Hodge's Stock Track is located within Snowdon Forest, and this track is of local historic importance. It is the first formed benched track to be constructed in the Te Anau/Fiordland area.[47] The track is not currently maintained by the Department. RHL states that the monorail route may run within a few hundred metres of the stock track alignment.

Although only 45 years old, Kiwi Burn hut has been assessed as having heritage value. It was assessed as part of an evaluation of all Southland Conservancy visitor huts and given the highest grade 1 classification. This is due to it being an intact and substantially unmodified example of a New Zealand Forest Service 12 bunk recreation hut.

It is possible that there are unrecorded archaeological sites within the vicinity and all pre-1900 archaeological sites, recorded or unrecorded, are protected against disturbance under the Historic Places Act 1993.

The association of tangata whenua with the Murihiku area extends back to the first settlement of Te Wāhipounamu by Waitaha, Ngāti Mamoe and Ngāi Tahu people. The Murihiku area was and remains well known to Ngāi Tahu. Historically they travelled great distances for the collecting of resources and accessed many of the lakes of the region by ancient trails (ara tawhito). Early māori settlers had knowledge of various routes from the Waiau, Oreti and Mararoa rivers to the interior and made annual, seasonal journeys to Mavora Lakes (Manawapopore/Hikuraki) before crossing over to the Greenstone valley.[48]

There will be a number of archaeological sites along the traditional routes and trails that will confirm traditional use of the area. Not all of these are known at present, and there would likely be

[44] Te Anau Area Office *pers. comm*.
[45] Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* (Appendix L) Rob Greenaway & Associates. Nelson.
[46] Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009.p 39.
[47] CMS p.307
[48] Te Ao Marama. 2004. *Cultural Impact Assessment on the Ngai Tahu Spiritual and Cultural Relationship with the Manawapopore/Hikuraki [Mavora Lakes] Area, prepared for Riverstone Holdings Limited for Fiordland Link Project*, Te Ao Marama Inc.

unrecorded sites of significance to tangata whenua. As well as archaeological sites there are wāhi tapu/wāhi taonga (places which hold the respect of the people in accordance with custom or history) and mahinga kai (places where food or other natural resources such as weaving materials are or were gathered).

The introduction of pests, domestic animals and pastoral farming along with the degradation of waterways means that Ngāi Tahu have lost many of their traditional mahinga kai.

Tuna (Longfin eel), kanakana (lamprey), kōkopu (native galaxiids), kokopara (bully), many plants and most native bird species are all highly valued by members of Ngāi Tahu as either mahinga kai or as a cultural icon.

The Ngāi Tahu Claims Settlement Act (1998) gives effect to the deed of settlement signed by the crown and Te Rūnanga o Ngāi Tahu to achieve final settlement of Ngāi Tahu historical claims against the crown. Within the settlement act are Statutory Acknowledgements which are an acknowledgement by the Crown of the special relationship that Ngāi Tahu have with the place named therein. Lake Te Anau is identified within the Statutory Acknowledgements.

Intrinsic Values of Landscape

From Brown, S. 2009 [49]

'Landscape and Landform' are 'natural resources' of public conservation land.[50]

The landscape through which the proposed monorail would run is highly natural.

The combination of forested hillsides, valleys of open grassland, river corridors and open tops result in a highly attractive natural setting. The forest, valleys and mountain tops display effects of the seasons, and contain a sense of wildness and remoteness.

The landscape expresses the processes which shaped it, with rounded hillsides and terraced river valleys reflecting hydrological processes at work. Vegetation patterns of forest, tussock grasslands and wetlands also reflect natural processes and climatic variations.

Overall, the area through which the proposed monorail would run is assessed as an 'outstanding natural landscape'[51], using what are known as the 'Amended Pigeon Bay Criteria'[52]. Although these criteria are more commonly used in the context of RMA considerations, they are useful for objectively assessing landscape values in the absence of any guidelines for assessment under legislation administered by the Department. These criteria include;

A The natural science factors - geological, topographical, ecological, and dynamic components of the landscape;
B Its aesthetic values, including memorability and naturalness;
C Its expressiveness (legibility) - how obviously the landscape demonstrates the formative processes leading to it;
D Transient values - occasional presence of wildlife or its values at certain times of the day or year;
E Whether the values are shared and recognised;
F Its value to tangata whenua;
G Its historical associations.

These have been applied to the subject landscape by Morgan Pollard Associates (on behalf the Department) as follows:

A. Natural Science Factors

[49] Figure 2 - *Fiordland Link Experience Landscape Effects Report to accompany application for concession from the Department of Conservation*, Stephen Brown Environments Limited. Auckland.
[50] s2 Conservation Act 1987.
[51] Morgan Pollard Associates, 2010 Wildland Consultants Ltd *Fiordland Link Monorail/Landscape Audit.* Morgan Pollard Associates.
[52] *Wakatipu Environmental Society Inc v Queenstown Lakes District Council* 22/12/04, ENC Christchurch C203/2004

The landscape includes significant components - geological, topographical and ecological –exhibiting natural science values. The strength of the landform and indigenous forest vegetation/ habitat is such that the landscape is imbued with a significant degree of naturalness. The inclusion of river valleys, tussock grassland basins and interrelationship with wetlands contributes to the natural science values. Likewise, ecological values are very high.

B. Aesthetic Values

Aesthetic values attributable to the landscape are extremely high. The combination of a forested hillsides and valleys with the open grasslands, the river corridors and the open tops provide a highly attractive setting. The forest, valleys and mountain tops display the effects of the seasons and they arouse the senses with their wildness and sense of remoteness. At a more intimate level, the river gorges and tussocky basins contribute towards the beauty, the wildness, the naturalness and the outstandingness of the landscape. The aesthetic values are considered to be high.

C. Expressiveness (Legibility)

The landscape expresses the formative processes that shaped it. The rounded hillsides and terraced river valleys reflect hydrological processes at work. Vegetation patterns of forest, tussock grassland and wetlands also reflect natural processes and climatic variations. The landscape is moderate to highly expressive and legible.

D. Transient Values

There is no doubt that this landscape is imbued with transience. The sub-alpine climate influences the appearance of the environment at a broad scale as well as at a fine level. Seasonal variations in vegetation also bring about changes in bird life. During winter valleys may be covered in snow and the forest canopy is o relatively open. During summer the tussock grasslands become dense swards and darkening forest canopy attracts birds and insects. There is no doubt that the landscape exhibits transient qualities.

E. Shared and Recognised Values

The landscape is visited, experienced and appreciated by locals, New Zealanders and international tourists. Summer is undoubtedly the most popular time; however during autumn and winter hunters visit the area. The Mararoa River gorge, located adjacent to the Kiwi Burn terminus - is frequented by kayakers and the short walk to the Kiwi Burn Hut is a popular family tramp. While not heavily visited the area is used and appreciated by many people and '… *its intact backcountry/ remote values (free of high levels of use experienced elsewhere in the Te Anau catchment) are of regional value for mainland Southland*'.[53]

F. Value to tangata whenua

It appears that these values relate to a much bigger area - being the South West New Zealand *Te Wāhipounamu* World Heritage Area - than the landscape that is traversed by the proposed monorail route.

G. Historical Associations

[53] Kazmierow, B. March 2010 . *Technical Audit Report -- Recreation. Riverstone Holdings Ltd Concession Application Technical Audit.* Bronek Kazmierow -- Recreation and Tourism Consulting – Section D page 4

As above, it appears that these values are related to a bigger area than that traversed by the proposed monorail.

4.0 PROCESS FOR A COMPLETE APPLICATION

An application is deemed complete once all information required under section 17S of the Conservation Act 1987 'Contents of application' has been received.

Section 17S (4) (a) states that*: 'The Minister may, at the expense of the Applicant-*
(a) commission a report or seek advice from any person (including the Director-General) on any matters raised in relation to the application, including a review of any information provided by the Applicant.'

This 'Officer's Report' is a report commissioned by the Minister of Conservation pursuant to section 17S (4) (a) of the Conservation Act 1987.

Section 17S (5) provides that the Minister shall supply any information obtained under section 17S (4) to the Applicant, who may comment on it.

Section 17S (6) states: *'An application is incomplete where the Minister-*
(a) has advised the Applicant that the Applicant has not supplied any specified information required by or under this section, which information has not been received by the Minister; or
(b) has not received any report commissioned or advice sought under subsection (4) of this section; or
(c) has supplied information to the Applicant under subsection (5) of this section and the time limits specified under that section has not expired.'

Section 17T(2) requires the Minister to decline a complete application within 20 working days of its receipt if the *'…application does not comply with or is inconsistent with the provisions of this Act or any relevant conservation management strategy or conservation management plan…'*

Comment
This Application is deemed to be complete for processing. Non-compliance with the statutory provision is a matter for the Minister and is considered in section 5 'Analysis of Proposal ' of this report below.

5.0 ANALYSIS OF PROPOSAL

5.1 PURPOSE FOR WHICH THE LAND IS HELD – SECTION 17U (3) CONSERVATION ACT 1987

The areas under application are contained within, stewardship area, marginal strip and national park managed under the Conservation Act 1987 and National Parks Act 1980, as listed in section 1.4 of this report above.

Section 17U(3) of the Conservation Act 1987 states that, *'The Minister shall not grant an application for a concession if the proposed activity is contrary to the provisions of this Act or the purposes for which the land is held.'* (Emphasis added).

Purpose of the Conservation Act 1987.

The broad purpose of the Conservation Act is set out in the long title to the Act. It is:

> *'An Act to promote the conservation of New Zealand's natural and historic resources, and for that purpose to establish a Department of Conservation.'*

The word 'promote' is not defined in the Act but the dictionary meaning is to further the progress of; support or encourage.[54] 'Conservation' is defined in section 2 to mean:

> *'…the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations*'.

'Preservation' and 'protection' are both further defined in section 2 to mean:

> ***'preservation**, in relation to a resource, means the maintenance, so far as is practicable, of its intrinsic values'*

> ***'protection**, in relation to a resource, means its maintenance, so far as is practicable, in its current state; but includes—*
> *(a) its restoration to some former state; and*
> *(b) its augmentation, enhancement, or expansion'*

'Maintenance' is not defined in the Act but the dictionary meaning is to 'maintain' which means to continue to retain; keep in existence; to keep in proper or good condition[55].

Section 5 of the Conservation Act 1987 establishes a Department of Conservation.

Section 6 of the Act sets out the functions of the Department as follows;

[54] Concise Oxford English Dictionary, 10th ed revised , 2002
[55] The New Collins Concise English Dictionary, 1987

The functions of the Department are to administer this Act and the enactments specified in Schedule 1 to this Act, and, subject to this Act and those enactments and to the directions (if any) of the Minister,—

(a) to manage for conservation purposes, all land, and all other natural and historic resources, for the time being held under this Act, and all other land and natural and historic resources whose owner agrees with the Minister that they should be managed by the Department:

(ab) to preserve so far as is practicable all indigenous freshwater fisheries, and protect recreational freshwater fisheries and freshwater fish habitats:

(b) to advocate the conservation of natural and historic resources generally:

(c) to promote the benefits to present and future generations of—

(i) the conservation of natural and historic resources generally and the natural and historic resources of New Zealand in particular; and

(ii) the conservation of the natural and historic resources of New Zealand's sub-antarctic islands and, consistently with all relevant international agreements, of the Ross Dependency and Antarctica generally; and

(iii) international co-operation on matters relating to conservation:

(d) to prepare, provide, disseminate, promote, and publicise educational and promotional material relating to conservation:

(e to the extent that the use of any natural or historic resource for recreation or tourism is not inconsistent with its conservation, to foster the use of natural and historic resources for recreation, and to allow their use for tourism:

(f) to advise the Minister on matters relating to any of those functions or to conservation generally:

(g) every other function conferred on it by any other enactment.

Stewardship Area

The Snowden Forest Stewardship Area is held as Stewardship Area subject to section 25 of the Conservation Act 1987.

Land held as Stewardship Area under the Conservation Act 1987 is held for the purpose that; *'Every Stewardship area shall so be managed that its natural and historic resources are protected'* (s25).

Natural Resources are defined in the Conservation Act 1987 as:

' (a) plants and animals of all kinds; and

(b) the air, water, and soil in or on which any plant or animal lives or may live; and

(c) landscape and landform; and

(d) geological features; and

(e) systems of interacting living organisms, and their environment; --

and includes any interest in a natural resource'.

Historic Resources are defined in the Conservation Act 1987:

' means a historic place within the meaning of the Historic Places Act 1993; and includes any interest in a historic resource.'

Historic place defined in the Historic Places Act 1993;

' (a) Means—

(i) Any land (including an archaeological site); or

(ii) Any building or structure (including part of a building or structure); or
(iii) Any combination of land and a building or structure; or
(iv) any combination of land, buildings or structures, and associated buildings or structures (including any part of those buildings or structures, or associated buildings or structures)
that forms a place that is part of the historical and cultural heritage of New Zealand and lies within the territorial limits of New Zealand; and

(b) Includes anything that is in or fixed to such land:

Comment:
The emphasis in the Conservation Act 1987 is on preservation and protection of natural resources for the purpose of maintaining intrinsic values, providing for public appreciation and recreational enjoyment, and safeguarding the options of future generations.

The mandatory nature of the wording in section 25 of the Conservation Act 1987 suggests that it would not be lawful under the Act to allow an activity to occur which undermines the protection (i.e. undermines the maintenance as far as practicable in its current state) of natural and historic resources of the land.

However, the provisions of the Act require the Minister to also consider a number of other matters as set out in part III B of the Act, including the effects of the proposed activity, and the possible safeguards and mitigation measures proposed. The Minister must also consider the values of the natural and historic resources the Conservation Stewardship Land status seeks to protect and to question whether the granting of the Application, with or without conditions, would provide protection of those resources.

The values of the natural and historic resources of the Stewardship Area under application are discussed in section 3 of this report: Natural, Recreational, Historic and Cultural Values.

Section 5.2 (below) of this report is an analysis of the effects of the activity and any measures proposed to avoid remedy or mitigate effects on natural values.

This analysis concludes that the effects on natural values of the activities and development proposed by RHL could be reasonably and practicably avoided, remedied or mitigated (including via concession conditions) to the point where those effects would be minor.

Mitigation is not the same as avoidance, and it cannot be said that there will be NO adverse effect on natural and historic resources. The proposed activity will result in permanent removal of 22 ha of forest habitat and 4.35 ha of non - forest habitat, and associated effects.

However, it is considered that the granting of this Application with appropriate concession conditions, would not undermine the protection of the natural and historic resources of the Land, and as such the proposed activity (construction and operation of a monorail, construction track, and mountain bike track) would not be contrary to the purpose for which the land is held as conservation stewardship area.

Marginal Strip

Section 24(c) of the Conservation Act states;

'All marginal strips shall be held under this Act-

(a) for conservation purposes, in particular-
(i) the maintenance of adjacent watercourses or bodies of water; and
(ii) the maintenance of water quality; and
(iii) the maintenance of aquatic life and the control of harmful species of aquatic life; and
(iv) the protection of the marginal strips and their natural values; and
(b) to enable public access to any adjacent watercourses or bodies of water; and
(c) for public recreational use of the marginal strips and adjacent watercourses or bodies of water.'

Comment:
A consideration for the Minister of Conservation in regards to concessions across marginal strips, is whether a concession (subject to conditions) could be granted that would enable the maintenance of water quality and aquatic life, protection of natural values of the marginal strip, and whether public access/public recreational use could be maintained.

Section 5.2 of this report (below) is an analysis of the effects of the activity and any measures proposed to avoid remedy or mitigate effects on natural values (including recreational values and effects on water quality and aquatic biodiversity. This analysis concludes that the effects on natural values of the activities and developments proposed by RHL on marginal strip are either minor, or could be mitigated to the point where those effects would be minor.

RHL proposes to construct a structure (monorail track) across marginal strip. This structure would require footings to be located on the marginal strip. It is not considered that this structure would constrain public access to any adjacent watercourses or bodies of water in the marginal strip.

RHL also intend to construct a terminus facility occupying approximately 1040 m^2. Again this structure would not constrain public access to any adjacent watercourses or bodies of water in the marginal strip.

Where the mountain bike track separates from the monorail route (17 km across conservation stewardship land and potentially some (movable) marginal strip) public access would be physically enhanced to this area.

It is considered that with appropriate conditions, grant of a concession for a monorail, construction track/mountain bike track across marginal strip would not be contrary with the purposes for which the land is held as marginal strip.

National Park
The Te Anau Downs Terminus site area is contained within Fiordland National Park managed under the National Parks Act 1980.

Section 4 of the National Parks Act 1980, *'Principles to be applied in National Parks'* states:

*'**4. Parks to be maintained in a natural state, and public to have right of entry-***

(1) It is hereby declared that the provisions of this Act shall have effect for the purpose of preserving in perpetuity as national parks, for their intrinsic worth and for the benefit, use and enjoyment of the public, areas of New Zealand that contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that the preservation is in the national interest.

(2) It is hereby further declared that, having regard to the general purposes specified in subsection (1) of this section, national parks shall be so administered and maintained under the provisions of this Act that -

(a) they shall be preserved as far as possible and in natural state:

(b) except where the Authority otherwise determines, the native plants and animals of the parks shall as far as possible be preserved and the introduced plants and animals shall as far as possible be exterminated:

(c) sites and objects of archaeological and historical interest shall as far as possible be preserved:

(d) their value as soil, water, and forest conservation areas shall be maintained:

(e) subject to the provisions of this Act and to the imposition of such conditions and restrictions as may be necessary for the preservation of the native plants and animals or for the welfare in general of the parks, the public shall have freedom of entry and access to the parks, so that they may receive in full measure the inspiration, enjoyment, recreation, and other benefits that may be derived from mountains, forests, sounds, seacoasts, lakes, rivers, and other natural features.

Section 49(2) of the National Parks Act 1980 states that, *'Before granting any concession over a park, the Minister shall satisfy himself or herself that a concession – (a) can be granted without permanently affecting the rights of the public in respect of the park; and (b) is not inconsistent with section 4 of this Act.'*

Comment

The activity proposed by RHL seeks to impact on an area of Fiordland National Park. This area is held for the purpose of preserving in perpetuity as national park, for intrinsic worth and benefit/ use/enjoyment of the public, scenery, ecological systems and natural features so beautiful, unique or scientifically important that their preservation is in the natural interest.

The mandatory nature of the wording in section 4 and section 5 (2) of the National Parks Act suggests that it would not be lawful under the National Parks Act to allow an activity to occur which undermines the preservation in perpetuity (implying maintenance in its current state) of scenery, ecological systems and natural features of the land.

However, the provisions of the National Parks Act 1980 (section 49) and part 3B of the Conservation Act 1987 require the Minister to also consider a number of other matters as set out in the Act, including the effects of the proposed activity, and the possible safeguards and mitigation measures proposed. This consideration gives effect to the words in section 4(2) (a) '*as far as possible*', which recognises there may well be some change which could detract from the natural state.

The Minister must consider the conservation values of the area the National Park status seeks to protect, and to question whether the granting of the Application, with or without conditions, would provide protection of those resources.

The values of the natural and historic resources of the National Park under application (part Fiordland National Park) are discussed in section 3 of this report.

Section 5.2 of this report specifically discusses the effects of the proposed activities on these values and concludes that the effects of the activities and developments proposed by RHL could be reasonably and practicably avoided, remedied or mitigated (including via concession conditions) to the point where those effects would be minor.

It is considered that with appropriate conditions, grant of a concession for a short section of monorail and terminus building on part Fiordland National Park at Te Anau Downs would have acceptable levels of effects, and as such would not be contrary with the purposes for which the land is held as national park.

5.1.2 PLANNING INSTRUMENTS

Relationship between Concessions and Conservation Management Strategies and Plans - section 17W of the Conservation Act 1987

Section 17W(1) provides;

> *'Where a conservation management strategy or conservation management plan has been established for a conservation area and the strategy or plan provides for the issue of a concession, a concession shall not be granted in that case unless the concession and its granting is consistent with the strategy or plan.'*

Section 17W(2)(b) provides where;

> *'the relevant conservation management strategy or conservation management plan does not make any provision for the activity to which the application relates in the conservation area,- the Minister, after complying with the provisions of sections 17S, 17T, and 17U, may grant a concession.*

Section 17W(3) of the Conservation Act states that

> *'The Minister may decline any application, whether or not it is in accordance with any relevant conservation management strategy or conservation management plan, if he or she considers that the effects of the activity are such that a review of the strategy or plan or the preparation of a strategy or plan is more appropriate.'*

Provisions of Conservation General Policy (CGP) 2005

The majority of the proposed developments (as described above) would be located on land managed pursuant to the Conservation Act 1987.

The CGP 2005 provides guidance for the implementation of the Conservation Act and other conservation related legislation. Conservation management strategies and plans prepared under this legislation must be consistent with the CGP 2005, although existing approved conservation management strategies and

plans will continue to have effect until they are amended or reviewed, except where they clearly derogate from the CGP. The relevant provisions of the CGP are summarised and discussed below:

CGP Policy 4.5 - Geological features, landforms, and landscapes.

Policy 4.5 (b) states that, '*Activities which reduce the intrinsic values of landscape, landform and geological features on public conservation lands and waters should be located and managed so that their adverse effects are avoided or otherwise minimised.*'

'Intrinsic value' is defined in the CGP as: '*A concept which regards the subject under consideration as having value or worth in its own right independent of any value placed on it by humans*.'

CGP Policy 9 – People's Benefit and Enjoyment

Policy 9.1(a) of the CGP states that, *'Recreational opportunities will be provided…consistent with the values and outcomes planned for places.'*

Policy 9.1(f) states that, '*Recreational opportunities should be managed to avoid or minimise any adverse effects on natural values….qualities of peace and natural quiet…and….the experiences of other people.'*

Policy 9.5 deals with the use of vehicles and other forms of transport, stating that any such use;

'(a)….*should be compatible with the statutory purpose for which the place is held,*'

'(b) *Conservation management strategies…will identify where the use of specified types of vehicles*[56] *and other forms of transport may be allowed and will establish conditions for any use'* and

(c) *'The Department should work with roading and aviation controlling authorities to avoid or otherwise minimise the adverse effects of specified types of vehicles and aircraft on public conservation lands and waters and the public enjoyment of those places'*

CGP Policy 11 – Activities Requiring Specific Authorisation

Policy 11 deals with activities requiring specific authorisation, including concessions. It details that activities should avoid, remedy or mitigate any adverse effects (including cumulative effects) and maximise any positive effects. Both the Department and concessionaires should monitor effects, including effects on public enjoyment, to inform future management decisions. Concessionaires are to be responsible for the safe conduct of their operations.

CGP Policy 11.3- Utilities

Utilities are defined in the CGP as *'Includes but not limited to: structures and infrastructure for telecommunications; energy generation and transmission; sewerage; water supply and flood control; oil and gas; roads and airstrips; hydrological and weather stations.'*(emphasis added)

Under this definition the proposed monorail track could be considered a utility.

Policy 11.3 of the CGP allows utilities (including roads) to be provided where they cannot reasonably be located outside public conservation land. Any new utilities are to be of a scale, design and colour that integrate with the landscape. Public access to facilities may be denied where necessary for public safety.

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[56] Vehicle is defined by the CGP to mean;

'any device that is powered by any propulsion system and moves on rollers, skids, tracks, wheels, or other means; and includes any device referred to previously from which the propulsion system has been removed; or the rollers, skids, tracks, wheels, or other means of movement have been removed; and does not include:

(a) a pushchair or pram;

(b) a child's toy;

(c) a personal mobility device used by a disabled person.'

This policy reinforces the consideration required under part 3B of the Conservation Act; section 17(U) (4) states;
'The Minister shall not grant any application for a concession to build a structure or facility, or to extend or add to an existing structure or facility, where he or she is satisfied that the activity-
(a) could reasonably be undertaken in another location that-
(i) is outside the conservation area to which the application relates; or
(ii) is in another conservation area or in another part of the conservation area to which the application relates, where the potential adverse effects would be significantly less...'

This matter is discussed in section 5.8 of this report.

Conclusions in respect of Conservation General Policy

The Conservation General Policy [57]requires an analysis of effects of activities. This re-enforces the requirements of part 3B of the Conservation Act in respect of commercial activities (matters to be considered when granting a concession).

Policy 9.5 states that Conservation Management Plans will (emphasis added) identify where vehicle use may be allowed and establish conditions for use. The relevant CMS (Mainland Southland / West Otago Conservation Management Strategy) does not identify that a monorail and mountain bikes may be allowed in the Snowdon Forest Stewardship Area, however the CMS does recognise the existence of a concession application for a monorail in this area, and the requirement to consider that activity (as all concession activities).

The relevant CMS does state that Aircraft Access will be permitted in the Snowdon Forest Conservation Area 'for management purposes only' (see discussion below)

Subject to effective avoidance and mitigation of potential adverse effects[58] (including proposed concession conditions) the proposed activities (construction, operation and maintenance of a monorail track, terminus building with associated facilities) would be consistent with the provisions of the Conservation General Policy 2005.

Provisions of the Mainland Southland/West Otago Conservation Management Strategy (CMS) 1998-2008 (life extended to 2012)

The Mainland Southland/West Otago CMS 1998 – 2008 (life extended to 2012) is relevant to the conservation areas under application.

The relevant provisions of the CMS are discussed below:

CMS Part Four: Recreation and Tourism
Section Four of the Mainland Southland/West Otago Conservation Management Strategy 1998 – 2008 [59] (CMS) provides context and background in respect of the recreation values of the public conservation lands subject of the concession application.

[57] Including policies 4.5, 9 and 11 noted above
[58] See also discussion 5.2 of this report below regarding consideration of effects and proposed methods to avoid remedy and mitigate effects.
[59] Department of Conservation , Mainland Southland/West Otago Conservation Management Strategy 1998 – 2008

The CMS recognises that international attention on Southland, particularly Fiordland, is enhanced by the National Park and adjoining land administered by the Department as part of the World Heritage Area.

The CMS notes that for the remainder of mainland Southland/West Otago, local people, particularly from urban centres, are the main recreationalists. Local visitors are more likely to repeatedly visit an area. This makes them more vulnerable to having their recreation experiences altered through incremental changes as compared, for example, to an international visitor whose experience is based on one visit. Local use can also result in a greater diversity of activities undertaken by users, and greater demands for diverse recreation opportunities.

The CMS divides the public conservation land administered by the Department of Conservation into different 'landscape units'. Recreation opportunities Objectives for each landscape unit are identified.

The majority of the proposed monorail route is situated in the Te Anau Basin landscape unit, and this is discussed below[60]. Te Anau Downs (Fiordland National Park) is situated within the Fiordland landscape unit. Both areas are within the Te Wāhipounamu (South-West New Zealand) World Heritage Area.

Section 4.3 of the CMS discusses **Recreation and Tourism Development Proposals**[61], including facility development/upgrading proposals by the Department, commercial operators or other agencies.

The CMS states that such proposals will be assessed in terms of impact on both the natural environment and on visitors to the area. '*The only facility development allowed will be that which is characteristic of the area and will enhance but not alter the recreation opportunities, as defined by the objectives and implementation provisions for each landscape unit. '* [62]

The objectives of the CMS in regards to recreation and tourism development proposals are:

1. *To ensure that recreation development does not cause damage to the natural and historic resources;*
2. *To provide facilities to both enhance visitor experience and minimise the impact on natural and historic resources;*
3. *To ensure that all recreation developments conform with recreation opportunity objectives as set out for each landscape unit or the Fiordland National Park management plan, and;*
4. *Encourage the involvement of recreation user groups and community and tourism interests in the planning, development and maintenance of recreation facilities.* [63]

The implementation points of the CMS in this regard include that construction of facilities associated with recreation will be allowed where the facilities are appropriate to the recreation opportunity identified in that area, and that the effects of facilities on natural and historic resources will be monitored.

RHL proposes a number of new facilities in the backcountry zone of Snowdon Stewardship Area;

- a monorail track

[60] ibid section 6.20 CMS
[61] ibid section 4.3 CMS p. 122
[62] ibid
[63] ibid

- a construction track/mountain bike track
- public toilets and shelters along the mountain bike track (at locations to be determined in consultation with the Department)
- a new hut to replace the visitor experience of the existing Kiwi burn hut (see also section 5.2 of this report below)
- Other track reroutes[64]

Visitors in the immediate vicinity of the monorail would have their experience altered from a backcountry experience through the presence of a monorail.

The CMS acknowledges the presence of an application for a monorail at the time the CMS was written, and notes that the current recreation opportunity would be altered (see discussion in relation to Te Anau basin landscape unit below).

Section 4.4 of the CMS discusses **Recreation and Tourism Concessions**.[65]
This section of the CMS reinforces considerations to be made pursuant to part 3B of the Conservation Act 1987.

The CMS recognises that recreation and tourism concessions can enable a wider visitor enjoyment and appreciation of areas administered by the Department. In return for the privilege of a concession, operators must provide quality visitor services '*commensurate with the natural values and recreation opportunities in an area'.*

The objectives of the CMS in regards to recreation and tourism concessions include:

1. *To enable a range of appropriate, high quality visitor services to be provided through the granting of concessions compatible with the recreation opportunities identified for each landscape unit and which will not adversely affect natural and historic resources.*

The implementation points of the CMS regarding recreation and tourism concessions include the requirement to consider applications in accordance with part 3B of the Conservation Act 1987, that concession operations will be monitored, and that conditions will be set in concession documents to maintain the recreation opportunities identified in the area.

Section 4.7 of the CMS deals with **Bicycle Use**, and as such is relevant to the proposed mountain bike track development.[66]

The CMS notes that bicycles are currently legally classified as vehicles in the same category as motor vehicles, but recognises that bicycle use has different requirements, impacts and offers distinctly different opportunities to that of motorised vehicle use.

The CMS states that bicycle access onto land and tracks managed by the Department will be controlled, and that the use of bicycles will be allowed only on formed roads and designated tracks where their use can be undertaken to acceptable levels of ecological, social and physical impact. Proposals for the development of tracks by mountain bike enthusiasts will be assessed according to the impact on the environment, other users, and the recreation opportunity setting of the area. The

[64] See 5.2.5
[65] ibid, section 4.4 pp 124 – 126.
[66] ibid, section 4.7 pp 132- 133.

process of identifying whether an area is suitable for use of bicycles will involve public input. The impacts of mountain bikes on tracks will be monitored.

This section of the CMS reinforces considerations to be made pursuant to part 3B of the Conservation Act 1987.

RHL has not undertaken public consultation regarding the appropriateness of the area for use by bicycles. It is noted that although there is a public notification phase associated with any grant of a concession (Section 17T Conservation Act 1987), this public notification of an intent to grant a concession is arguably not strictly 'involving public input' on bicycle use of the Snowdon Forest as envisaged by section 4.7 of the CMS. Pragmatically however, either process invites comment from the public on the effects of proposed bicycle use, and accordingly it is considered that the public process associated with section 17T of the Conservation Act would meet the intent of section 4.7 of the CMS, to allow the public to have input into any proposal to permit this new type of use.

Section 4.9 of the CMS discusses **Air Access.**

Riverstone Holdings have identified they would require helicopter landings in the Snowdon Forest Stewardship Area as part of the final design activities (such as placement of temporary survey equipment from which to take GPS readings, and flying in of survey teams), landings for some construction activities, and for emergency access on an ongoing basis.[67]

The objective of the CMS in respect of Air Access is

> *'to recognise that while aircraft access provides access to many visitors, it also detracts from the general amenity values of quietness and remoteness, and that aircraft access must be managed to ensure other recreation opportunities are maintained and conflicts with other visitors minimised'*[68]

Implementation point 1 of the CMS states *'three level of air access will apply to lands administered by the Department to allow for a variety of recreational opportunities'* (including);

> 1(i) *'Access for management purposes only. This category includes Wilderness areas, Specially Protected Areas, and the Longwoods, Southland Plains, Hokonui Hills, Takitimu Mountains, North East Uplands, Eyre Mountains, Snowdon and Upukeroa conservation areas and reserves'*.[69]

The CMS does not define 'management purposes' (nor does the Conservation Act, or the Conservation General Policy). It is not clear from the context of the CMS whether the 'restriction' on helicopter landings is limited to landings carried out by the Department, or includes management activities of concessionaires. It is likely "management purposes" only includes activities of the Department, being the manager of the land.

On the face of the above implementation, the Minister cannot consider or approve landings in the Snowden Conservation Area for anything other than management purposes (of the Department).

The CMS cannot prevent the Minister of Conservation from considering the effects of the proposed helicopter landings, and all other matters as set out in part 3B of the Conservation Act, and exercising

[67] Mitchell Partnerships *Memorandum; Applicants Response to the Draft Determination Report* 21 October 2011
[68] Ibid section 4.9 p135
[69] Ibid section 4.9 p136.

her discretion in respect of whether or not to permit aircraft landings in the Snowdon Stewardship Area.

The Minister needs to consider the reasonable intent of implementation 1 of the CMS (accepting the CMS cannot prohibit the Minister from considering the concession application and its effects) in the context of the relevant provisions of the CMS. The objective of the CMS is to manage the effects of aircraft access to ensure recreational opportunities are maintained and conflicts with other visitors are minimised. In respect of the Snowdon Forest Stewardship Area, the policy to achieve this is to restrict the level of helicopter landings to levels associated with management purposes. Implementation point 6 of section 6.20 of the CMS[70] reinforces the objective of maintaining a low level of helicopter landings in the Snowdon Forest; *'to retain the quiet, remote atmosphere of the Snowdon Forest area, aircraft access will be permitted only for management and search and rescue purposes'*

Currently 'management purpose' landings in the Snowdon Forest Stewardship Area, would, by their nature, tend to be infrequent.

The effects of the helicopter landings proposed by RHL are discussed in section 5.2.7 of this report. This assessment is made in the context of the natural, recreational and, historic and cultural values of the area, as set out in section 3 of this report. This identification of the values of the Snowdon Conservation Area are derived from various sources, including part 6 of the CMS [71] (discussed below).

This discussion concludes that these effects will be minor (landings will be limited to a frequency consistent with the visitor management setting), and temporary (landings will cease, apart from landings for emergency purposes) once construction is complete.

In this respect the level of landings proposed by RHL, subject to concession conditions that would ensure they are limited in number and duration, would be consistent with the overall intent of section 4.9 of the CMS.

CMS Part Five - Resource and Estate Uses

The provisions of part five of the CMS provide background and context, reinforce considerations to be made pursuant to part 3B of the Conservation Act, and suggest concession conditions.

Part five generally deals with the use of public conservation land for other than public recreation and tourism purposes (recreation and tourism being covered in part four of the CMS, as discussed above). Relevant to the activities proposed by Riverstone Holdings is section 5.14 of the CMS, regarding roads, access and utilities.[72]

CMS Section 5.14 - Roads, Access and Utilities

The CMS recognises that roads and other land transport issues can create the following issues and ecosystems/conservation areas;

- fragmentation;
- control of public access;

[70] CMS section 6.20 Te Anau Basin (Landscape Units Strategic Assessment)
[71] CMS Part 6 Landscape Units Strategic Assessment
[72] ibid pp 173 – 174. This section of the CMS notes the existence of a proposal for a monorail *'from Lake Wakatipu to the Eglinton Valley.'*

- road widening;
- ancillary activities;
- provide a corridor for pest infestation; and
- change its type of public use.

Implementation point (1) of section 5.14 of the CMS states that '*no new roads or other transport facilities will be constructed on lands administered by the Department, except to provide vehicle access to administrative and residential land or to adjoining private land where there are no practical alternatives, or except where provided for in part 6 of the CMS'.*[73]

Section 6 of the CMS is the section referring to landscape units. Section 6.20 of the CMS (discussed below) acknowledges the existence of a concession application for a monorail. While part 6 of the CMS does not 'provide' for a monorail, it is the clear intention of the CMS that a monorail application will be considered within the CMS.

The CMS cannot stop the Minister of Conservation from considering the effects of the proposed transport facility and road, and all other matters as set out in part 3B of the Conservation Act, and exercising her discretion in respect of whether or not these activities could be permitted in the Snowdon Stewardship Area. The CMS therefore cannot prohibit the Minister of Conservation from considering an application for a transport facility or a road by way of the statement *'no new roads or other transport facilities will be constructed ….'*

The application must be considered within the context and intent of the CMS. In respect of roads or transport facilities, the objective of the CMS is to recognise that roads and other transport facilities can create various 'issues' or biophysical and social effects (as noted above).

The biophysical and social effects of the monorail track and construction /mountain bike track in the Snowdon Stewardship Area are discussed in section 5.2 of this report. These discussions conclude that, subject to concession conditions, the adverse effects of the proposed tracks (as identified in section 5.14 of the CMS, can be reasonably and practicably avoided, remedied or mitigated to the point where they would be minor, and the activity would be consistent with the CMS.

Implementation point (3) states that *'all applications to use lands administered by the Department involving vegetation clearing, earthworks or the erection of any structure will require an environmental impact assessment which should clearly show that all alternatives have been investigated. Applications may only be approved if the Department is satisfied that report shows the application to be acceptable in terms of avoiding, mitigating or remedying adverse impacts on natural values'*[74]

It is not clear what is meant by the statement requiring that *'all alternatives have been investigated'*, and whether this refers to alternative location, or alternative type of structure.

In respect of alternative locations, S17 U (4) of the Conservation Act 1987 requires this consideration in respect of structures, and this is discussed in section 5.9 of this report. In respect of alternative types of construction methodology or structure, it would be beyond the requirements of the considerations required pursuant to part 3B of the Conservation Act 1987 to require this.

[73] ibid
[74] The CMS refers to 'the Department must be satisfied *(the application to be acceptable*) but in fact it is the Minister of Conservation who has the responsibility to make such a decision pursuant to 3B of the Conservation Act 1987.

Other implementation points of this section of the CMS require payment of market rentals for concessions, ongoing monitoring, and rehabilitation of sites to as near as practicable to their natural state.

CMS Part 6 Landscape Units Strategic Assessment

CMS Section 6.1 - Te Wāhipounamu South West New Zealand World Heritage Area.
Section 6.1 of the CMS provides context and background in respect of the Te Wāhipounamu *South West New Zealand* World Heritage Area.

The Snowdon Forest Stewardship Area is in the Te Wāhipounamu *South West New Zealand* World Heritage Area. This World Heritage Area is one of the worlds 400 or so special natural and cultural sites, as recognised by UNESCO. The World Heritage Area consists of 2.6 million hectares of protected lands on the West Coast, Canterbury, Otago and Southland.

World Heritage Areas are designated under the World Heritage Convention because of their 'outstanding universal value'. World Heritage status does not affect the underlying protected status for which the land is held under New Zealand law; rather it places an obligation on the host nation to 'take appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, preservation and rehabilitation of this heritage'.

The Department is obliged to manage the World Heritage Area in such a way that its integrity is preserved.[75]

CMS Section 6.19 - Mavora (landscape Unit)
Geographically the area under application is within the Snowdon Forest which is specifically mentioned in section 6.20 (Te Anau Basin) and not section 6.19 (Mavora) of the CMS.

However the narrative in section 6.19 refers also to ecological values in the Snowdon Forest. The ecological values identified are generally applicable to the Snowdon Forest Stewardship Area. These values are described in section 3 of this report, and are not repeated here.

***CMS Section 6.20 - Te Anau Basin* (landscape unit)**
Section 6.20 of the CMS reinforces the significance of the recreational opportunities of the Snowdon Forest, and acknowledges the existence of a previous concession application for a monorail through the area. Although the Application subject of this report has been made by the same applicant, it now follows a different route to that mentioned in the CMS. Specifically, the current Application avoids Dunton Swamp. RHL made this change in response to internal audit of the original application.

The CMS identifies various recreation opportunities within the Snowdon Forest. It recognises that one of the most important aspects of this area is that it provides a contrast both in landscape, and intensity and types of recreation use and consequently and recreation opportunities, to Fiordland National Park. The subsequent objective of the CMS is *'to provide and maintain the central Snowdon Forest area as a remote area with opportunities for low impact recreation remote from high use areas and extensive facilities. An area to which access is not too difficult, but users are required to be self-reliant'*[76].

[75] Ibid section. 6.1
[76] ibid, section 6.0 p 308.

The CMS notes *'currently the Department is considering an application for a concession to operate a monorail transport system across lands administered by the Department in this landscape unit, as part of a route from Lake Wakatipu to Te Anau Downs. The proposed route runs through Snowdon Forest which is part of the World Heritage Area. It skirts along side of Dunton swamp which has been suggested for RAMSAR listing'* [77]

The CMS states;
'*the proposed monorail is being subject to environmental impact assessment procedures. It is evident that existing recreational opportunities will be altered, particularly where the proposed route runs through areas being managed to provide backcountry walk in and/or remote recreation experiences. The public notification process required for this proposed development will help establish the value of those recreation opportunities which would be modified or lost of the concession is granted'.* The subsequent objective of the CMS in this regard *'is to ensure that any proposal for a monorail avoids damaging important natural values including landscape features in this unit; and that any proposed route through Snowdon Forest is fully assessed for its effects on the existing country walk-in and/or remote recreation opportunities of that area'* [78]

The CMS states that no further huts or tracks will be developed in the area [by the Department], but recognises that changes to the location of the Kiwi Burn track and hut may need to be considered if the monorail proposal proceeds,[79] and also that concessions will be limited to low impact day use excluding weekends and statutory holidays. Party size will be a maximum of 12 in the valleys and seven in the more remote ranges of the Snowdon Mountains.[80]

The implementation regarding *'public notification process required for this proposed development will help establish the value of those recreation opportunities which would be modified or lost of the concession is granted'* is difficult to implement as the public notification process associated with the concession application would be public notification of intent to grant a concession[81]. 'Intent to grant' can only be formed by the Minister of Conservation once an analysis of the potential effects (including effects on recreation experience/other users) has been made. The public notification process would therefore 'test' any analysis made by the Department in this regard, based on the provisions of the CMS and technical advice.

The CMS states that concessions will be limited to 'low impact' day use excluding weekends and statutory holidays.[82] This would seem to conflict with the acknowledgement in the CMS of a concession application for a monorail - which is not, on the face of it, a 'low impact activity'. The concession application lodged in 1996, at the time that the statements in the CMS were written, did not limit operation of the monorail to weekdays only.

In any case, part 3B of the Conservation Act requires the Minister of Conservation to consider the effects of the activity. Strict adherence to limiting concessions to weekday/non holiday operation unless analysis of the potential effects of the activity requires this to be the case would

[77] ibid, page 306
[78] ibid, page 307
[79] ibid p 309, implementation 7; *"The tramping tracks to Kiwi Burn and Army Huts will be maintained. Other tracks will be maintained as marked routes. In accordance with the area's remote nature, no further tracks or huts will be developed (changes to the location of the Kiwi Burn track and hut may need to be considered if the monorail proposal proceeds*)"
[80] CMS section 6.20 ibid, implementation point 9
[81] Required under section 17T of the Conservation Act 1987
[82] CMS section 6.20 implementation point 9

constrain/prohibit the Minister of Conservation from undertaking the analysis required under part 3B of the Conservation Act. This would be fetter the Minister of Conservation.

Limitations in the CMS restricting party size in the 'remote ranges of the Snowdon Mountains' are not relevant to this Application, as the activity is not proposed in the remote zone.

It is considered that the intent of the clauses in the CMS regarding limits on concessions serve to 'add weight' to the particular recreation values of the area. However they do not (and cannot) prohibit the Minister from considering the specific effects of the concession application, which are discussed in section 5.2 of this report.

Conclusions in respect of the Mainland Southland/ West Otago CMS

Section 6.20 of the CMS acknowledges the existence of a concession application for a monorail that was with the Department at the time the CMS was being prepared (1996). This was a different proposal to that currently applied for (and subject of this report). However, the intent of the CMS is that an application for a monorail will be considered.

The provisions of the CMS reinforce the requirements of part 3B of the Conservation Act 1987 to consider the effects of the activity, and places particular emphasis on effects on natural values and recreational opportunity.

The CMS contains statements and implementation points which would appear to bind the Minister, in particular stipulating there be no new roads, requiring that concessions be limited to weekday/non holiday operation only[83] and that helicopter landings will only be permitted 'for management purposes' [84](which would 'rule out' aircraft activity associated with construction or management of developments by anyone but the Department of Conservation).

As discussed above, the Minister of Conservation has a constitutional responsibility pursuant to part 3B of the Conservation Act to consider any concession application. Statements in Conservation Management Strategies cannot prohibit her from doing so.

The discussions elsewhere in this report conclude that, subject to concession conditions, the potential effects of the proposed activities could be reasonably and practicably avoided, remedied or mitigated to the point where they would be minor.[85] As such, the activities proposed by RHL (construction, operation and maintenance of a monorail track and terminus building with associated facilities, after imposition of appropriate conditions) would be consistent with the provisions of the Mainland Southland/West Otago CMS 1998 – 2008 (life extended to 2012).

Provisions of the General Policy for National Parks 2005

The General Policy for National Parks 2005 contains statements of general policy to guide the preparation of National Park Management Plans. The proposed developments at Anau Downs would be situated in Fiordland National Park.

[83] CMS section 6.20
[84] CMS section 4.9
[85] see also discussion 5.2 of this report below regarding consideration of effects and proposed methods to avoid remedy and mitigate effects.

In general, the General Policy for National Parks requires an assessment of effects and thus re-enforces the requirements of part 3B of the Conservation Act in respect of commercial activities (matters to be considered when granting a concession).

Policy 10.3 of the General Policy for National Parks provides that no roads are permitted over or through a National Park except with the consent of the Minister (this consent to be given pursuant to part 3B of the Conservation Act 1987 and section 55 of the National Parks Act 1980) and given *'in accordance with the national park management plan'.*

The sections in the Fiordland National Park Management Plan 2007 (see discussion below) regarding the suitability of the Te Anau Downs front country area as a transport node for Milford Sound, demonstrates an intention that there may well be some limited roading (and car parking etc) in this area.

Relevant provisions of the General Policy for National Parks are summarised and attached as appendix B of this report.
Subject to effective avoidance and mitigation of potential adverse effects[86] (including proposed concession conditions) the proposed activities (construction and operation of a monorail track, terminus building with associated facilities) would be consistent with the provisions of the General Policy for National Parks 2005.

Provisions of the Fiordland National Park Management Plan 2007 (FNPMP)

The proposed concession activities in Fiordland National Park fall within the Te Anau Downs Front Country visitor setting. Key provisions of the relevant sections of the FNPMP are discussed below.

FNPMP Part Three - Te Wāhipounamu South West New Zealand World Heritage Area
This section establishes the context of Fiordland National Park, being, as well as National Park, a part of the Te Wāhipounamu *South West New Zealand* World Heritage Area. The objectives of the FNPMP in respect of the World Heritage Area are to maintain the ecological and landscape integrity of the Te Wāhipounamu *South West New Zealand* World Heritage Area, and to develop a co-ordinated approach to the management and servicing of visitors to the area.[87]

To achieve these objectives, the plan states that [the Department] will provide information on the state of Te Wāhipounamu *South West New Zealand* World Heritage Area as required under the Convention, manage the ecological values within Te Wāhipounamu *South West New Zealand* World Heritage Area taking into account the international status of World Heritage Area designation, and advocate to protect the values of the Te Wāhipounamu *South West New Zealand* World Heritage Area.

FNPMP Part Five - Visitor Management
Part five of the FNPMP provides context in respect of visitor use. It notes that that increasing use and tourism initiatives bring pressure for additional visitor opportunities, often with associated facilities. Although Fiordland National Park contains a vast visitor resource, the plan notes it is it is not essential or desirable to provide for every possible user taste or preference. It is important to recognise that

[86] see also discussion 5.2 of this report below regarding consideration of effects and proposed methods to avoid remedy and mitigate effects.
[87] Fiordland National Park Management Plan June 2007. p 42

Fiordland National Park is managed to reflect its international importance as a World Heritage Area, as such the effects of visitor management must be considered in this context, and not just in terms of Fiordland's importance in the regional and national New Zealand environment. The objectives of part five of the plan are;

To ensure the preservation of Fiordland National Park's natural characteristics, including the iconic status of Fiordland National Park, values and historical features while meeting the needs and aspirations of visitors;
To allow for a range of both commercial and non-commercial recreational activities within Fiordland National Park managed in accordance with the range of visitor settings;
To work with commercial operators within Fiordland National Park to promote visitor appreciation of the National Park and world heritage value;
To consider any proposal for changes to visitor settings in accordance with the natural, historical and cultural, recreational, landscape and amenity values of Fiordland National Park.

FNPMP Section 5.3.9 - Front Country Visitor Setting

The area of Fiordland National Park affected by the proposed activities would be Te Anau Downs (this being the site of the monorail passenger terminus, end of the monorail track, and suggested passenger consolidation facility).

By facilitating access to Te Anau Downs, the proposed concession activity potentially has a flow on effect on other parts of Fiordland National Park, namely Milford Sound/Piopiotahi, and visitor sites alongside the Milford road. Te Anau Downs, Milford Sound/Piopiotahi and visitor sites alongside the Milford road are in the front country visitor setting of Fiordland National Park[88].

'Front country' in the FNPMP refers to visitor settings that are accessible by vehicles all within easy reach of such access. These settings usually have a substantial infrastructure including the following facilities: car parks, picnic and camping areas, toilets, water supplies, signs, interpretation panels, viewpoints, and in existing cases, travellers accommodation facilities.

The FNPMP notes that provision of facilities in the front country encourage accessibility and instant 'immersion-in-nature' experience. Facilities are also used to protect the natural values from the impact of large numbers of people. The scenic backdrop, although not part of the setting, is a very important aspect of the visitor experience.

While most visitors to front country areas expect high use, they may be sensitive to overcrowding. The objectives of the FNPMP in respect of front country areas include:

'To provide opportunities for predominantly passive to mildly active recreation activities with high vehicle accessibility, while protecting other national park values. Key attributes defining front country include:

(a) Visitors will be seeking an instant immersion with nature;
(b) Visitors are likely to be seeking sites with a high scenic or historical interest;
(c) It will be low risk, with minimal skills required; and
(d) Visits will often be of a short duration.

The six front country areas will be managed to allow vehicle-based visitors (i.e. short stop travellers), to experience Fiordland National Park with safety and without compromising national park values.

[88] Fiordland National Park Management Plan June 2007 p152.

To ensure that other facilities do not have an adverse impact on the National Park values of the setting or surrounding area.'

FNPMP Section 5.3.9.1 - Milford Sound / Piopiotahi

The FNPMP identifies that visitor numbers to Milford Sound/ Piopiotahi peak both on a daily and seasonal basis. Concentrated peak use can lead to the perception of overcrowding and congestion and a poorer quality visitor experience. The challenge for the Department and the tourism industry is to enable continuing growth in visitor numbers at Milford Sound / Piopiotahi, while maintaining a good quality visitor experience.[89]

The key objective of the FNPMP in respect of Milford Sound/Piopiotahi is to manage the area as a place where nature dominates, while ensuring a world-class experience for all visitors. The FNPMP states that the following attributes will be protected and enhanced:[90]

a) A place which is reflective of its national park and World Heritage Area status;
b) A place known world-wide for its scenic grandeur;
c) A destination where the road end is the end of the journey;
d) A terminus for those whose main focus is visiting Milford Sound / Piopiotahi and its surrounds;
e) A place where a small fishing fleet can operate;
f) A place where conflicting activities are separated and managed;
g) A place where only essential staff working at Milford may live;
h) A place which offers a quiet and peaceful experience from early evening through to mid morning; and
i) A place where visitors flow through the site so as to avoid congestion and the feeling of overcrowding.

Implementation points to achieve these objectives include working with tourism operators to encourage finding ways of spreading visitor flows throughout the day, so as to avoid congestion and overcrowding.

This section of the FNPMP acknowledges spreading visitor use of Milford Sound is a desirable outcome in respect of visitor experience.

RHL states that the Fiordland Link Experience (FLE) would spread visitor arrivals into Milford, and they submit that this would be a positive flow on effect of the proposed monorail service.

The travel time from Queenstown to Te Anau Downs would be at least 1 hr 45 minutes via the Fiordland Link Experience and monorail[91]. The same distance by road would take approximately 2.5 hours.

The time savings made by the Fiordland Link Experience therefore is around 45 minutes travel time, which may slightly shift visitor arrivals from the existing peak arrivals between 10am and 2pm.

[89] ibid p.153
[90] ibid p.153
[91] Moriarty, J.P *Fiordland Link Experience, a Tourism Assessment* (Appendix K), and Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009 p. 58. Adverse weather could slow down the travel time, and passenger egress to /from the different forms of transport could also add to the travel time.

FNPMP Section 5.3.9.2 - Milford Road

This section of the FNPMP requires consideration as to the appropriateness of developments alongside the Milford road, which would include the monorail and terminus facility at Te Anau Downs. Te Anau Downs is specifically discussed in section *5.3.9.6 Te Anau Downs* of the FNPMP below.

FNPMP Section 5.3.9.6 - Te Anau Downs

The Te Anau Downs front country area presently contains hotel and backpacker accommodation, a jetty and other associated infrastructure. There is a car parking area alongside the Milford Road at the northern end of Te Anau Downs, with a scenic lookout where people often stop to experience the views across lake.

The FNPMP notes that the existing use of this area is low-key in comparison with the other places that are located in the front country visitor setting, such as Milford sound/Piopiotahi. In the Te Anau Downs front country area, the FNPMP states it is important that any activity undertaken from the site be consistent with the adjoining back country visitor setting opportunities on other parts of the lake.[92]

Te Anau Downs is identified in the FNPMP as an ideal site for locating a transport node to service options to access Milford Sound/Piopiotahi. The FNPMP supports the need to assess how the management of traffic flows to Milford Sound/Piopiotahi could assist in reducing the perception of congestion and overcrowding at Milford Sound/Piopiotahi, and notes that if Anau Downs was deemed a suitable place for this activity, it would significantly alter how this place is managed. This option would have to be considered in a wider assessment of all transport options into Milford Sound/Piopiotahi.

The management objectives for the Te Anau Downs front country area are:

'1. To protect and maintain the natural shoreline and amenity values of the Te Anau Downs front country area.

2. To manage the Te Anau Downs front country area in full cooperation with the agencies responsible for the bed of the lake and the legal road reserve and reserve areas adjoining conservation land.

3. To manage the Te Anau Downs front country area as a potential access road to the Lake on the Milford road; while maintaining consistency with the adjoining back country visitor setting.'

These objectives will be achieved by a number of implementation points including the following;

'1. The Te Anau Downs front country visitor setting should continue to be managed primarily for the existing uses, being the hotel accommodation, the jetty and as a small-scale access node to Lake Te Anau.

3. The Te Anau downs front country visitor setting will be managed in accordance with the following criteria:

c) any revision or extensions to existing buildings or structures at Te Anau Downs should be designed and constructed in harmony with the natural amenities of the surrounding landscape. Where appropriate criteria are new buildings, structures or extensions to existing buildings in section 5.3.9.1 Milford Sound/Piopiotahi, Implementation 14 will apply.[93]

4. Should a request be made to further develop this site as a transport node, the following provisions should apply:

[92] ibid p.194

[93] Implementation 14 sets out a number of criteria which should be applied to new buildings or structures including location, size, colour and materials.

a) such an activity should only be for the purpose of reducing the perception of congestion and overcrowding at Milford Sound/Piopiotahi and along the Milford road (Refer to Sections 5.3.9.1 Milford Sound/Piopiotahi and 5.3.9.2 Milford Road);
b) the applicant should have to demonstrate that this option has been assessed in terms of a wider transportation analysis for options to Milford Sound/Piopiotahi as referred to in section 5.3.9.2 Milford road;
c) that this option is the preferable option in terms of point b) above'

Section 5.3.9.6 of the FNPMP sets the context and background of Te Anau Downs as a low-key setting in comparison to other front country locations in the Park such as Milford)/

The plan acknowledges the area as an ideal site for 'passenger consolidation facility' as envisaged by RHL. This aspect of the proposed development is not an activity for which a concession has been applied for at this stage.

The plan requires an assessment of any developments at the site in the context of wider analysis of transportation options into Milford Sound. (Implementation point 4). This 'requirement' of the plan is arguably beyond the scope of the plan (and considerations to be made by the Minister of Conservation) as any such transport analysis would consider activities/effects which would not occur on public conservation land administered by the Department (for example bus activity on the Milford Road)

It is considered that the proposed monorail and terminus facility at Anau Downs would not affect the front country visitor setting of the site (see discussion section 5.2 of this report). These developments would not affect the adjoining back country area (i.e. Lake Anau) as the visibility of the site from the lake is relatively low, and in any case already modified by existing facilities.

FNPMP Section 5.4 - Concessions
Section 5.4 of the FNPMP sets out the objectives and implementation points in regard to commercial, recreation and tourism activities [94]. The implementation points in this section of the FNPMP serve to re-enforce various provisions of part 3B of the Conservation Act 1987, in respect of matters to be considered by the Minster in determining whether a concession can be granted.

Objectives
1. *To enable a range of appropriate, high-quality commercial visitor services to be provided through the granting of concessions which are compatible visitor settings described in this plan and National Park values, and which will ensure adverse effects on natural, cultural or historic resources are minimised.*

2. *To grant concessions (-) in such a way that their adverse effects can be understood and monitored in the context of other general independent use of Fiordland National Park.*

Implementation
The FNPMP states that concession applications will be considered in accordance with section 49 of the National Parks Act 1980 and part 3B of the Conservation Act 1987. Concession operations should be kept at levels that do not detract from other visitors use and enjoyment and National Park values, and concession conditions should where relevant stipulate;

[94] Fiordland National Park Management Plan June 2007 pp. 198 - 200

- *'limits on the number of guides/vessels/aircraft allowed to operate by virtue of the concession at any one time;*
- *maximum group sizes;*
- *clearly defined areas of operation;*
- *clearly defined maximum permitted frequencies of use;*
- *explicit concession monitoring requirements....'*

5. *Structures, facilities and services (e.g. huts and tracks) ancillary to commercial recreation/tourism activities will only be considered where it can be demonstrated that they cannot be undertaken outside Fiordland National Park or that use of existing Fiordland National Park facilities is not possible'.*

FNPMP Section 5.7- Roading, Vehicle Use and Other Transport Options (Other Than Aircraft and Boating)

This section of the FNPMP acknowledges that some roads are considered necessary in the park to provide public access, use and enjoyment. The plan identifies a number of issues that can arise from roads;

- *Adverse effects on natural and landscape values from construction of the road and the permanent impact on the natural state of Fiordland National Park.*
- *Fragmentation of ecosystems.*
- *Provide a corridor for pest infestation*
- *Encourage a proliferation of ancillary utilities and facilities*
- *Change the type of public use and displace existing recreational uses*

Objectives

1. *To maintain, subject to natural hazards, the existing road access routes available to visitors within Fiordland National Park....*

2. *To consider provision of new roading, or other land transport links, in front country visitor settings only (see map 7), and then only if they will improve visitor access and enjoyment of Fiordland National Park without impacting significantly on other recreation opportunities and national park values.*

Implementation

1. *New roading should not be authorised anywhere in Fiordland National Park except in the Front Country Visitor setting because of the likely adverse effects on the natural values or recreation opportunities that the other visitor settings are being managed for. Any proposal will require a full assessment of the adverse effects on the natural, historical and cultural, recreational, landscape and amenity values also identifying how the proposal will improve the effective management of Fiordland National Park. An audit of this assessment to determine whether the effects are either acceptable or can be adequately mitigated should be required. Consideration of such proposals should include a full public consultation. Refer also to policies 10.3 (h) and (i) of the General Policy for National Parks 2005.'*

The FNPMP states that new roads are to be considered only in front country zones of the Fiordland National Park. Te Anau Downs is in front country zone of the Park, and the presence of additional roading in at Te Anau Downs is implicit in the recognition in the plan that Te Anau Downs is an ideal site to consolidate transport options to Milford Sound.

An objective of the FNPMP is to consider new roads or other transport links only if they will improve visitor access and enjoyment of Fiordland National Park. It is questionable whether the proposed monorail would improve visitor access to the National Park, or if it is simply another transport option. RHL submits that the transport system they propose would result in visitors to the National Park having more time in the Park. The savings in travel time would be 1.5 hours (on a return journey). The journey is certainly quicker than the existing transport options into Milford Sound, whether this would result in visitors spending more time in the Park, or simply getting in and out of Milford Sound quicker, and the benefits that would accrue from that, are largely speculative at this point in time.

Conclusions in respect of the Fiordland National Park Management Plan 2007

The discussions elsewhere in this report conclude that the potential effects of the proposed activities could be reasonably and practicably avoided, remedied or mitigated to the point where they would be minor.[95] Subject to effective avoidance and mitigation potentially adverse effects, (including proposed concession conditions) the proposed activities (construction and operation of a monorail track, terminus building with associated facilities at Te Anau Downs) would be consistent with the provisions of the FNPMP.

5.2 ANALYSIS OF EFFECTS OF ACTIVITY - SECTION 17U(1)(B) AND ANY MEASURES TO AVOID, REMEDY OR MITIGATE EFFECTS - SECTION 17U(1)(C)

This report is limited to consideration of effects on conservation values which are matters of relevance to the Minister of Conservation. Effects on Lake Wakatipu, the Mavora Lakes Road and SH 94 (Te Anau Downs to Milford Sound) are not relevant to the Minster of Conservation as these effects would occur on land which is administered by other organisations. Likewise potential 'flow-on' effects of the proposed activities on towns in the area (for example Te Anau or Mossburn) are beyond the scope of considerations to be made by the Minister of Conservation pursuant to the Conservation Act 1987 and the National Parks Act 1980.

RHL anticipates that the monorail would alter visitor arrivals to Fiordland National Park at Milford Sound, and that this would be a positive effect in the National Park. The potential 'flow on' effect of visitor arrivals at visitor sites/on visitor experience in Fiordland National Park alongside the Milford Road and Milford Sound/Piopiotahi has accordingly been assessed, even though these areas are geographically removed from the proposed monorail development.

i. Level of Information Required to Assess Effects

Section 17 S and 17 U of Conservation Act 1987 provides for information regarding effects to be provided by RHL, and effects to be considered by the Minister of Conservation.

Section 17 S (1) (c) states that every application for a concession shall include;

> *'a description of the potential effects of the proposed activity, and any actions which the Applicant proposes to avoid, remedy, or mitigate any adverse effects'.*

Section 17 U of the Conservation Act (matters to be considered by the Minister) states that the Minister shall have regard to various matters including:

[95] See also discussion 5.2 of this report below regarding consideration of effects and proposed methods to avoid remedy and mitigate effects.

'the effects of the activity, structure, or facility' and *'any measures that can reasonably and practicably be undertaken to avoid, remedy, or mitigate any adverse effects of the activity'.*

Section 17 U (2) of the Conservation Act states:

'The Minister may decline any application if the Minister considers that –
(a) the information available is insufficient or inadequate to enable him or her to assess the effects (including the effects of any proposed methods to avoid, remedy, or mitigate the adverse effects) of any activity, structure, or facility; or
(b) there are no adequate methods or no reasonable methods for remedying, avoiding, or mitigating the adverse effects of the activity, structure or facility.'

This particular concession Application has focused the 'issue' of what level of information would be required in order to the Minister of Conservation to assess effects of the proposed activities (including mitigation).

It is fair to say that for the majority of (small scale) concession applications commonly considered by the Department, it is feasible for potential effects to be accurately quantified by concession Applicants. For example, the effects of vegetation clearance associated with a hut, or the effects of constructing 2 km of road.

The concession Application from Riverstone Holdings is for 2 linear clearances stretching approximately 29.5 km across public conservation land, to be constructed within a 200 m corridor. There are, to date, no similar concessions or applications for activities of this scale currently before the Minister of Conservation for consideration under the Conservation (or National Parks) Act.[96]

RHL acknowledge that the exact specifications for the monorail are not known.

They state:

'The proposed route is not like any other in the world. The particular constraints for the design and type of monorail are unique (remote location, topography, ecological values). A key component of the design phase will be to work closely with a monorail supplier immediately following the necessary construction approvals being obtained. Deferring the design development will also enable RHL to take into account any future improvements or developments in construction methodologies or technologies and incorporate up to the minute construction and safety standards.
(...)
On the basis of the advice received from its experts, including Buddle Findlay, RHL is of the opinion that the further information can be obtained to refine and manage effects through the design process which will by then be governed by the conditions of the concession.' [97]

There is a level of uncertainty in regard to the potential levels of effects, which was reflected in some of the conclusions made by some of the Department's external auditors in September 2010.[98]

[96] Note - Dart Passage Tunnel Concession application – majority of works underground. 'Above Ground' effects limited to 2 distinct and defined locations. Various roads on public conservation land, however none of this scale (1.6km of road authorised via concession in the West Coast Conservancy), longer roads (for e.g. Pike River Coal @ 9km) authorised via Access arrangement under Crown Minerals Act so different legal considerations apply.
[97] Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010.* Section 3.3.
[98] In particular Wildland Consultants, MWH, Morgan Pollard.

In response to the Department's audit reports, Riverstone have submitted;

(1) Firstly, a legal opinion noting that section 17 U (2) of Conservation Act provides the Minister of Conservation with discretion, that an application may be declined on the basis of insufficient or inadequate information, but does not have to be declined; [99]

(2) Secondly, a comprehensive submission regarding proposed further work to be carried out before physical work on the land would commence, and proposed mitigations (see 'Management of Effects and Mitigation Measures Proposed by Riverstone Holdings Limited' below). In summary, these measures are to carry out detailed design work 'post grant' of any concession, the use of iterative/adaptive management plans for the duration of construction and operation of the proposed activities, and suggested concession conditions designed to provide the Minister of Conservation with certainty that there would be no adverse unmitigated effects on natural and conservation values.[100]

As a result of this approach, RHL submit;

> *'RHL is of the view that DoC can be confident that prior to construction of the monorail and mountain bike trail, any residual questions about the effects arising from construction will be answered and DoC will have confidence that an appropriate range of mitigation or offsetting options are available to address any actual effects. The proposed management plans and communication protocol will ensure this outcome. Absolute compliance with such plans and protocols can be achieved through conditions attached to the concession.'*[101]

In October 2011 RHL submitted further refined draft management plans (attached as Appendix vii)

Comment:

The discussions in sections 5.2.1 to 5.2.5 of this report below examine the potential effects of the proposed activities, and the measures proposed by RHL to avoid, remedy or mitigate potential effects on the natural and historic resources of the public conservation land subject of the Application.

These discussions conclude that the potential effects of the proposed activities are generally well scoped by RHL's technical experts, and that the final design stage and proposed adaptive/iterative management plan process will likely confirm and mitigate effects identified by RHL's technical experts.

Special concession conditions proposed by the Department are attached as Appendix 1 of this report

It should also be noted that section 17ZC of the Conservation Act 1987 (Changing Conditions) enables the Minister of Conservation to vary a concession document, or change concession conditions as necessary to deal with significant adverse effects of the activity that were not reasonably foreseeable at the time the concession was granted. 17ZC (3) provides;

'(3) The Minister, on request or on his or her own motion, may vary the conditions of a concession where-

(a) The variation is the result of a review provided for in the concession document; or

(b) The variation is necessary to deal with significant adverse effects of the activity that were not reasonably foreseeable at the time the concession was granted; or

(c) The variation is necessary because the information made available to the Minister by the concessionaire for the purposes of the concessionaire's application contained

[99] Buddle Findlay – supplied by the Applicant to the Department 'for information' Sept 2010.

[100] Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010*

[101] Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010.*

inaccuracies that materially influenced the decision to grant a concession and the effects of the activity permitted by the concession require more appropriate conditions;-

and the concessionaire shall be bound by every such variation.'

Short-term and long-term effects

Effects are considered as short term effects and/or long term effects.

'Short term' effects are those effects associated with the initial construction and development only and as such would last up to [the initial] two – three year construction phase [of the project].

'Long-term' effects are those lasting beyond the construction and development phase of the proposed activity, in which case those effects would occur for more than three years. In some cases, these effects may last in perpetuity.

Effects discussed and considered

For each component of the proposal, potential effects on land administered by the Department are summarised and discussed as follows;

- Effects on Physical Landform
- Effects on Flora and Fauna
- Effects on Water Quality and Aquatic Biodiversity
- Effects on Visual Landscape
- Effects on Other Users
- Effects on Historical and Cultural Values

Components of the Fiordland Link Experience Project

For the sake of discussion, this report separates the proposed activities into different geographical components as follows:

1. Activities at the Mararoa River - Kiwi Burn Terminus, Monorail & Access Road;
2. Monorail and Construction Road / Mountain Bike Track;
3. Activities at Te Anau Downs; and
4. Mountain Bike Track where it separates from Monorail Track 'Cycle Link Route'.

Assessment of 'significance' of effects

This report assesses effects as either 'temporary', 'minor', 'potential significant adverse unmitigated effects' or 'positive' effects. Any of these effects may also be 'residual' effects.

'Temporary' Effects

- **'Temporary' Effects**

For the purpose of this report – a 'temporary' effect is a short term effect. In the context of this application, a temporary effect would manifest only during the construction phase of the project. Temporary effects can be either 'minor' or 'potentially significant adverse unmitigated effects'. Temporary effects are effects which can be avoided, remedied or mitigated

'Minor' Effects

'Minor' effects are determined to be those which **can** be reasonably and practicably avoided, remedied or mitigated to the point where effects on natural, recreational, historic and cultural resources of the land would not be inconsistent with (or contrary to) the preservation or protection of those resources. Minor effects therefore, are effects which have been avoided, remedied or mitigated to an acceptable level. Minor effects can still be, to some degree, adverse effects. They are **not** 'so adverse' however that on balance they would likely warrant a decline of the Application, having regard to the matters set out in part 3B of the Conservation Act 1897.

'Potentially Significant Adverse Unmitigated' Effects

'Potentially Significant Adverse Unmitigated' Effects are determined to be those which **cannot** be reasonably and practicably avoided, remedied or mitigated. These effects on natural, recreational, historic and cultural resources of the land would be contrary to the preservation or protection of those resources. 'Potentially Significant Adverse Unmitigated' Effects therefore, are effects which have **not** (or cannot adequately or sufficiently) been avoided, remedied or mitigated to an acceptable level. These effects are 'so adverse' that on balance they **may** warrant a decline of the Application, having regard to the matters set out in part 3B of the Conservation Act 1897.

'Positive' Effects

'Positive' effects are those which result in an improvement in the natural, recreational, historic and cultural values of the public conservation land subject of the Application.

'Residual' Effects

Residual effects are effects which will persist in the long term. Although technically both minor and positive effects can be residual effects, for the purpose of this report residual effects are deemed to be minor (adverse) effects – that is, effects which have been avoided, remedied or mitigated to an acceptable level, but are still adverse.

ii. Management of Effects and Mitigation Measures Proposed by Riverstone Holdings Limited: [102]

RHL acknowledge that in the absence of final detailed 'on the ground' design it is not possible to quantify with certainty all potential effects that would arise out of construction and operation of 29.5 km of monorail track and 46km of mountain bike track.. That said, RHL have gone to considerable effort to quantify and qualify the potential scale of works, and corresponding potential level of effect. They submit that given the scale of the project, ongoing monitoring and iterative management would be necessary to ensure that any unanticipated effects are identified and appropriately managed as the project progresses.

In an attempt to provide the Minister of Conservation with a level of certainty that the proposed activities could be carried out in such a way as to ensure there would be no significant adverse unmitigated effects on the natural and conservation values of the Land, RHL have put forward a number of suggested concession conditions and draft Environmental Management Plans. These have been refined by RHL over time as their concession application has been considered. These are described below. The most recent versions are attached as Appendix A (vii). to this report.

It is recommended that the decision maker read these documents appended in their entirety.

The discussions in this report can only highlight and summarise the contents of these documents, at the risk of providing a disservice to RHL, who has put considerable effort and technical expertise towards the preparation of these proposals.

(a) Draft Concession Conditions Recommended by RHL

[102] For Applicant's summary see Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010.* section 3.2

RHL have developed draft concession conditions to illustrate the level of detail and certainty (regarding management of potential adverse effects of the proposed development), they consider could be obtained via appropriate concession conditions. These conditions (version October 2011) are attached in Appendix A(vii) of this report.

In simple terms the:

Proposed general conditions (Part One) require:

Implementation of the project in accordance with the Concession granted.

Proposed pre construction conditions (Part Two) require:

The appointment of an Independent Project Advisor;
The appointment of monorail supplier;
Walk through with DOC, RHL, and advisors;
Design development of all buildings and structures, the monorail itself, the construction track and spur tracks, the mountain bike track, and associated mitigation measures and infrastructure;
Design development of construction methodology, logistics etc;
Preparation of a full risk assessment;
Preparation of each management plan and approval of that management plan by the Grantor; and
Final route and alignment selection and detailed design subject to ecological criteria.

Proposed Construction conditions (Part Three) require:

The construction of the monorail and mountain bike and associated buildings and structures to approved standards; and
Implementation of the approved management plans, including weed and pest control during construction.

Proposed Operational conditions (Part Four) require:

Operation of the monorail, buildings and other systems to approved standards.
Ongoing implementation of the approved management plans.
Ongoing monitoring with procedures in place if monitoring identifies certain effects or issues; and
Ongoing pest and weed control measures.

RHL state;

'The role of the Project Advisor (funded by RHL) will be to manage the implementation of the Concession through the pre-construction to operational phases. The proposed conditions will ensure that person (or persons) has the structure in place to ensure appropriate measures are implemented so as to result in minimal adverse effects on important species or habitats, and that overall the project has a net environmental gain.

Each management plan will be required to be prepared prior to undertaking any onsite activities or construction work. RHL and its experts appointed to prepare the various plans will work collaboratively with the Department of Conservation in order to prepare a management plan that achieves both environmental and project objectives. The conditions will require that each plan is also submitted to the department for approval. RHL will not be able to progress from the pre construction phase to the construction phase of the project until all the

management plans have been prepared to the satisfaction of the Department of Conservation and all necessary pre activity surveys and other work has been completed. This will provide the department with certainty in terms of the identification and management of effects throughout construction and operation of the monorail.

RHL will be required to undertake the construction and operation of the project with strict adherence to the plans. Any variations to the plans that are required as the construction phase progresses will be discussed and approved by the Department of Conservation before being implemented. Construction conditions also set out specific obligations that RHL will be required to adhere to throughout this phase, for example adherence to construction noise standards, hazardous substance management, and adherence to an accidental discovery protocol.

The operational conditions manage the way in which the monorail and associated activities will be managed in the long term. Ongoing environmental monitoring obligations will be adhered to via conditions, and the implementation of the offsite predator control will be managed via these operational conditions.'

(b) Adaptive Management Plans

RHL propose an 'adaptive management plan' approach to assess and manage the effects of subsequent stages of the construction and operation of the monorail. RHL state that the purpose of these plans is to identify methods to monitor effects, and to avoid, remedy or mitigate adverse environmental effects using best practice techniques. These documents are submitted as drafts. It is RHL's intent that these plans continue to evolve as further detail is developed related to construction, construction contracts and detailed design works are finalised, and resulting from monitoring activities during the construction (and operational) phase.[103]

(c) Proposed Minimisation of Project Footprint:

Section 9 of the Terrestrial Ecology report prepared for RHL [104] outlines the approach that will be taken by RHL to minimise adverse effects on terrestrial ecology;

- *Minimising the project footprint.*
- *Rehabilitating areas as quickly as possible after completion.*
- *Minimising the potential for weeds to invade the route line and construction track and their margins, and monitoring and eradicating weeds if they establish in these areas.*
- *Minimising the potential for predators to increase their use of this area, monitoring and controlling such pest species so that they are at least no more numerous than in the surrounding forest.*
- *Monitoring to ensure that environmental outcomes are being achieved.*

These objectives are supported by the draft management plans submitted by RHL.

(d) Proposed Minimisation of Effects on Native Fauna – On Site Mitigation

RHL notes that vertebrate pests are present in the local environment, and propose predator control along the monorail route itself, as outlined in their Draft Predator and Weed Control Management Plan.

[103] Attached as Appendix A (vii) *Applicant Response to Preliminary Draft Determination Report* 21 October 2011. Previous versions submitted in 2009 and 2010.

[104] Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* (Appendix I.) Mitchell Partnerships Limited. Auckland. pp 98 – 100.

(e) Proposed Off-site Compensation

RHL propose to offset and compensate for the removal of 22 ha of forest habitat removal resulting from the proposed activities, that they carry out 'off -site pest control' in the form of an additional 200 ha to Department's existing Operation Ark project in Fiordland National Park.[105]

The Conservation Act 1987 provides for payment of compensation for any adverse effects of activity on the Crown's or public interest in the land concerned, unless such compensation has been provided for in the setting of rent [106]. This compensation could cover both adverse effects that have been remedied or mitigated (because there may still be long term adverse effects on the Crown's or public interest in the land concerned) and adverse effects that remain after RHL has avoided, remedied or mitigated adverse to the greatest extent possible, that is - 'residual' adverse effects. Compensation can take the form of non-monetary compensation.

It is appropriate that compensation be considered in this case for residual adverse effects. For the purpose of this report residual adverse effects are minor effects, as any activity with potentially significant unmitigated adverse effects would be contrary to the purpose for which the land is held, and pursuant to section 17U(2) of the Conservation Act 1987, a concession shall not be granted if that is the case.

iii. Management of Effects and Mitigation Measures Proposed by the Department:

The Department's standard concession conditions of lease and easement are attached as Appendix C of this report. In addition to these standard terms, proposed 'special' conditions are detailed in Appendix 1(Proposed Concession Conditions).

The special conditions proposed in this report are intended to further avoid various effects identified by RHL, and to provide the Minister of Conservation with a level of certainty of outcome in respect of adverse effects that would occur on public conservation land. These conditions include a requirement that all final design and construction and management plans prepared by RHL are approved by the Minister at defined stages of the project, and that works on the next stage of the project may not proceed until those approvals have been given. The Department also seeks the appointment of a Project Liaison Officer (note RHL proposes a 'Project Advisor' which would carry out a role similar to that envisaged by the Department). The Project Liaison Officer would be a position funded by the Concessionaire but reporting to the Department, and their role would be to facilitate and manage the process for obtaining comment and approvals from the Department as required.

[105] Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Draft Predator and Weed Control Management Plan 30 September 2010.* P 7, also Applicant's draft concession condition 37.
[106] Conservation Act 1987 section 17X (d).

5.2.1 EFFECTS ON LANDFORM

(a) Landform Effects - Activities at the Mararoa River - Kiwi Burn Terminus, Monorail & Access Road

A full description of the activities proposed at the Mararoa River is set out in section 1.3.5 of this report above. In summary, developments at this site comprise:

- terminus building including toilet facilities
- access road, and
- monorail track.

No detailed construction methodology has been provided by RHL for construction of the terminus, sewage facilities and access road. RHL proposes that final design would be developed at a later stage, and that erosion and sediment control, hazardous substances, in river works, dust, noise, and site rehabilitation would be specified in the Construction Management Plan.

Earthworks: There would need to be some earthworks required to construct the monorail track, form the road, construct the terminus building, and construct a suitable sewage disposal system for the terminus. These earthworks have not been detailed; however the preliminary plan provided by RHL suggests that earthworks would be limited to the formation of foundations of the terminus building, and excavation of foundations for the monorail structure.

Mitigation Proposed by Applicant: RHL have proposed conditions (attached as Appendix A(vii)) which would avoid or mitigate potential effects in this area. These include preparation of final design specifications and plans for DOC approval prior to construction and site rehabilitation plans (including revegetation of disturbed areas and potential site enhancement with appropriate native species) and ongoing monitoring.

Conclusion: Subject to concession conditions including: [107]

- audit of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL,
- all relevant plans are prepared by RHL and approved by the Minister prior to construction commencing;
- disturbed areas are promptly and effectively rehabilitated;

it is considered that the effects of the proposed activities at Kiwi Burn could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the landform values of the Land would be minor.

[107] See also Appendix 1 of this report "Proposed Concession Conditions"

(b) Landform Effects - Proposed Monorail and Construction Track/Mountain Bike Track

Sections 1.3.4 (Description of Activity - Construction Track/Mountain Bike Track) and 1.3.8 (Description of Activity - Construction Activities) of this report are an overview of the proposed construction methodology of the proposed monorail and construction track/mountain bike track.

As previously noted in this report, RHL has stated that it is not feasible for them to undertake detailed design of the proposed monorail at this point in time. RHL's engineering report states:

> *'Based on the investigations undertaken to date, we consider that the geotechnical conditions are suitable for construction of the monorail. However, the ground conditions will have a very significant effect on design, construction and cost. Further specific investigations will be required as the design is developed*.'[108]

Construction Track/Mountain Bike Track:

RHL states that the construction track/mountain bike track would follow a flexible line so as to avoid large trees, and as described in section 1.3.4 this report above, would be connected to the monorail track by 3 m spur tracks ranging from 20-30 m long on sloping ground to 70-80 m long on flat ground.

From walking along the route it is evident that significant areas such as Ascension Creek and ascending to the terrace west of the Whitestone River crossing, have slopes pitching up to 33°[109].

Further detail (being available as part of final design stage) would be required before final assessment of the effects of the monorail and the construction track through these steep sections could be accurately assessed.

Earthworks (potential cut and fill, and batters and drainage) would need to be quantified at the 'on the ground' design stage. Preliminary design plans submitted by RHL do not detail or quantify volumes (if any) of excess spoil that would need to be disposed of. It is understood from the Application that in grassland areas this spoil would be used to rehabilitate disturbed areas. It is assumed that this would also apply in forested areas, however until quantities of spoil requiring disposal is confirmed; the effects of this cannot be confirmed.

The types of effects arising from disposal of spoil would include sedimentation / water effects of spoil stockpiles, establishment of weeds on disturbed ground (weed invasion is discussed below in respect of flora and fauna effects) and potential 'traffic' type effects of machinery transporting spoil off the public conservation estate.

Such effects could be reasonably and practicably mitigated by RHL through further refinement and adoption of adaptive/iterative

[108] Opus International Consultants Limited. 2009. *Fiordland Link Experience Preliminary Engineering Assessment of Monorail Proposal.* Opus International Consultants Limited. Christchurch. (Appendix E). Section 4.6 page 18
[109] Visser, Lloyd, Kazmierow, Cutler, Masser pers. obs.

management plans. As noted above, all such plans would need to be approved by the Department.

Construction Issues:

RHL's preliminary engineering assessment states:
The access required during construction parallel to the monorail alignment needs to be of sufficient standard to provide access along the complete monorail route for a large amount of equipment for construction of the foundations and piers for the monorail.[110]

It is evident from RHL's Engineering Report (Section 5.4 and others) that the access track would have to be formed to a standard that would enable use by 4WD trucks and the 4WD support vehicles.

As long wheel-base, double cab utilities do not have particularly tight turning circles, increased curve radii are to be expected (than those that would be expected on a purpose-built mountain bike track).

The construction methodology describes 4WD vehicles towing fuel tankers and compressors to each construction front. Such vehicles would have a reduced ability to turn around corners as well as being able to turn around at the end of the working day. This ability would have to be catered for throughout the entire route. The construction operation would also necessitate the formation of passing bays to enable vehicles moving to and from the construction front to pass. Such bays would involve levelled hard fill areas approximately 6.0 m wide by 12 m long.

Formation with a 12 tonne excavator would inevitably result in a substantial amount of earthworks to form a track that could cater for such vehicles, the potential effects of which (potential weed spread and impacts on water quality – see further discussion regarding effects on flora and fauna, and effects on water quality and aquatic biodiversity in sections 5.2.2 and 5.2.3 of this report below) would need to be avoided, remedied or mitigated by RHL.

Monorail track:

The monorail track would need to be constructed so as to maintain a constant gradient. RHL indicates that variable pier heights would establish a consistent track grade, however it is noted that RHL's Preliminary Engineering Assessment does <u>not</u> categorically state that ridge excavation would be prohibited. Accordingly there is some risk that the final alignments may bring pressure to undertake such ridge excavation to improve the vertical alignment.[111]

Ridge excavations would need to be avoided as far as possible.

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[110]Opus International Consultants Limited. 2009. *Fiordland Link Experience Preliminary Engineering Assessment of Monorail Proposal.* Opus International Consultants Limited. Christchurch. (Appendix E).
Section 6.3.1 page 36

[111] MWH, Wildland Consultants Limited. April 2010, *Fiordland Link Concession Application, Technical Assessment of Selected Aspects*, MWH New Zealand Limited.

Mitigation

The MWH audit [112] (carried out on behalf of the Department) concluded that construction of the monorail and construction track/mountain bike track was 'feasible'. There is no disagreement that there would be 'engineering solutions' to construction challenges and/or issues.

The MWH audit identified various mitigation measures that would be required in respect of the geotechnical aspects of construction of the monorail and construction track /mountain bike track (and terminus facilities). These are detailed in table 3.2 of the audit report [113] and include;

- Requirement to carry out further geotechnical assessments
- LiDAR survey of 'Bluff Slip' area;[114]
- Appropriate mitigation slope instability (surface water controls drainage);
- Avoid areas of instability where possible;
- Proposed design standards / alignment / alignment characterisation in respect to cut, fill, structures etc to be submitted (for review and approval) by the Department; and
- Ongoing stormwater management.

RHL have 'picked up' on these mitigation measures. They indicate these matters would be incorporated into final design and various file construction and environmental management plans.

Conclusion:

As discussed in section 5.2 of this report above, final design specifications for the monorail have not been provided at this point in time. RHL undertakes to provide final design specifications and finalised Construction Management Plan/Environmental Management Plans prior to construction. RHL expresses confidence that these plans would confirm the level of potential effect described in their Application technical assessments.

Subject to concession conditions including: [115]

- Audit of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- All relevant plans are prepared by RHL and approved the Department prior to construction commencing; and
- Disturbed areas are promptly and effectively rehabilitated;

it is considered that the effects of the proposed monorail and Construction track could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the

[112] ibid
[113] MWH, Wildland Consultants Limited. April 2010, *Fiordland Link Concession Application, Technical Assessment of Selected Aspects*, MWH New Zealand Limited.
[114] NB: This is an area of identified instability on the Upukerora River around the 24-26.5 km mark. In this area Riverstone are seeking a 300 m wide easement as opposed to the 200 m wide easement in order to be able to avoid the anticipated area of instability.
[115] See also Appendix 1of this report "Proposed Concession Conditions"

landform values of the Land would be minor.

(c) Landform Effects - Proposed Activities at Te Anau Downs

Section 1.3.6 of this report describes the activities proposed at Te Anau Downs. In summary these comprise terminus building, monorail track, access road to the terminus building and vehicle turning area.

It is noted that the monorail track would need to cross SH 94. Although the Application material lodged in November 2009 shows the monorail crossing over the road, it is now understood that RHL is considering instead going underneath the road[116]. In either scenario, substantively this section of monorail track over or underneath SH 94 would not be on land administered by the Department. Until design of the track has been finalised it is unclear to what extent this section of track would require a concession (in addition to Resource Consent).

Note also that RHL also proposes a 'Passenger Consolidation and Car Parking Facility' at Te Anau Downs as described in section 1.3.7 of this report, and that this aspect is not part of this concession Application. This aspect would be dealt with either via a separate concession process, or, if appropriate - by variation to either any concession granted for a monorail, or the existing lease held by RHL for the hotel site. [117]

Conclusion:

On the basis of the indicative design and site plans provided by RHL, there does not appear to be any large scale earthworks required to construct the monorail track, associated roading, and terminus facility at Te Anau Downs.

Subject to concession conditions including: [118]

- audit of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved the Department prior to construction commencing; and
- disturbed areas are promptly and effectively rehabilitated;

it is considered that the effects of the proposed activities at Te Anau Downs could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the landform values of the Land would be minor.

(d) Landform Effects - Mountain Bike Track where it separates from Monorail Track 'Cycle Link Route'

[116] John Beattie pers. comm. July 2010.
[117] i.e. lease held by Waterfall Creek Reserve Limited, understood to be an entity of Infinity Investment Group / Riverstone Holdings
[118] See also Appendix 1 of this report "Proposed Special Conditions"

RHL has not provided an assessment of effects on landform in respect of the 17 km 'Cycle Link Route' mountain bike track running separate from the monorail track. The Department understands this area to be relatively flat, and as such there would be no need for substantial excavation to construct an appropriately graded 3 m wide track.

Conclusion:

Subject to concession conditions including: [119]

- final 'on the ground' design plans are submitted to the Department for approval;
- audit of this plan confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved the Department prior to construction commencing; and
- disturbed areas are promptly and effectively rehabilitated;

it is considered that the effects of the proposed Cycle Link Route could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the landform values of the Land would be minor.

5.2.2 EFFECTS ON FLORA AND FAUNA

RHL states that just over 26 ha of vegetation would be cleared for the dual track construction option, comprising 22 ha of forest and 4 ha of grassland; [120]

'In broad ecological terms the vegetation along the route can be divided into forest and grassland, with approximately 22.9 km being forested and the remaining 6.6 km grassland. Of the 22.9 km of forest approximately 12.1 km is mountain beech forest, 6.2 km red beech forest and 4.6 mixed silver and mountain beech forest. The quantity of vegetation clearance required depends in part on the slope of the land across which the monorail crosses and hence the degree of technical difficulty the route poses: Sloping sites are more technically difficult and may require more vegetation clearance and greater excavation to provide a flat bed for the monorail piers. Some piers may need to be higher across sloping sites and there will be a greater variation in pier height on sloping sites.

Opus estimates that around 17 km of the route comprises forested side slope (14 km) and swampy forest (2.6 km), where either the greatest clearance is expected to be necessary and/or where the effects of the construction could be expected to be most severe.

With the dual track construction method around 26.31 ha of vegetation removal will be necessary. This comprises 21.96 ha of forest habitat and 4.35 ha of grassland as follows:

- *6 m x 22.9 km long for the monorail route through forest = 13.74 ha.*
- *3 m x 22.9 km long for the construction track through forest = 6.87 ha.*
- *3 m x 6.6 km long for the monorail route through grassland = 1.98 ha.*

[119] See also Appendix 1 of this report "Proposed Special Conditions"
[120] Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* Mitchell Partnerships Limited. Auckland. P. 78

- *3 m x 6.6 km long for the construction track through grassland = 1.98 ha.*
- *1.35 ha for approximately 90 spur tracks 3 m wide, spaced along the forested section of the route, and each spur track averaging 50 m long. These areas will be rehabilitated.*
- *0.39 ha for approximately 26 spur tracks 3 m wide, spaced along the grassland section of the route, and each spur track averaging 50 m long. These areas will be rehabilitated.*

During vegetation clearance crews will be required to examine trees along the border of the cleared route to ensure that any that are in danger of toppling or are otherwise unstable are identified and if necessary removed.'

(a) Activities at the Mararoa River - Kiwi Burn Terminus, Monorail & Access Road

Habitat

The indigenous vegetation cover at the Kiwi Burn Terminus site is depleted by historical fire and farming. Historical vegetation would have included hardwood and some totara along with the tussock, dry shrub and beech. The flush areas and seasonal wetted channels may include remnant examples of rarer sedges, grasses and herbs known in similar places nearby.

The area does not contain any particular native flora or fauna species of note, and is a prime habitat for rabbits.

As such, the ecological values of this (essentially modified) area are relatively low.

Construction of the terminus, monorail track and forming and sealing a short section of access road has the potential to introduce further weeds into the area. Existing weeds in this area could potentially be spread along the monorail route proper from this site.

Invertebrate animal pests present at the site could potentially be spread into the forest area by construction vehicles. The forest on the true right of the Mararoa River (and beyond) however, is not a pest free environment.

Mitigation:

RHL proposes to control weeds and revegetate disturbed areas as quickly as possible as construction progresses. They propose to landscape the terminus site with native species to enhance the natural values of the area.

Detailed landscaping/re-vegetation plans have not been developed by RHL at this point in time. The Department would need to 'sign off' any landscaping/re-vegetation plan to ensure that appropriate species were used for the site.

They propose to monitor pest numbers around the construction area, and if pests are increasing as a result of construction activities, to undertake localised pest control.[121]

Conclusion:

The proposed developments at the Mararoa River would result in approximately 1900 m^2 of permanent vegetation loss – 1040 m^2 of terminus building, and 900 m^2 of additional roading. Subject to appropriate re-vegetation of disturbed areas of the site, the effects on flora and fauna of constructing the monorail and terminus at the Kiwi burn would be minor.

Should RHL undertake habitat enhancement of the site as part of landscaping and rehabilitation (with appropriate plant species) effects on flora and fauna values would be positive.

Subject to concession conditions including: [122]

- audit of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved by the Grantor prior to construction commencing;
- disturbed areas are promptly and effectively rehabilitated; and
- Applicant controls pests and weeds (methodology to be finalised in consultation with, and approved by the Department);

it is considered that the effects of the proposed activities at the Kiwi Burn terminus site could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the flora and fauna values of the Land would be minor.

(b) Effects on Flora and Fauna - Proposed Monorail and Construction Track/Mountain Bike Track

Overview:

The Application states the proposed monorail track and construction track / mountain bike track would require clearance of vegetation to provide for 6 m wide monorail track footprint and a 3 m wide construction track footprint, with spur tracks approximately every 200 – 300 m linking the two. It is on this basis that RHL has calculated out the areas of habitat clearance arising from the proposed developments.[123]

Most spur tracks would be rehabilitated. The monorail track and construction track / mountain bike track would remain as two

[121] Draft Vegetation and Habitat Management Plan Oct 2011
[122] See also Appendix 1of this report "Proposed Concession Conditions"
[123] Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route*. Mitchell Partnerships Limited. Auckland. P. 78

permanently cleared separate linear clearances across and through the Snowdon Forest Stewardship Area.

Potential effects on flora and fauna would manifest both directly within the clearance footprint, and 'indirectly' within the Snowdon Forest Stewardship Area generally, in the form of habitat fragmentation arising from the proposed clearances and associated edge effect.

Habitat fragmentation comprises five phenomena;
(i) an increase in edge effect (that is – a decrease in interior: edge ratio);
(ii) a reduction in the total area of available habitat;
(iii) increased access to habitat for exotic and pest plants and animals;
(vi) isolation of one habitat fragment from other areas of habitat/ breaking up of habitat into several smaller 'patches'; and
(v) a decrease in average size of each 'patch' of habitat.

RHL have provided substantial documents regarding the potential effects of the proposed development on flora and fauna. These effects and proposed methods to avoid, remedy and mitigate effects are discussed below.

Avoidance and Mitigation of Effects on Flora and Fauna Proposed by Applicant;

RHL proposes two key steps to manage potential effects of vegetation removal;
(i) Route Selection Criteria
(ii) Vegetation and Habitat Management Plan

These are summarised below:

(i) Route Selection Criteria

The first of these steps is the adoption of '**Route Selection Criteria**' as detailed in the draft conditions put forward by RHL (updated Oct 2011 and attached as Appendix vii) and including;

'5. ROUTE LOCATION SELECTION CRITERIA

5.1 In selecting the final location for the structures, land disturbance and vegetation disturbance provided for by this concession (in accordance with the Implementation Protocol required by condition 2.1(d), and presented as part of the Final Design Specifications required by condition 3.1(a)(i)), the Concessionaire shall have particular regard to protecting the following habitats (known as "significant habitats" which are those which are considered ecologically valuable by virtue of their rarity, integrity, habitat value, species diversity

and/or representativeness within the region) and buffering them from the construction of the concession activities to the extent that is practicable:

(a) Short tussock grasslands;

(b) Wetlands;

(c) Bog pine shrubland; and Matagouri shrubland, or other divaricating shrubland;

(d) Red tussock grasslands;

(e) Threatened plant species such as Alepis flavida.

(f) Mature red beech forest (with height exceeds 25 m and diameters exceeding 55 cm);

(g) Mature mountain beech or silver beech forest (with heights exceeding 20 m and diameters exceeding 45 cm);

(h) Regenerating shrublands and forest edge;Fertile, well drained flood plains (Environment L1.1c) covered with indigenous vegetation;

5.2 In selecting the final location for the structures, land disturbance and vegetation disturbance provided for by this concession (in accordance with the Implementation Protocol required by condition 2.1(d), and presented as part of the Final Design Specifications required by condition 3.1(a)(i)) the following matters shall also be considered:

(a) Minimising the amount of earthworks required to the extent practicable so as to reduce the potential for weed invasion;

(b) Maintaining the highest practicable canopy cover through the forested sections of the route. This will be achieved by selecting a route requiring reduced vegetation clearance relative to other routes and by judicious felling of individual trees so as to avoid collateral damage;

(c) Protecting large trees (with diameters at breast height exceeding 60 cm), and in particular potential bat roost trees, from any disturbance or earthworks within the

outer canopy drip line. Such disturbance will be minimised to the extent practicable by appropriate route selection in consultation with the Grantor. At locations where it is agreed that avoiding disturbance within the outer canopy dripline is not practicable, management to protect shallow and surface roots will be considered on a case by case basis in consultation with the Grantor;

(d) During construction, minimising to the extent practicable any adverse effects of river crossings on nests of any threatened river bird species; and

(e) Avoiding to the extent that is practicable ridgelines which would result in structures or land disturbance being visible outside of the easement corridor.

5.3 The Concessionaire shall not remove any tree with a DBH (measurement of diameter at breast height) exceeding 2 m.

5.4 Disturbance of riparian margins shall be minimised to the extent practicable.'[124]

Once the route has been selected on the ground, RHL would then prepare final detailed design of the monorail including finalised Vegetation and Habitat Management Plan RHL state this (and other management plans) would be finalised in consultation with the Department, and implemented as the project progresses.

The concession conditions proposed by RHL in respect of the Vegetation and Habitat Management Plan are as follows;

18. VEGETATION AND HABITAT MANAGEMENT PLAN

18.1 Prior to the commencement of construction of the concession activities, the Concessionaire shall prepare and submit to the Grantor a Vegetation and Habitat Management Plan in accordance with condition 3.1(a)(iv) for approval. The Grantor will audit the Vegetation and Habitat Management Plan in accordance with conditions 3.2 – 3.8.

[124] Revised Concession Conditions, Appendix H Mitchell Partnerships *Memorandum Applicants Response to the Draft Determination Report – Comments* 21 Oct 2011 – attached to this report as Appendix A(vii)

(a) The overall objectives of the Vegetation and Habitat Management Plan shall be to:

i. Require that particular regard is had to appropriate ecological criteria in selecting the final route alignment to avoid as far as is practicable significant habitats;

ii. Minimise the construction footprint as far as is practicable and to avoid, remedy or mitigate effects on significant habitats during construction of the concession activities;

iii. Establish an appropriate monitoring regime;

iv. Establish methods to remove and appropriately dispose of vegetation;

v. Minimise the introduction and spread of weeds and predator species throughout the construction and operation areas;

vi. Rehabilitate all worked areas and non operational areas as quickly as possible following construction activities; and

vii. Provide appropriate compensation to offset adverse effects on significant habitats.

(b) The Vegetation and Habitat Management Plan shall contain the following details as a minimum:

i. Confirmation that the final route has been selected having particular regard to the route location selection criteria set out in condition 5;

ii. A description of the approximate area and approximate total volume of vegetation clearance during the construction of the concession activities;

iii. Details of the proposed monitoring programmes including vegetation health surveys of tussocks, wetlands and forest areas that are to be undertaken prior to construction, during and after construction of the concession activities;

iv. Confirmation of the location of significant wildlife

habitats;

v. *Methods proposed to minimise the construction footprint to the extent practicable;*

vi. *Methods to mitigate adverse effects on significant habitats including tussocks, wetlands, and forest areas during construction and methods to minimise collateral damage to vegetation outside the construction footprint;*

vii. *Methods to ensure the appropriate disposal of vegetation that has been cleared during the construction of the concession activities;*

viii. *Identification of the vegetation rehabilitation goals to be achieved, methods to achieve those goals and ongoing management requirements to minimise weeds and predators;*

ix. *Identification of a range of contingency measures which can be implemented if required;*

x. *Details of the compensation proposed.* [125]

Potential effects; Area of Forest vegetation removal:

Clearance of vegetation is necessary to provide a 6 m wide monorail track footprint and a 3 m wide construction track footprint, with spur tracks approximately every 200 – 300 m linking the two.

RHL state that vegetation overhanging the route would need to be cleared to a minimum height of approximately 7 m (from the top of the monorail track).[126] The exact height of vegetation clearance would depend on how high above the ground the monorail is at any particular location. For example where the rail is 6 m above the ground because of topography, overhanging vegetation up to 13 m above ground level would need to be removed. [It should be noted that the August 2009 preliminary engineering drawings in the Application are not an accurate representation of clearance, as they suggest a 3 – 4 m vegetation clearance from the top of the rail track [127], as opposed to the 7 m clearance more recently stated by RHL in September 2010.]

RHL estimate 21.96 ha of forest habitat would be removed along the route[128]. This is estimated (by RHL) to include approximately 10859

[125] Revised Concession Conditions, Appendix H Mitchell Partnerships *Memorandum Applicants Response to the Draft Determination Report – Comments* 21 Oct 2011 – attached to this report as Appendix A(vii)
[126] NB – the train unit is 2.4m high.
[127] Contained in Opus International Consultants Limited. 2009. *Fiordland Link Experience Preliminary Engineering Assessment of Monorail Proposal.* Opus International Consultants Limited. Christchurch.
[128] Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* Mitchell Partnerships Limited. Auckland.

trees and 14, 439 saplings and represent a volume of 10637 m^3 of wood [129].

While RHL states these are conservative estimates, their calculations are based on a 6 m wide clearance for the monorail track and 3 m wide clearance for the construction track and spur roads. These widths do not incorporate drainage channels and batters. No allowance has been made for greater areas of clearance at intersections between the spur roads and the construction track or monorail, clearances associated with passing bays, or clearance of overhanging vegetation which might be beyond the 6 m footprint clearance.

RHL has calculated the number and diameter of trees that would need to be removed; [130]

'Creation of the monorail track would remove around 14,193 saplings, 2,363 small trees (dbh 10-30 cm), 6,444 moderate sized trees (dbh 30-50 cm) and 3,352 large trees (dbh 50-100 cm). Around 76 very big trees (> 100 cm dbh) may need to be removed if they cannot be avoided.

The construction track would remove a further 7,097 saplings, 1,182 small trees, 3,222 moderate sized trees and 1,676 large trees. In addition 38 very big trees may need to be removed if they cannot be avoided. It should be possible to avoid all the large and very large trees (dbh > 50 cm) along the construction track, but this will result in a concomitant increase in the number of saplings, small and moderate sized trees (dbh <50 cm) removed.

Spur tracks would remove another 1,394 saplings, 232 small trees, 633 moderate sized trees, 329 large trees and eight very big trees if they cannot be avoided. Spur tracks should also be able to avoid all the large and very large trees (dbh > 50 cm).

The construction track and spur tracks do not need to be straight and it is expected that many large trees will be able to be avoided, and thus these figures overestimate the total number of trees that will need to be removed. Without knowing the exact increase in length required to weave between large trees it is not possible to calculate how many of these small and moderate sized trees will be removed.

[129] Mitchell Partnerships Limited. 2010 *Spring Survey Report for Proposed Fiordland Link Experience Monorail Route.* Mitchell Partnerships Limited. January 2010.
Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Draft Forest Management Plan September 2010.*
Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010.*
[130] Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* Mitchell Partnerships Limited. Auckland. – Section 4.4 "Results of Tree Diameter and Height Surveys" pp 43-44.

A worst case total of approximately 19,555 trees would be removed (excluding saplings). If trees are felled in proportion to their abundance, rather than selectively avoided, then approximately 67% can be expected to be mountain beech, 20% silver beech and 13% red beech.'

As noted above, the monorail track would require a 7m vertical clearance, and although RHL acknowledges that potentially trees outside the clearance footprint would need to be removed to achieve this, there is no indication of the number or type of trees this would affect.

No calculations have been made in respect of 'edge effect' (see discussion below). No calculations have been made in respect of wind throw, or 'collateral damage' of nearby vegetation (which is not strictly an 'edge effect').

' Edge Effects' or 'Halo Effect' resulting from vegetation removal;

Effects of proposed vegetation clearance would not be limited to the clearance footprint.

The effects of roads on fauna have been reviewed by Spellerberg.[131] In fragmented North Island podocarp-broadleaf forests, edge effects penetrated about 50 m regardless of forest size.[132] Opening the canopy along roads increases air flow, summer drying and winter frost penetration into the adjacent forest habitat. This may reduce invertebrate abundance and food for native avifauna. These edge effects are variable depending on the forest edge configuration, wind direction and light penetration.[133] The effects of compaction/water table root severance can affect roots of large trees up to 10-15 m away.

Microclimatic effects are expected along the route wherever a canopy gap is opened, and RHL's Terrestrial Ecology report recognises this. RHL's assessment that browse-resistant shrubs, herbs, and ferns are likely to be the long term cover beneath this gap is supported. Cohorts of regenerating beech trees are also likely to occupy these gaps, but these would not be compatible with monorail operation and would be periodically cleared.

[131] Spellerberg, I.F., Morrison,T. 1998 The Ecological effects of new roads a literature review. *Science for Conservation 84.* Department of Conservation

[132] Young, A., Mitchell 1994 microclimate and vegetation edge effects in a fragmented podocarp-broadleaf forest in New Zealand. *Biological Conservation 67* 63-72

[133] Davies-Colley *et al.* 2000 – recommended the need for 40m minimum for forest and riparian margins though the edge effects were even measured to 80m. Norton 2002 – found vegetation and invertebrate effects up to 70m on kahikatea forest edges on the West Coast; Williams – Linera, G., 1990 – found edge effects up to 15m in tropical forest Panama; Young and Mitchell 1994 in a range of podocarp – broadleaf forest fragments found "Penetration of gross microclimatic edge effects was approximately 50m regardless of fragment size". Department of Conservation, Wakatipu Area Office, *Assessment of the Conservation Values at the Routeburn Portal of the proposed Milford Dart Tunnel,* March 2010.

Marginal 'edge effects' such as weed invasion and changes in species composition are likely in both forest and non-forest habitat. Edge effects such as weed invasion and increased wind and light intensity penetrate to varying levels when a new edge is opened, but this is to some extent dependent on the context of the edge (for example sheltered or exposed, natural or weedy). The permanently cleared monorail corridor would effectively make a linear tunnel through the forest, which is likely to act as a conduit for wind. Wind tends to reduce humidity, and the reduction in humidity would be greater where canopy opening allowed entry of more sunlight. In particular, reduced humidity could potentially affect the habitats of ferns, bryophytes, and epiphytes, which are often sensitive to humidity changes.

It is estimated that 10 m of edge effects along each margin of the 22.9 km monorail corridor and construction track / mountain bike track through forest habitat, would result in an additional c. 45.8 ha of vegetation and habitat modification to some degree. This does not include spur tracks, or collateral damage to trees.[134]

6.2 km of the route is proposed through Red Beech forest (which is recognised by all parties as particularly significant habitat) and the resulting edge effect in this habitat would be c 13ha.[135]

'Collateral Damage' of surrounding trees and ongoing requirement for removal of trees;

Compaction of roots and opening up of canopy can also result in damage to trees on the edge of clearances. This is not strictly speaking an 'edge' effect. Should these trees die as a result this represents additional habitat loss. These trees would also likely require total removal as they would become a potential hazard to the operation of the monorail. This potential effect would manifest outside of the clearance footprint.

In order to avoid this effect, final route selection would need to consider not only the avoidance of large trees within the clearance footprint, but avoidance of large trees whose 'drip line' would occurs within either the monorail track or the construction track/mountain bike track.

Area of forest habitat potentially affected;

Combining the forest footprint clearance area with potential edge effects, the total area of forest habitat affected to a varying degree by the two linear clearances proposed, is ca **67 ha.**[136]

[134] 22900m x 2 = 45800m (length of forest clearance) x 10m (potential edge effect – 5 m on either side of those clearances) – 458000sq m edge effect – 45.8ha.

[135] 6.2 km of route in Red Beech from Opus drawings red Beech Forest is predominantly on slopes -- so 20/30 m separation monorail/MBT. Edge effect- 2 corridors of 6.2 km. 10m edge effect alongside12400m clearance 12.4ha.
Spur tracks over 6200m @ 300m = 20. 20 spur tracks @ 30m = 600m. 10m edge effect alongside 600m = 0.6ha.

[136] 45.8ha "edge effect' calculated as above + 21.96 ha forest habitat clearance footprint cited by applicant = 67.79ha

Approximately 18.8 ha of this affected habitat would be Red Beech forest[137].

RHL states that the route is located close to the forest edge for much of its length, and that this lessens edge effect in this particular situation, as the forest edge along most of the route has already been substantially modified by the presence of deer.[138] The route maps provided by RHL suggest the route could be on the edge of forest alongside parts of the route, in particular where the route follows rivers.

The Department's experts are concerned with disruption of natural edges and disruption of a range of non-forest areas. A preferred route may well be inside forest.

RHL has applied for a 200 m corridor envelope within which to select a final route, and accordingly there remains uncertainty as to the degree to which the route would follow forest edges. Although it is acknowledged that the Departments calculations of potential 45.8 ha of vegetation affected by 'edge effect' above may overstate the actual level of edge effect that would result from the proposed activities, this calculation does not overstate the potential level of effect, given the various uncertainties posed by an envelope approach.

Area and Significance of potentially affected Non - forest Vegetation;

As noted in section 3 of this report (Natural, Recreational, Cultural and Historic Values) unmodified low altitude valley non -forest habitats are rare. Generally speaking, this type of habitat is one which has historically been modified by farming activities, (as evidenced by the farmed areas in the Von Valley and Te Anau Downs Station).

The risk of potential adverse effects arising from construction of the monorail and construction/mountain bike track through this non forest habitat (including red tussock grassland in the valley floor of the Kiwi Burn and near Dunton swamp, and short tussock grassland particularly along the Mararoa River flats) is significant. As discussed below, a key concern is the introduction and proliferation of weeds along disturbed ground.

Another concern is that as these habitats are relatively rare, any degree of modification to them represents a significant degradation of ecological diversity and ecological value in the Upukerora Ecological District.

[137] Approximately 13 ha affected Red Beech from edge effect, plus 5.8 "footprint clearance" for monorail, MBT and spur tracks combined.
[138] Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010.* pg 18.

RHL states that they would avoid red and short tussock grasslands, and wetlands where practicable (Route Selection Criteria a, b and d proposed by Applicant)

All non forest habitats, on the basis of their rarity and significance, would have to be substantially avoided, in order to ensure that the conservation values of the Snowdon Forest Stewardship Area were protected.

Potential increase in weed abundance;

The Application notes that construction disturbance would provide ideal sites for weed establishment, and that weed seeds could invade these from many sources. The Draft Vegetation and Habitat Management Plan put forward by RHL includes a process of baseline survey prior to construction, detection, prevention and control of weeds during construction, and rehabilitation post construction to achieve a '*target of terrestrial weed presence after construction and rehabilitation is complete, to 0% in forest areas and 20% other areas*'[139]. [Whether or not this target performance measure is appropriate would be something to be determined in consultation with the Department, and influenced by the results of baseline survey in regards to baseline weed abundance].

The proposed construction activities in non forest habitats (such as tussock grassland vegetation)[140] would inevitably increase the invasion and abundance of weeds. In forest areas, there is potential for establishment of exotic grasses and herbs in canopy gaps (which would be created by the monorail and the construction / mountain bike track).

The strategies proposed by RHL are accepted as appropriate strategies to minimise weed establishment in the short term. However the establishment of weeds in disturbed areas is a potential adverse effect over a long timescale, and in this respect RHL's strategies are untested. This is a not a failing on the part of RHL. It is simply a fact that existing methodologies for weed control are proven only in respect of exotic woody species such as scotch broom, gorse, and blackberry (which are commonly dispersed on construction machinery and in gravel).[141] Rehabilitation of non - forest habitats in particular is untested; and exotic grasses and herbs would quickly invade the disturbed sites in non - forest vegetation.[142]

[139] Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Draft Forest Management Plan September 2010.*and update in Mitchell Partnerships 2011 *Riverstone Holdings Ltd, Fiordland Link Experience Vegetation and Habitat Management Plan 20 October 2011.*

[140] At least 4.2 km of tussock grassland along the route would be affected by the monorail, and additional areas at the Kiwi Burn terminus.

[141] Wildland Consultants, April 2010, *Audit of Terrestrial Ecological Assessment for the Fiordland Link Experience Proposed Monorail Development, Contract Report* 2401 prepared for Department of Conservation Southland Conservancy P.O. Box 743 Invercargill. Pg. 17.

[142] Wildland Consultants, April 2010, *Audit of Terrestrial Ecological Assessment for the Fiordland Link Experience Proposed Monorail Development, Contract Report* 2401 prepared for Department of Conservation Southland Conservancy P.O. Box 743 Invercargill. Pg 19

It is acknowledged that neither the forest, nor non- forest habitats through which the monorail would pass is currently weed free. As described in section 3 of this report[143] these particular lowland valley grasslands already contain a variety of weed species. The spread of these weeds would likely increase in the long term regardless of whether or not a monorail was built, due to existing and established nearby farming operations, the presence of introduced pest species such as deer and rabbits, and existing recreational use including 4WD use. All these existing uses represent a risk to the ecological integrity of these habitats.

Should this concession be granted, the clearances arising from the monorail track and construction track would be an additional, and permanent modification to the habitats through which they pass, and as such, an additional 'risk' to the ecological integrity of habitat. The potential for weeds to be transported along, and to establish on, and alongside those clearances would likely be an effect 'in perpetuity', the severity of which cannot be identified with total accuracy at this point in time.

Minimising and managing weeds could be achieved by RHL subject to appropriate concession conditions. Ongoing monitoring for the term of the concession (a potential 60 years) and a commitment from RHL /Concessionaire to manage any weeds (that result from the Concessionaires developments and use of the land) would be necessary to provide the level of certainty the Minister of Conservation as manager of public lands would require to determine that the concession could be granted (that is – that grant of the concession would not be contrary to the protection of the natural and historic resources of the land[144]).

Disposal of Cut Vegetation;

RHL's proposed methods for disposing of cut vegetation is set out by them in their (draft) Vegetation and Habitat Management Plan[145]. The range of methodologies proposed are considered appropriate, how they will applied on the ground and on a case by case basis will be confirmed via the final design processes ad final audit and approval process. The methodologies proposed by RHL include;

4.2.4 Disposing of Vegetation
Cut vegetation could be disposed of in one or more of the following ways:

> *Subject to the approval of the Department of Conservation, under certain circumstances vegetation could be removed from the public conservation estate, for example some trees*

[143] Natural, Recreational, Cultural and Historical Values
[144] Conservation Act 1987 section 17U(3) 'purpose for which the land is held'
[145] Mitchell Partnerships 2011, *Memorandum – Applicants Response to the Draft Determination Report – Comments, including appendices; Vegetation and Habitat Management Plan (Draft)*

may be large enough to be of use for cultural or other purposes (wood turning etc).

Removed from the monorail route, but left within the public conservation estate, for example trees could be moved to suitable locations where they will not obstruct construction.

Left where they fall along the monorail route with those that impede construction moved to a location nearby.

Left where they fall and then cut into smaller pieces to make them easier to move. They could then be moved aside, relocated within the public conservation estate or removed altogether.

Mulched. The mulch could then be left in the vicinity of the monorail, relocated within the public conservation estate or removed altogether.

The following considerations are relevant in the disposal of cut vegetation:

Depositing the cut material in nearby forest (on conservation land) could potentially lead to additional habitat damage to transport cut material to its final location.

If large quantities of wood were deposited in one place there is a potential for insect and fungal infestation that could spread to living trees under stress, for example a Sporothrix outbreak. Sporothrix in particular favours wet, dead wood.

Decomposing forest material has ecological benefits by recycling nutrients and providing habitat for decomposers and saprophytes.

Under normal circumstances native wood from the public conservation estate is only rarely available for cultural or other purposes, and then only when specifically permitted.

It may be that it is appropriate for wood to be removed under certain circumstances. The following suggestions are proposed as a basis for discussion:

Any trees with a dbh of 400mm or more could be offered for iwi use in the first instance. If they are not required by iwi then a small number could may be made available for other purposes (wood turning, furniture making etc).

Other trees with a dbh of 400 mm or more could be stockpiled and used to rehabilitate spur tracks or for other rehabilitation.

Trees with a dbh 200 – 400mm could either be stockpiled and used as part of rehabilitation or cut into shorter lengths and relocated within the public conservation estate away from the monorail route. The lengths will be such that they can be positioned away from the route without causing further damage to vegetation.

Trees and saplings with a dbh < 200mm will be mulched and the mulch used as part of rehabilitation or scattered across

rehabilitated sites.'

Potential Effects Animal Pests;

The abundance of animal pests in the Snowdon Forest Stewardship area would not be anticipated to increase as a result of the proposal. However, proposed increased bush margin, earth disturbance and seral vegetation growth, and proposed new planting is likely to attract pest animals including deer, hares and stoats moving and foraging along disturbed track and monorail lines. These effects would need to be monitored and managed. RHL has put forward a draft Vegetation and Habitat Management Plan, which includes proposed predator and weed control methodologies to be finalised and adopted in consultation with the Department.

Effects on Bats and Birds;

RHL has surveyed fauna in the area and notes the presence of a number of bird species listed as nationally endangered and vulnerable, and the presence of nationally endangered Long-tailed bat (see section 3 of this report above in respect of flora and fauna values of the area under application).

Species which nest in large trees, specifically Long-tailed bat, Mohua, Kaka and Riflemen, are potentially directly affected by the proposed forest clearances (that is - potentially crushed and disturbed).
Potential indirect effects on bats and birds of the proposed developments comprise displacement and reduced viability as a result of habitat loss, modification or fragmentation of habitat.

Potential Effects on Bats
RHL has assessed the potential effects of the proposal on the local Long-tailed bat population, noting that the main ongoing threats to bat populations are habitat clearance or modification, and predation. They state:

'Predation and other factors are expected to drive populations of long-tailed bats in the Eglinton Valley towards extinction within 50 years (Pryde et al. 2005, 2006). Other more reduced or fragmented populations are likely to become extinct in a much shorter time where there is no management to protect them (O'Donnell 2000b, Pryde et al. 2005, Griffiths 2007).

Since both species of bat are acutely threatened, the loss of any individual bat is of conservation concern (Hitchmough et al. 2007). Although the proposed monorail is predicted to have a relatively minor effect on bats given the large area of suitable bat habitat in the vicinity, the avoidance, remediation, and/or mitigation of any adverse effects on bats (and other indigenous fauna) is important.

The main adverse effects of the vegetation clearance and other activities required for the construction and operation of the monorail

would be the removal of large-diameter old trees that provide potential roost and breeding sites for bats. Both long-tailed bats and short-tailed bats require large intact forest habitat which contains high densities of large-diameter old trees, like that found in red beech forests in the Eglinton Valley (Sedgeley 2003; Sedgeley & O'Donnell 1999). If large-diameter or standing dead trees can be retained along the monorail route less impact on bats would be expected.

Adverse effects on bats would be greater if forest clearance was carried out during their breeding season (November to late January). At that time reproductive female long-tailed bats predominate in communal roosts and carry their young to a new roost each day (O'Donnell 2001). Breeding colonies of short-tailed bats are particularly at risk as communal roosts typically contain large numbers of bats particularly females and young (310±88.1 bats in the Eglinton Valley, Sedgeley 2003). Unlike long-tailed bats, short-tailed bats may occupy roosts for several days at a time.

The low incidence of roost re-use by long-tailed bats poses difficulties for protecting them during forest tree removal, as it would be difficult to identify bat roosts that are not being used and avoid destroying them. Given the low proportion of potential bat roost trees within the proposed monorail footprint, and the abundance of such trees in adjacent areas, adverse effects on bats are likely to be relatively minor if the route is chosen to avoid large trees where possible. This was recommended in our October 2009 report. Adverse effects could be further reduced if any old trees requiring clearance are not removed during the bat breeding season, November to late January.

Other activities that may affect bats include noise, damage to foraging habitat, and disturbance of natural flight paths. These effects are likely to be very minor compared to the loss of roost trees. Bats are likely to habituate to noise effects and the construction and operation of the monorail would occur during the day, so only bats roosting close to the route at that particular time would be affected. Any disturbance to forest edge habitat may have minor effects on foraging habitat and flight paths for bats, but these effects would probably only be temporary.[146]

Bat roosts are typically in old, large diameter trees measuring >80 cm dbh [147]. RHL has estimated how many large trees would likely be removed by the proposed activities within the 22 ha clearance footprint as follows;

[146] Mitchell Partnerships Limited. 2010 *Spring Survey Report for Proposed Fiordland Link Experience Monorail Route.* Mitchell Partnerships Limited. January 2010.
[147] Sedgeley,J.A., O'Donnell C.F.J. 1999a Roost selection by the long tailed bat, *Chalinolobus tuberculatus,* in temperate New Zealand rainforest and its implications for the conservation of bats in managed forests.

- ‘ large trees’ (dbh 50 cm – 100 cm) - 5357
- ‘ very big trees’ (dbh > 100 cm) - 122 [148]

A proportion of these trees would be potential bat roost trees.

RHL proposes ecological criteria for avoiding large trees with the proviso of ‘where practicable’ [149]. This indicates that final design would attempt to reduce the number of large trees to be removed, from the 5479 large trees identified for removal in the ecological surveys.

RHL acknowledge the diversity and conservation values of forest habitat, and Red Beech forest habitat in particular. They have proposed various strategies to minimise and mitigate potential adverse effects, as outlined above including:

i. minimising the removal of large trees;
ii. conducting forest clearance outside the breeding season for bats (i.e. outside November to late January); and
iii. conducting daily surveillance of potential roost trees prior to clearance. [150]

These measures proposed by RHL are consistent with the Department’s protocol for tree removal along the Milford Road, which could be applied in this context.

RHL’s survey of bats along the proposed route[151] is accepted by the Department as a good indication of presence /absence of bats along the route in general. However RHL has not specifically surveyed individual trees to ascertain the number of roost trees that could not be avoided, as the exact route within a 200 m corridor is still to be defined.

Although it might be possible that all roost trees could be avoided, it is unlikely that would be the case. This could not be known for sure until a final route has been determined, and trees requiring removal are individually surveyed.

Ultimately the potential effect on bats would depend on how many roost trees are affected. If it is just one or two trees, and bats are not present at the time, the effects on population biology of bats within the Snowdon Forest would be minor. There is other suitable bat

[148] Calculated from figures provided in Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* Mitchell Partnerships Limited. Auckland.
[149] Riverstone Holdings Guide to Conditions and Flowchart. Draft Concession Conditions, September 2010 - conditions 10 and 11.
[150] Mitchell Partnerships Limited. 2010 *Spring Survey Report for Proposed Fiordland Link Experience Monorail Route.* Mitchell Partnerships Limited. January 2010. Section 6.2
[151] Mitchell Partnerships Limited. 2010 *Spring Survey Report for Proposed Fiordland Link Experience Monorail Route.* Mitchell Partnerships Limited. January 2010. – see also summary in section 3 of this report

habitat available in the area, and bats are currently sparse along the 22 ha clearance area.

However, long-tailed bats do roost in clusters of trees, so if felling was to coincide with one of these clusters, the effects on the bat population could be catastrophic. [152]

The effectiveness of RHL's proposed strategies to avoid and minimise potential adverse effects on bats (essentially avoiding large trees, which would also effectively minimise effects on other trees nesting birds) would depend very much on chosen construction alignment. The Department would require certainty that there would not be adverse effects on the bat population, and as a 'bottom line' would not permit any removal of trees which cumulatively would result in significant adverse effects on a local population scale.

This 'bottom line' cannot be defined by the Department at this point in time. At one end of the spectrum, a concession condition prohibiting the removal of any large tree (a 'large' tree being any tree > 60 cm dbh) would provide a high degree of certainty. However, in practice not all trees of this size would be potential roosting trees (for bats or cavity nesting birds) and they could be removed with little effect. The Department cannot however prescribe 'how many' trees could be removed. The Departments technical advisors are confident however that collectively RHL and the Department could work together to ensure that 'on the ground' the removal of large trees could be minimised to the point where effects on bats and cavity nesting birds would be minor

This does represent an area of risk to RHL, in that 'on the ground' final design might find there to be a cluster or clusters of roost trees which they could not avoid, and which the Department would not agree to their removal.

The investigations made by RHL indicates that this would not be the case, and as noted above, the Department concurs with this assessment, as far as it can be concurred with, in the absence of final route design.

Birds

The strategies outlined by RHL to avoid and minimise potential effects on bats would also be effective in minimising direct effects on cavity nesting birds (specifically – avoiding large trees).

On the basis that any birds nesting in the proposed clearance area are likely to move and find suitable alternative habitat, the direct effects on bird populations of vegetation clearance and associated edge effect would be minor. Some of the changes to forest habitat

[152] Colin O'Donnell *pers.comm.*

arising from edge effect are likely to enhance some aspects of that habitat for some insectivorous birds (and bats) as forest edges generally have a higher abundance of insects, than forest interiors.

Discussion and Conclusions;

RHL has applied for 200 m wide corridor 'envelope' in which the monorail, construction track and spur tracks would be located. Construction of the monorail and construction/mountain bike track would require clearance of two separate linear features through the Snowdon Stewardship Area, representing a total permanent clearance of ca. 22 ha of forest habitat and ca. 4.35 ha of non-forest habitat, and associated effects.

The potential effects of the proposed activities on flora and fauna are both 'direct' effects on vegetation and fauna living within the clearance footprint, and habitat fragmentation effects resulting from the formation of two permanently modified clearances across and through the Snowdon Forest Stewardship Area.

'Direct' Effects

Potential 'direct' effects comprise the removal of vegetation, and potential direct physical harm and displacement of birds and bats currently occupying the intended clearance area.

Quantifying the 'direct' effects on flora and fauna of the proposed activities is difficult in the absence of a clearly defined route and detailed construction design plans. RHL has carried out and provided substantial environmental impact assessment reports, which are indicative of the scale of potential effects arising from the activities. They have provided draft environmental management plans, and proposed concession conditions also indicative of the measures available and proposed to avoid, remedy and mitigate potential adverse effects.

It is a fact that vegetation would be removed.
It is a fact that some of this vegetation is currently inhabited by birds, bats or invertebrates.
It cannot be said that there would be NO effects arising from the clearances, that is, not **all** adverse effects would be avoided.

RHL has gone to considerable effort to quantify the amount and type of respective vegetation that would be removed as a result of these clearances, to identify the likelihood of bats in the proposed clearance areas, and to identify a process of route selection criteria to avoid habitats of significance as the route is selected on the ground. RHL proposes a process of finalisation and adoption of numerous adaptive management plans to monitor and manage effects as works are carried out.

The discussions in this report conclude that these measures would

be effective in minimising potential adverse effects, with the proviso that they would have to be effectively implemented 'on the ground'.

In particular, rare and vulnerable habitats (non forest habitats, large trees, and any species identified as threatened or endangered) would need to be avoided as far as possible

'On the ground' final design and survey will almost certainly identify some areas of such habitat, specific large tree and /or endangered /threatened specimen that RHL considers could not be avoided. This would need to be discussed with the Department, and specific permission from the Department obtained before works could proceed. The Department's 'starting point' in any such discussion will be firstly that these habitats, large trees and endangered /threatened specimens be avoided.

If they cannot be avoided, then having regard to the cumulative effects of removal, works may not proceed unless and until an appropriate solution (in the form of appropriate remediation or mitigation) is found.

As discussed elsewhere in this report this process does represent a risk to RHL. If 'on the ground' route selection and design identifies a requirement to remove specific and significant vegetation, the cumulative adverse effects of which the Department would consider to be significant and adverse, the proposed developments could not take place.

That said - the Department does consider that it would be more likely that final 'on the ground' route selection and design would confirm the scale of effects identified by RHL at this point in time, (and accordingly assessed by the Department as being able to be minimised or mitigated), than identifying a new type or unanticipated level of adverse effect.

Habitat Fragmentation

The two proposed linear clearances and associated edge effect would result in 'habitat fragmentation'

Habitat fragmentation comprises five key phenomena;
(i) a reduction in the total area of available habitat;
(ii) an increase in edge effect;
(iii) isolation of one habitat fragment from other areas of habitat;
(iv) breaking up of habitat into several smaller 'patches'; and
(v) a decrease in average size of each 'patch' of habitat.

22 ha of forest vegetation and 4.35 ha of non forest vegetation would be permanently removed as a result of the proposed activities.

An additional 48 ha (approx.) of habitat would be affected to some degree by 'edge effect', i.e. changes to that habitat caused primarily from increased light, microclimatic changes, and potential weed invasion.

Although the scale and severity of potential edge effect has not been identified or described by RHL, they do propose monitoring of vegetation changes within the forest edge and management of effects that arise[153]

As discussed above in this report – weed invasion (in particular) of disturbed areas is of concern. Weed spread and other edge effects may be something that would need to be managed by RHL over the proposed 60 year term of the concession. Whether or not in fact weed introduction and other edge effects would be a long term potential effect of the proposed developments could only be known as result of monitoring over a long timeframe. Such monitoring could be required by concession conditions.

These potential effects need be considered within the scale of the Snowdon Forest Stewardship Area.

RHL has pointed out that the Snowdon Forest Stewardship Area comprises 46750 ha of habitat. The forest habitat 'is mountain, silver and red beech' and that 'this habitat is not rare within the ecological district or ecological area'. The monorail they note, would be surrounded by large areas of similar habitat within the Snowdon Forest and nearby Fiordland National Park[154]. This statement is accurate in respect of mountain and silver beech, but not is respect of Red Beech (the Snowdon Forest Stewardship Area being dominated by forest vegetation other than Red Beech[155]). The statement is also not true in respect of low altitude valley floor non – forest habitat, which is rare.

In respect of forest habitat, in the context of there being other similar habitat in the Snowdon Forest Stewardship Area, the removal of 22 ha of this habitat, and associated potential edge effects, subject to avoidance and mitigation strategies proposed by RHL and the Department, would **not** be adverse to the point where those effects would not be contrary to the purpose for which that land is held for the protection of its natural and historic resources (in other words; the effects would not compromise the overall conservation value of the Snowdon Forest Stewardship Area).

[153] Sections 3 and 4 Draft Forest Management Plan (attached as Appendix A (i)v)
[154] Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* Mitchell Partnerships Limited. Auckland. page 91.
[155] Wildland Consultants, April 2010, *Audit of Terrestrial Ecological Assessment for the Fiordland Link Experience Proposed Monorail Development, Contract Report* 2401 prepared for Department of Conservation Southland Conservancy P.O. Box 743 Invercargill.

In respect of non forest habitat (tussock grasslands and wetland habitat), in the context of these habitats being rare (and significant as identified by RHL) they would need to be avoided as far as possible, in order for the conservation values of the Snowdon Forest Stewardship Area to be protected.

Subject to concession conditions including;

- audit of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved by the Grantor
- non- forested habitats are avoided as far as possible;
- removal of large trees, or construction within drip line of large trees, avoided as far as possible. (The intent of this condition is that removal/disturbance of large trees will be substantially avoided);
- entrances into forest to be at 'right angles' to forest edge as far as possible;
- on the ground route is defined and marked;
- walkthrough with DOC;
- all Large Trees within clearance footprint and whose drip line falls within clearance footprint specifically identified, and RHL to present an assessment of effects (including cumulative effects) of removal /disturbance;
- written permission from the Grantor to be obtained for removal /disturbance of Large Trees. (The intent of this condition acknowledges that not all large trees will be able to be totally avoided – for those that RHL considers cannot, the Department will consider the effects of that removal and disturbance, and if these are determined to be adverse, removal /disturbance will not be permitted);
- 'Large Tree' defined as any tree with dbh of 60cm or greater;
- 'Disturbance' defined as construction within the drip line; and
- Prompt rehabilitation of disturbed areas (that is – rehabilitation as the construction progresses – Departments intent that timeframes are put around this as part of finalisation of management plans);

it is considered that the effects of the proposed monorail and construction track / mountain bike track could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the flora and fauna values of the Land would be minor.

Proposed compensation; additional 200 ha of pest control in Eglinton Valley;

As already noted in this report, RHL has offered compensation for effects in the form of an additional 200 ha to Operation Ark in Fiordland National Park. They propose this compensation package in respect of effects in red beech forest habitat (in particular). RHL recognise that habitat loss is an ongoing threat to indigenous communities. They note that; (while)

> *'... habitat loss is an ongoing threat to indigenous communities, most of the red beech trees in the immediate vicinity of the route are already within the conservation estate and little more can be done to protect them without active management. With respect to the ecological value that large red beech trees have as habitat for fauna, the degradation of that habitat by introduced pests, including possums and predators, is more significant than loss of red beech habitat per se. For that reason* (RHL's technical experts) *have recommended the management of existing habitat to improve its productivity as mitigation for removal of red beech. This is encapsulated in the ecosystem approach which recommended 200 ha of pest control in the Eglinton Valley to offset effects on red beech species and other indigenous habitat and species.'* [156]

The Conservation Act provides for payment of compensation for any adverse effects of activity on the Crown's or public interest in the land concerned, unless such compensation has been provided for in the setting of rent. This compensation could cover both adverse effects that have been remedied or mitigated (because there may still be long term adverse effects on the Crown's or public interest in the land concerned) and adverse effects that remain after RHL has avoided, remedied or mitigated adverse to the greatest extent possible – 'residual' adverse effects.

There **will** be residual effects if the monorail is built, and it is appropriate that these effects are compensated for as provided for in section 17X(d) of the Conservation Act 1987.

The compensation package offered by RHL has assumed that red beech habitat is 'more significantly' affected than other habitats. The Department would not necessarily agree with this. On the basis that low altitude non-forest valley floor habitat is rarer than forest habitat, it flows that residual effects in this habitat are potentially more significant than residual effects in forest habitat. That said, until final 'on the ground' route design has been determined, it is unclear where the more significant residual effects would occur. The route selection criteria to be applied by RHL in the design stage of the proposal may further reduce potential effects in non-forest habitats, and this would have a corresponding increase in effects in forested habitats.

It is noted that section 17X(d) of the Conservation Act relates to compensation 'for any adverse effects of the activity', and does not prescribe any other further process for determining the most appropriate **form** of compensation.

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of Conservation Southland Conservancy P.O. Box 743 Invercargill.

RHL has offered compensation, and the Department accepts that compensation would be appropriate. Whether the compensation offered (contribution to Operation Ark) is the most appropriate form of compensation, and if not – what would be, cannot be determined at this point in time. Setting compensation will therefore need to be further discussed with RHL, and most likely deferred until final on the ground design has been determined.

That there will be an appropriate form of compensation satisfactory to the Grantor however will be a condition of any grant of the concession.

(c) Effects on Flora and Fauna - Proposed Activities at Te Anau Downs

RHL suggest that construction of the terminus and monorail track would have minimal effects on ecological values at Te Anau Downs. The proposed developments are restricted to the existing 'mown' area.

RHL suggest that landscaping could include creation of patches of indigenous vegetation, including reintroduction of species that were formerly present. The species would need to be defined in consultation with the Department, to ensure that the created patches were of ecological value.

The existing natural vegetation buffer between the mown area and Lake Te Anau would need to be retained, it is not anticipated that the proposed developments would require removal of any such existing vegetation.

Conclusion;

Subject to concession conditions including:

- audit and approval of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved the Department prior to construction commencing;
- disturbed areas are promptly and effectively rehabilitated; and
- applicant controls pests and weeds (Pest and Weed Control methodology to be finalised in consultation with, and approved by the Department);

it is considered that the effects of the proposed activities at Te Anau Downs could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the flora and fauna values of the Land would be minor.

(d) Effects on Flora and Fauna of Mountain Bike Track where it separates from Monorail Track 'Cycle Link Route'

Proposed activities; The mountain bike track diverges from the monorail route near the 29.5 km mark, and mostly follows parcels of public conservation land in the Henry Creek catchment before crossing to Te Anau Downs near Lake Mistletoe. RHL undertook a walk-through survey in November 2009 to identify vegetation and habitat associations, assess bird abundances, and identify any threatened species found along the proposed 'Cycle Link Route'.[157]

The mountain bike route passes through the Dome Mire, which RHL notes is regarded as the best mire of its type in New Zealand, in addition to other wetlands. Other important values crossed by or close to the route include red beech forests, kahikatea swamp forest, bog pine shrubland, and red tussock grassland.

The proposed mountain bike track is to be 3 m wide but has few limitations of grade and direction and thus RHL considers that there will be a high degree of flexibility as to its final location. This flexibility may be of less value where the route is constrained to conservation land supporting vulnerable ecosystems such as wetlands.

RHL intends placing the mountain bike track on existing 4WD tracks and bulldozed lines along property boundaries, and this would minimise potential adverse effects.

Boardwalks are proposed where the track would cross wetland areas, but in the Department's experience building boardwalks across mire wetlands is challenging. It is considered that it would be best if the mountain bike track avoided wetland habitats.

Mountain bike track construction would require a gravelled track, with gravel having the potential to introduce woody weeds. Scotch broom is already abundant along parts of the route. RHL suggests removing broom from the immediate vicinity of the track and replacing it with native species. While well meaning, there are difficulties inherent in achieving such an outcome, given that Scotch broom is highly invasive, associated with persistent seed banks, and will readily colonise disturbed areas and gravel.

On the whole, the description of the 'Cycle Link Route' (including construction thereof) and assessment of effects provided by RHL is minimal. It lacks sufficient detail to adequately assess the effects of the mountain bike track construction and operation on flora and

[157] Mitchell Partnerships Limited. *Terrestrial Ecology of the Proposed Cycle Link Route for the Fiordland Link Experience.* Mitchell Partnerships Limited. January 2010.

fauna values. For example, there is no description of the methods and machinery that would be used to construct the track.

RHL acknowledges that they have not provided final design or selected final routes for any of the proposed activities, and propose a process (as outlined in the discussions above) to determine an on the ground route in consultation with the Department, and the development of final design specifications and iterative adaptive management plans for the Department's approval prior to construction.

Conclusion;

On the basis of the information provided by RHL in respect of the 'Cycle Link Route', it is not possible to scope of the potential level of effect associated with this activity to the same degree as the assessments in respect of the monorail and construction/mountain bike track, and termini buildings.

That said, the construction of approximately 17 km of a 3 m wide track is an activity which the Department can reasonably foresee and understand the potential level of effect (given its' own expertise and experience in track construction). RHL's suggestion of flexibility as to final alignment and quite possibly gradient could provide for much more opportunity for avoidance than with the monorail.

On that basis, subject to final design demonstrating appropriate design standards, construction methodology and the implementation of an iterative management plan approach is proposed for the rest of the proposed activities, then the effects of the Cycle Link Route on flora and fauna values could well be minor.

Subject to concession conditions including: [158]

- Audit of final design plans provided to Department for approval;
- final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved the Department prior to construction commencing;
- disturbed areas are promptly and effectively rehabilitated; and
- Applicant controls pests and weeds (Pest and Weed Control Methodology to be finalised in consultation with, and approved by the Department);

it is considered that the effects of the proposed activities of the 'Cycle Link Route' would be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the flora and fauna values of the Land would be minor.

[158] See also Appendix 1 of this report "Proposed Special Conditions"

5.2.3 EFFECTS ON WATER QUALITY AND AQUATIC BIODIVERSITY

(a) Activities at the Mararoa River - Kiwi Burn Terminus. Monorail & Access Road

Water take from Mararoa River;

RHL proposes to take water from the Mararoa River to supply the Kiwi Burn terminus. The Mararoa River is not public conservation land administered by the Department of Conservation, and this activity would require resource consent.

Other waterways;

There is a small stream adjacent to the Kiwi Burn terminus that would likely be affected by the construction of the terminus and monorail structure. These effects are likely to be increased sedimentation and turbidity, resulting from earth disturbance.

It would be unlikely there are any aquatic species of note in this waterway, as it drains and flows through modified pasture.

Conclusion;

It is noted that the Resource Consent process would need to consider and deal with issues of water quality. In respect of the one small waterway on Marginal Strip administered by the Department of Conservation, there are unlikely to be any significant adverse effects on water quality and aquatic biodiversity resulting from the proposed developments at the Kiwi Burn Terminus.

Any effects in the waterway would need to be demonstrably avoided or mitigated by RHL during the final 'on the ground' design stage, and prior to any construction commencing.

Subject to concession conditions including:[159]

- Resource Consent required;
- Approval of final "on the ground' specifications and plans, (Erosion and Sediment Control Plan and In River Works Control Plans in particular) prior to construction works commencing;

it is considered that the effects of the proposed activities at the Kiwi Burn terminus site could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the water quality and aquatic biodiversity values of the Land would be minor.

(b) Effects on Water Quality and Aquatic Biodiversity - Proposed Monorail and Construction Track/Mountain Bike Track

River and Stream Crossings:

The proposed monorail alignment requires several river crossings. The key river crossings are once over the Mararoa River , three times over the Kiwi Burn River (between 3.5 - 5 km), once over the Whitestone River (approx 13 km), and three times over the

[159] See also Appendix 1 of this report "Proposed Concession Conditions"

Upukerora River (between 21 - 23.5 km). Additionally, approximately 22 crossings of minor streams would be required.

Bridging would be required during the construction phase of the project, and also on the ongoing phase to enable mountain bikers to safely navigate the entire track.

Effect of sediments:

The rivers affected by the proposed activities low natural levels of sediment due to the intact forest catchments and unmodified nature of the water bodies. There are two parts to sedimentation effects – those from construction activities and from operation of the monorail. [160]

Sediment in the stream beds would be released by vehicle crossings and in-stream works. Further, bed-load transport will be increased through de-stabilisation of banks. The effect of suspended sediment has been detailed by RHL, as well as the level of effect particularly in regard to the difference between large and small water bodies. Sedimentation is likely to be a temporary significant adverse effect. Mitigation detailed around minimising vehicle crossings, bridging of water bodies, minimising in-stream works, and sediment traps etc. is appropriate. However, in the areas where there are significant populations of non-migratory galaxiids (particularly tributaries where effects are greater) vehicle crossings and in-stream works should be avoided altogether if possible.

Sediment inputs from ongoing track drainage through the operation of the monorail and construction track / mountain bike track will mean continued inputs of sediment into water bodies. This is seen as an ongoing potential significant adverse effect, although a minor effect in the larger water bodies. The effects can be mitigated through avoiding areas of high instability and erosion with track construction, sediment traps, and appropriate storm water design. Such methods are envisaged by RHL. Sediment control would have to be done to a high standard as the receiving waters are natural waters with low background sediment loads. To ensure sediment control is effective ongoing sediment monitoring would be required.

A potential significant adverse effect that RHL does not specifically mention in the assessment of effects is the potential effect of fine sediment on the spawning habitat of native fish and trout (although general effects are noted). Given a 30-month construction period is planned it is likely that construction could coincide with fish spawning and development periods. To mitigate the effects on fish spawning RHL would need to avoid in stream construction works, at least in large rivers, during the trout spawning season and in smaller streams during periods when the threatened native species, *Gollum*

[160] Funnell, E, Technical Support Officer Southland Conservancy.

Galaxias, is spawning.

Removal of canopy: RHL recognises that the removal of vegetation from the margin of watercourses during construction and ongoing maintenance may expose some watercourses to increased sediment run-off and permanently increased light levels. This is predicted to result in a change in periphyton community composition and an increase in biomass, loss of bryophyte communities from currently shaded streams, and long-term changes to invertebrate community composition. The effect on periphyton communities is assessed to be minor, while the effect on bryophyte communities is assessed as more than minor, but not significantly adverse. The effect on invertebrate communities in larger tributaries should be minor but it will be greater in smaller, shorter streams. Indirect effects on fish communities are also possible. As canopy opening is expected to affect less than a 10 m length of stream RHL concludes that overall effects are likely to be minor and localised. The presence of undisturbed habitat upstream and the existing relatively unmodified habitat are expected to aid the speed of recovery from disturbance.

Although the effects of canopy removal may be significant they should mostly be localised. There is a significant risk that Didymo could be spread among watercourses during the construction phase of the project and, although the effects of Didymo on aquatic communities in New Zealand are still not well understood, there is the potential for serious adverse effects (in that it may not be possible to mitigate the effect).

Unfortunately Didymo is already established in the area, and over time would almost certainly be spread by existing recreational users, regardless of whether or not the monorail and mountain bike track was in existence.

Pollutant runoff: RHL identifies that contaminants, including hydrocarbons, heavy metals, dust, chemicals, waste and sewage may enter watercourses during construction. They assess that effects of these contaminants are expected to be minor and temporary.

If the risk of pollutant runoff is appropriately managed then the risks of effects are likely to be minor. However, if not appropriately managed (including via appropriate concession conditions) a contaminant spill could have significant long-term adverse effects.

Operational effects: RHL considers that the ongoing operation of the monorail is unlikely to have a significant effect on freshwater ecology values, although they acknowledge that increased sediment inputs are possible from track draining and maintenance activities. Increased access to the area by trampers, mountain bikers and hunters is recognised as having the potential to impact the aquatic environment but potential

effects are unlikely to be more than minor. It is suggested that the risk of track users spreading unwanted organisms such as Didymo can be minimized with the provision of bridges across watercourses.

As a potential ongoing risk, RHL identifies the potential for Didymo to be spread by track users and the provision of bridges is suggested to minimise this risk.

Potential adverse effects from pollutant runoff are also ongoing and not just limited to the construction phase. RHL does not provide any information as to whether toilet facilities would be provided for users of the mountain bike track, but as discussed elsewhere in this report, this would be necessary in order to avoid adverse effects of increased visitors to the area.

Hydrology and Geomorphology:

The hydrology and river geomorphology report by RHL indicates that all of the main water bodies that are within the proposed monorail route are active gravel rivers with lateral movement. They have also noted that there is a reasonable level of bed armouring that regulates bed-load transport of gravels. Lateral movement of rivers is a natural process and common in unmodified rivers. These natural processes need to be protected and allowed for i.e. the rivers not be confined through erosion and flood protection works.

While the effects on rivers from construction activities are likely to be localised and temporary in nature, this does depend on the sensitivity of the site of crossing to lateral movement. For example if the bed armouring is disrupted at a site – the river might be more likely to move. This is seen as a potential adverse effect. Once again this will be mostly localised with the effects decreasing further downstream (there will also be some possible upstream effects). This could be mitigated to some extent by decreasing the frequency of river crossings by vehicles and keeping in stream works to a minimum as outlined by RHL.

It has been well indicated by RHL's consultants that the rivers are all laterally mobile with frequent channel migration and bank spilling during floods. However, it has not been addressed how this natural process will impact on the long term future and operation of the monorail and bike track. The assessment of effects focuses on the short term effects of the construction phase. Natural river processes need to be allowed for to protect the natural character of the water bodies. This is seen as a potential significant adverse effect (although reasonably localised). These effects could be mitigated through appropriate design of monorail and bike track that allows sufficient river movement, and prevents channel confinement. This would need to be detailed in the construction plan (e.g. extending piled foundation across full potential floodplain width for channel movement, appropriately sized bridge spans, and detailed survey of

river geomorphology and stability at each site).

This also applies to when the monorail and track run adjacent to the rivers. Ideally the tracks would be located outside of the active flood plain to remove the need for active erosion and flood protection works. The level of clearance needed for floods needs to be addressed in the construction plan.

Lateral movement of the river channels may impact on the integrity of the monorail and bike track in the long term. It has not been indicated by RHL how they plan to manage for this, and this is a matter that would need to be addressed and assessed as part of the design stage.

River protection works which would constrain the natural movement and flow of rivers would not be permitted, and it is incumbent on RHL to demonstrate that this would not be required, as envisaged by the concession Application they have lodged to date.

Proposed Erosion and Sediment Control Plan and River Works Management Plan:

RHL acknowledges that the final design of the monorail and associated tracks would need to address management of effects on water quality. They propose to develop and implement Erosion and Sediment Control and River Works Management Plans as follows;[161]

15. CONSTRUCTION MANAGEMENT PLAN - EROSION AND SEDIMENT CONTROL PLAN

15.1 The Concessionaire shall ensure that an Erosion and Sediment Control Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the Erosion and Sediment Control Plan shall be to reduce any erosion and landform instability resulting from construction of the concession activities. The Erosion and Sediment Control Plan shall include the following details:

(a) Measures to ensure that work is undertaken in accordance with Auckland Regional Council TP90, and any relevant Department of Conservation Standards;

(b) Identification of the works areas and staging;

(c) Measures that will be established to minimise erosion and runoff, including the use of energy dissipaters,

[161] Riverstone Holdings *Guide to Conditions and Flowchart. Draft Concession Conditions, September 2010*

fencing, hay bales, and sediment retention ponds required; and

(d) *Rehabilitation that will be implemented post construction to minimise sediment and erosion movement.*

15.2 *The Erosion and Sediment Control Plan shall describe methods to remove any excess fill in a timely manner. The removal of any excess fill must be undertaken in accordance with that Plan.*

16. CONSTRUCTION MANAGEMENT PLAN - IN RIVER WORKS MANAGEMENT PLAN

16.1 *The Concessionaire shall ensure that an In River Works Management Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the In River Works Management Plan shall be to ensure that a healthy aquatic ecosystem is maintained in the rivers and streams along the route and that any adverse effects arising from the construction of the concession activities are appropriately managed. The In River Works Management Plan shall include:*

(a) *Measures to ensure that work within active river beds is avoided as far as are practicable;*

(b) *Measures to ensure that any works which could affect the integrity of the stream bed and bank structure are avoided as far as practicable;*

(c) *Protocols to ensure that all equipment and machinery is cleaned before entering or shifting between waterways to prevent the spread of Didymo;*

(d) *Measures to ensure that where it will affect waterways the construction of the monorail is timed where practicable to occur during the summer months; and*

(e) *Measures to ensure that construction within the rivers or streams is undertaken as quickly as practicable to avoid ongoing adverse effects.*

16.2 *Prior to the commencement of construction of the concession activities the Concessionaire shall undertake a survey of all streams and waterways to be crossed by the final route in order to delineate the distribution of Didymo through the catchments prior to construction. This study will form the basis for determining whether the streams are Didymo free prior to construction and whether Didymo control methods may be required in areas where Didymo is found after construction of the monorail is complete. The results of this survey shall be submitted to the Grantor.*

16.3 *The In River Works Management Plan shall require that during construction of the concession activities the Concessionaire shall comply with the Didymo prevention and cleaning protocols as set out in Schedule ## before and after contact (including people, equipment, clothing, footwear and other items) with any waterway.*

16.4 *The In River Works Management Plan shall require that during construction and operation of the concession activities the Concessionaire shall comply with all guidelines and notices put out by Biosecurity New Zealand regarding measures to avoid spreading the pest organism Didymosphenia geminata (refer to www.biosecurity.govt.nz/didymo).*

16.5 *The In River Works Management Plan shall set out methods that the Concessionaire shall implement to protect small watercourses alongside the construction track from contamination by fill or runoff sediment either by a suitable stand-off distance or by way of physical barriers (including but not limited to silt protection fencing or rock rip-rap).*[162]

[162] Applicants proposed concession conditions attached as Appendix A(vii) to this report

Soil Moisture and Surface Hydrology

The Applicant has not well analysed how water runoff paths and seepages are going to be managed particularly with track hardening of the construction / mountain bike track.

There is the potential for hydrology to be altered, and this would be a potential significant adverse effect. Particularly if there is a sensitive wetland located nearby – disrupted flow paths may restrict the flow of water to a wetland causing habitat modification.

Extensive disruption of subsurface/soil moisture hydrology would occur along construction alignments. This would alter conditions for vegetation adjacent to tracks. Such effects are expected on slopes, slope toes, ridges and in or near small scale wetlands.

Subject to effective vegetation rehabilitation of disturbed areas along the monorail track and spur tracks, although there would be short term change to surface hydrology, in the long term these effects should be minor. RHL has proposed a system of monitoring of vegetation alongside the route, and this should be expanded to include monitoring of effects specifically in areas considered particular vulnerable to the effects of changes in surface hydrology.

The mountain bike track would be a permanently hardened track. In the long term this would result in a change in surface hydrology and this would potentially be, particularly near sensitive wetlands, a significant adverse effect, which would need to be avoided.

The route selection criteria proposed by RHL (see 5.5.2 above, states that RHL will have particular regard to wetlands (as significant habitats) and will avoid where possible and/or buffer them from construction activities.

As discussed previously, the Department has some concerns as to whether the Route Selection Criteria could be realistically applied on the ground, but would accept that the advice given by RHL's technical experts is feasible. These criteria will be applied in the final design stage, and prior to construction.

Extensive unavoidable drying and wetting of soils under vegetation adjacent to tracks is an effect to be avoided, remedied or mitigated.

Conclusion:

RHL states that the release of sediments into watercourses along the route would be difficult to avoid. However, they note effects can be substantially avoided or minimised by the adoption of 'best practice' construction procedures and application of route selection criteria.

RHL would need to mitigate the effects on fish by avoiding some in stream construction works, at least in the larger rivers, during the

trout spawning season and in smaller streams during periods when the threatened native species, Gollum galaxias, is spawning.

RHL recommends that changes to stream morphology that may improve trout access should be avoided. To achieve this more detail is required (as part of the development of 'best practice' management plans) as to how areas that currently restrict trout passage are going to be identified and therefore how changes to stream morphology that could improve trout access assessed.

The Construction Management Plan includes provision for the monitoring of water quality at one or more sites up and downstream of any construction works in rivers for the duration of the work. RHL will provide further detail during the detailed design phase of the project as to what monitoring will occur. This monitoring would need to include setting guidelines for acceptable water quality (e.g. turbidity) with real-time monitoring and the provision to temporarily stop work if these guidelines are breeched.

RHL considers that the effects of tall canopy loss on waterways cannot be avoided. They expect that some shade would be regained in time as low vegetation regenerates. The Draft Operations and Environmental Management Plan provides for replanting and rehabilitation of disturbed areas.

RHL's Construction Management Plan provides details of how pollutant runoff will be avoided. The 'spill management strategies' listed in the plan include restrictions on refuelling of machinery over water, regular inspection of machinery to prevent leaks, provision of a spill kit, bunding of hazardous substances, and provision of procedures to follow in the event of a spill. The strategies listed should be sufficient to minimise the risk of pollutant runoff and ensure that any effect on aquatic communities is minor.

To avoid the spread of Didymo RHL advises that a strict equipment cleaning regime before any watercourses are entered will be employed throughout the construction phase.

In order to reduce impacts of construction on watercourses the Construction Management Plan recommends that the construction track route be located to cross streams at the most advantageous location. The management plan also states that at stream crossings, the main track or spur track will make use of light bridging units spanning bank to bank, thereby minimising disturbance to the stream itself. It is not clear if all watercourses will be bridged in this way, presumably this will not be possible for the larger rivers. If the majority of watercourses are bridged during construction this would significantly reduce the risk of pollutant runoff and also Didymo spread.

It is assumed that these light bridging units will be temporary, although RHL notes that bridges will be provided for mountain bikes and signage will be erected to warn users of the risk of spreading Didymo.

Minor stream crossings/bridging would have to be designed not to alter existing fish passage.

Subject to concession conditions including:[163]

- audit and approval of final design, construction methodology and Environmental Management Plans (Erosion and Sediment Control Plan and In River Works Control Plan, including environmental monitoring programme) prior to construction works commencing;
- route selection criteria to avoid effects on wetlands as far as practicable;
- management plans to include monitoring of effects arising from changes to surface hydrology;
- iIn stream/ in river' construction activities to avoid spawning period for *Gollum galaxias*;
- all waterways requiring crossing to be bridged to level suitable for construction activities, and then reverting to standard suitable for ongoing mountain bike use; and
- measures to avoid spread of Didymo to be developed as part of concession;

it is considered that the effects of the proposed monorail and construction track / mountain bike track could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the water quality and aquatic biodiversity values of the Land would be minor.

(c) Effects on Water Quality and Aquatic Biodiversity - Proposed Activities at Te Anau Downs

Lake Te Anau borders the Te Anau monorail terminus and aquatic communities there may be affected by construction and operation of the proposed monorail and terminal facility (including toilets).

RHL has not provided detailed construction plans and methodology regarding construction and operation of this area, and final plans would need to ensure that sewerage treatment, waste water, and groundwater was appropriately managed to ensure that there was no adverse effects on water quality of waterways in the National Park, including Lake Te Anau.

It is considered that there would be feasible methods to manage construction and operation of the facilities proposed at Te Anau

[163] See also Appendix 1 of this report "Proposed Special Conditions"

Downs, and that any potential adverse effects on water quality and aquatic communities could be avoided/mitigated.

Subject to concession conditions including:[164]

- Audit and approval of final 'on the ground' specifications and plans (Erosion and Sediment Control Plan and In River Works Control Plan in particular) prior to construction works commencing;

it is considered that the effects of the proposed activities at Te Anau Downs could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the water quality and aquatic biodiversity values of the Land would be minor.

(d) Effects on Water Quality and Aquatic Biodiversity Mountain Bike Track where it separates from Monorail Track 'Cycle Link Route'.

As discussed previously in this report, the description of the proposed 'Cycle Link Route' (and construction thereof) and assessment of effects provided by RHL is minimal.

That said, the construction of approximately 17 km of a 3 m wide track is an activity which the Department can reasonably foresee and understand the potential level of effect (given its' own expertise and experience in track construction). In respect of potential impacts on water quality and aquatic biodiversity, it is noted that this route crosses the Dome Mire and other wetlands. RHL would need to demonstrate that any changes to the hydrology of these waterways, and potential adverse effects on aquatic biodiversity in these waterways could be avoided as part of the final design stage of the proposed developments.

5.2.4 EFFECTS ON VISUAL LANDSCAPE

This section of the report discusses potential effects of the proposed developments on the intrinsic landscape value of the public conservation land subject of this concession Application.

Effects on Other Users are discussed in section 5.2.5 below this report.

(a) Activities at the Mararoa River - Kiwi Burn Terminus, Monorail & Access Road

Visibility:

RHL has provided concept design for the terminus building at the Kiwi Burn.[165] This concept design and visual assessment was in relation to the previous proposed site (Kiwi Burn 1) and is not directly relevant to location currently proposed (Kiwi Burn 2). RHL have confirmed however that they do not intend to alter the original

[164] See also Appendix 1 of this report "Proposed Special Conditions"
[165] Salmond Architecture. *Fiordland Link Experience Riverstone Holdings. Monorail Terminal Buildings for Kiwi Burn and Te Anau Downs.* (Appendix P).

proposed design of the terminus building.[166]

The area in question is open pasture land, and as such any building will be highly visible. RHL considers that the Kiwi Burn 2 terminus site would be less visible than that proposed originally, as the new site for the terminus is below the existing road and as such better screened by surrounding landform.

Collectively the two obviously engineered structures (terminus building and monorail structure) would be visible in the landscape.

RHL submits however that with appropriate design (form and colour) the terminus building would not appear incongruous in the context of other farm buildings visible in the area (and in the context of modified farmland alongside a road).

Conclusion: In respect of the 'landscape integrity' of this small area of marginal strip, the visual effects of the proposed structures on the marginal strip managed by the Department of Conservation would not be adverse.

The resource consent process would take into account wider visual effects beyond the effects on public conservation land able to be considered by the Minister of Conservation.

Subject to concession conditions including:[167]

- Audit and approval of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved the Department prior to construction commencing; and
- all structures to appropriately coloured so as to minimise visual effects;

it is considered that the effects of the proposed activities at Kiwi Burn could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the visual landscape values of the Land would be minor.

(b) Effects on Visual Landscape - Proposed Monorail and Construction Track/Mountain Bike Track 'Cycle Link Route'

Visibility; As described previously in this report, the monorail comprises a single track ranging from 2 m to 6 m above the ground. In the predominantly steel and concrete structure it would be grey in colour. The monorail train is approximately 2.4 m high by 2.6 m

[166] Mitchell Partnerships *pers comm* 18 February 2011
[167] See also Appendix 1 of this report "Proposed Concession Conditions"

wide. The colour of the train has not been specified by RHL, however it is indicated in the Application that the train would be some shade of green or other natural colour to blend into the landscape.

Effects;

RHL has submitted a technical assessment of the landscape effects of the proposed developments[168].

This assessment is well summarised by RHL's Recreation Technical Advisor (Rob Greenaway) as follows;

'The effects of the proposal on the landscape is assessed and described by Brown (2009). Brown divides the monorail route into 23 sections with common topography, vegetation canopy, understory and river and stream crossings. He assesses the 'temporary' and 'permanent' effects within the monorail corridor, and 'external effects' from vantage points beyond the corridor.

Effects range from no exposure in the Snowdon Forest area beyond the immediate bush canopy, to 'prominence' within the Kiwi Burn Hut Basin, where track relocation is proposed.

Sections of the proposed monorail route with low/moderate or moderate/high external landscape effects, without mitigations, are (see Figure 8 [169]):

- Section 4: Mararoa River Crossing: *Almost entirely screened from Mavora Lakes Rd by intervening river embankments and farmed terraces between the river and road. However, the actual train may be just visible from one or two locations around the road above the intervening terraces. The track would be exposed to the Kiwi Burn Track and those using it, diminishing the natural qualities of the immediate environment to an appreciable degree. Again, however, such effects would be experienced within the context of the modified rural environment that already flanks the Mararoa River.*
- Section 6: Mararoa River Forest: *No exposure beyond the immediate bush canopy, but limited – and highly variable – exposure to some parts of Kiwi Burn Track*.
- Section 7: Kiwi Burn Stream Crossings: *No exposure beyond the immediate forest catchment; however, the*

[168] Brown, S. 2009. *Fiordland Link Experience Landscape Effects Report to accompany application for concession from the Department of Conservation*, (Appendix J). Stephen Brown Environments Limited. Auckland.

[169] Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* Rob Greenaway & Associates. Nelson. Figure 8 page 33. NB; discussion in this assessment regarding Kiwi Burn Terminus is out of date)

track and bridges would be apparent to those using the Kiwi Burn Track approaching or leaving the vicinity of the existing Kiwi Burn Hut. This would adversely affect the wilderness, wildness and remoteness values experienced by trampers and the related levels of perceived intrusion.

- Section 8: Kiwi Burn Hut Basin: *No exposure beyond the immediate forest catchment; however, the track west of the Kiwi Burn Hut would be very prominent within the wider Kiwi Burn Stream basin – especially to the north-east. Although planting might eventually reduce such exposure and reduce the obviousness of the track's 'diagonal line' climbing up the basin wall, this would take some considerable time to ameliorate. The combined track and train would adversely affect the natural character, cohesion and sense of remoteness currently associated with the valley landscape.*
- Section 19: Dunton Flats: *No exposure beyond the immediate terrace catchment and no direct impacts on Dunton Swamp. The track would not affect any private properties (including Takaro Lodge) or other tracks and trails. However, the train, in particular would be intermittently visible across the tussock country south of Dunton Swamp and it would be exposed – at various distances – to users of the four-wheel drive track.*

All other sections were assessed as having low, very low or no external effects

In relation to sections 6, 7 and 8 of the proposed monorail route, Brown states that relocation of sections of the Kiwi Burn Track and the Hut would, 'substantially reduce effects to a Low, even Very Low level'.
Brown concludes that the monorail track would be substantially isolated within the body of forest that flanks the margins of the Snowdon Forest. Although intermittently emerging from the main body of forest at the Mararoa River, Whitestone Basin and River, Upukerora River, and near the Retford Stream, the bulk of the proposed corridor is contained within the beech forest at the margins of the remote area. For the most part, the monorail would not be exposed to significant external catchments or audiences. The track and train would be visible crossing the Mararoa, Whitestone and Upukerora Rivers, but such exposure would be limited to the more immediate confines of the immediate river environs. Where exposed, the monorail itself would, 'largely merge with the tussock and shrubland either side of the corridor', although the train itself would be a more significant – albeit intermittent – feature.

RHL submits that visibility to visitors in the area (subject to the mitigations proposed to relocate various visitor facilities to create

greater separation between visitors and monorail) would be intermittent, and that this 'exposure' would occur near the margins of the Mararoa and Upukerora rivers. Within the tussock covered terraces, RHL states, '*the actual track would have a very low profile. It would, in effect, largely merge with the tussock and shrubland either side of the corridor, even more so once construction rehabilitation has been completed'*[170].

Where the monorail crosses rivers (three separate river crossings proposed) the monorail track would be more visually obvious.

Amended Monorail Route February 2011;

The February 2011 amendment for the Kiwi Burn Terminus location results in a change of monorail track alignment across the Mararoa river Flats on the true right of the Mararoa River. This new alignment brings the monorail more into the open river flat than the previous alignment. As a result the monorail will be more visible from off public conservation land, but given it now has a greater separation from the existing tramping track, it has less visibility to other users in the area using the track.

Avoidance, remediation, mitigation, and minimisation of potential adverse effects;

RHL is clear that the presence of a monorail structure would have an effect on the landscape of the Snowdon Forest Stewardship Area.

They state a number potential adverse effects can be avoided or minimised by careful route selection and monorail design. Other effects could be mitigated by 'blending' the proposed structure as far as possible into the landscape by, for example, replanting of disturbed ground, and the use of recessive natural colours for the monorail train.

It is noted that RHL's landscape report makes reference to locating the monorail track within forest as far as possible, to minimise its' visibility through open river valleys. With all respect, this is inconsistent with RHL's terrestrial ecology assessment stating that the monorail alignment would be in the open and not in the forest wherever possible, in order to minimise the volume of forest vegetation to be removed (and associated effects of forest removal). The considerations in this report in respect of potential effects on flora and fauna[171] has concluded that avoiding valley floor non-forested areas is desirable to avoid and minimise terrestrial ecology effects in this habitat.

Conclusion;

In the absence of a final route design, detailed specifications on monorail alignment across hillsides and ridge lines, and alignment in open river valleys, it is difficult to assess the effect of the proposed activities, in particular the proposed monorail track, on the landscape integrity of the Snowdon Forest Stewardship Area.

[170] Response to external technical audit - Riverstone Holdings Ltd, "Landscape" (undated but received 23 July 2010)
[171] Section 5.2.2 of this report

It can be accepted that the visual effects of the construction track/mountain bike route, subject to the successful implementation of the route selection criteria proposed by RHL to minimise removal of large trees, and subject to successful rehabilitation of spur tracks, would be minor. As a 3 m wide track through the bush it would display very similar characteristics to existing walking and tramping tracks constructed and maintained by the Department on public conservation land. However, it should be noted that as a 3 m wide track it is more akin to track clearances and standards associated with high use 'Great Walk' tracks than the existing backcountry tramping tracks or routes, which are the current norm within the Snowdon Forest Stewardship Area.

In the long term however, the mountain bike track would have largely natural character.

There is no disputing the fact that the monorail track is an engineered structure, and that any engineered structure in a natural setting is a change to that natural setting.

The question is however, how significant, distinctive and 'special' is this landscape. This is a difficult assessment to qualify. Both RHL and the Department's external auditor agree that the area can be characterised an 'outstanding natural landscape'. Neither of these assessments deal with the matter of 'rarity' of the landscape, as such neither provide context for the decision maker to understand the significance of any potential change to this particular landscape.

Without intending to diminish the intrinsic landscape value of the Snowdon Forest Stewardship Area, in the context of other public conservation lands, the visual landscape values of this area are neither rare, unique, or iconic (in comparison to for example the landscape values of Milford Sound, the Eglinton Valley, or the red tussock reserve at Burwood Bush (Red Tussock) Scientific Reserve) The open valley floors would be avoided as far as possible by RHL as per their route selection criteria. The overall visibility of the monorail structure and train would be reduced as far as possible by structure form and colour. There would be however a permanent 'residual' effect - parts of the monorail would be seen. The extent of this visibility would become apparent once final 'on the ground' route selection and design has been carried out.

Subject to concession conditions including:[172]

- audit and approval of final 'on the ground' design confirms that actual effects would not be greater than those identified by RHL;
- all relevant plans are prepared by RHL and approved the Department prior to construction commencing;

[172] See also Appendix 1 of this report "Proposed Concession Conditions"

- all structures to appropriately coloured so as to minimise visual effects; and
- route to avoid open valleys as far as possible;

it is considered that the effects of the proposed monorail and construction track /mountain bike track could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the visual landscape values of the Land would be minor.

(c) Effects on Visual Landscape - Proposed Activities at Te Anau Downs

The developments proposed at Te Anau Downs, as described elsewhere in this report, are the construction of a monorail terminus building, section of monorail track and access road.[173]

The context for the proposed development is a roadside setting which is already modified by the presence of an existing hotel.

The proposed monorail structure and terminus building would be visually obvious from the road; however they would be in character with the existing modifications at the site. The key landscape value of this area is the background lake and mountains. The proposed developments would not detract from this overall scenic grandeur and sense of place.

Subject to concession conditions relating to the colouration and design of the structures (in particular the terminus building) the proposed monorail track, terminus building and associated roading could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the visual landscape values of the land would be minor.

(d) Effects on Visual Landscape - Mountain Bike Track where it separates from Monorail Track 'Cycle Link Route'

RHL has not provided a description or assessment of the visual landscape effects of the 'Cycle Link Route'. On the basis that it would be a 3 m wide track, over relatively flat terrain, its' effect on the landscape values of the public conservation land under application would likely be minor.

5.2.5 EFFECTS ON OTHER USERS

(a) Activities at the Mararoa River - Kiwi Burn Terminus, Monorail & Access Road

Assessments made by the Department is respect of the original site proposed for the terminus, access road and start of the monorail (at the Mararoa River), identified potential issues with 'overlay' of a monorail operation on an existing 'low key' road end visitor site.

[173] See sections 1.3.7 and 1.3.8 of this report

RHL have subsequently amended their proposal to move the terminus and monorail start point downstream to different part of the same marginal strip, in the interests of reducing potential social (and ecological) effects.

Change in use:

The marginal strip where the Kiwi Burn terminus and access road are proposed (Kiwi Burn 2) currently receives little (if any) use.

It is possible that some people use this marginal strip to access the Mararoa River from the Mavora Lakes Road. There is a stile across the fence and a sign indicating 'angler access'. There is little evidence of a worn track [174].

Visitors to the Snowdon Forest, and anglers accessing the Mararoa River, tend utilise the upstream road end and existing swing bridge across the Mararoa River.

The developments and activities proposed by RHL represent a major change in use from the existing low use of this section of marginal strip. RHL propose to run six return monorail / ATV trips per day (12 vehicle movements) in summer, and three return (six movements) trips in winter. Over time as demand increases for the Fiordland Link Experience 'product', RHL suggests capacity would most likely be added in the form of longer trains (and not in the form of additional trips).[175]

However given the low level of existing use at the Kiwi Burn 2 site, the proposed developments here would have little effect on other users.

Mountain Bikers – effects at Mararoa Swing bridge:

RHL intend to convert their construction track for the monorail into a mountain bike track. Mountain bikers would need to access this mountain bike track, which starts at the monorail.

RHL have requested that mountain bikers access this new track (which would start 1.7 km downstream from the Mararoa swing bridge) via the existing road end, swing bridge, and start of the existing Kiwi Burn Track. This would result in 'shared use' of these facilities by 'new' mountain bikers and existing trampers, day walkers and anglers. The Department considers that this would create an unnecessary level of visitor conflict, particularly between trampers /day walkers and mountain bikers, and also an unacceptable level of physical impact on the existing track (designed for walkers).

The existing swing bridge across the Mararoa River, put in and maintained by the Department for walkers, is not a suitable design for mountain bikers, as it is too narrow and cyclists would need to

[174] C Visser, C Hankin *pers obs* 21 February 2011.
[175] Moriarty, J.P *Fiordland Link Experience, a Tourism Assessment* (Appendix K to concession application)

carry bikes across the bridge. Given the construction track / mountain bike track is proposed as 3 m wide track, it is more akin to 'cycleway' standard and suitable for beginner /intermediate cyclists (and family groups). To start this experience with difficult access would negate some of the potential benefit of the new facility to its target user group.

New mountain bike users at the Mararoa swing bridge would likely have adverse physical effects at the road end, as currently the level of facilities here are low. There is limited car parking, and one long drop toilet. These facilities, while adequate for the existing user group, are not adequate for the numbers of new users potentially coming to the area as a direct result of the mountain bike track proposed by RHL.

The effects of overlaying new mountain bikers use over existing recreational use at the Mararoa swing bridge are considered to be unnecessary adverse effects. Given RHL's intention to create separation in other areas between their proposed developments and existing users (for example by building a new hut away from the monorail and mountain bike track so that trampers can avoid these developments) it is considered appropriate that this separation be maintained as far as possible.

It is the Department's view that adverse effects on existing road end users and walkers on the first section of walking track need to be avoided, and that RHL could reasonably and practicably provide appropriate access and facilities at the site of the monorail terminus and start of the monorail track.

This would require RHL to provide the following facilities;

- Toilet facilities (already provided in the terminus building)
- Adequate car parking for mountain bikers
- Appropriate signage for mountain bikers
- Bridging across the Mararoa River for mountain bikers

Conclusion:

There is currently little use of the Kiwi Burn 2 site where RHL propose their terminus facilities and start of the monorail. As such there would be little effect at this location on other users of construction activities or ongoing operation of the monorail.
During construction there would be noise and disturbance of the site. For the people who might visit the site this would be a potential significant adverse unmitigated effect, this effect would however be temporary. There is alternative public access to the Mararoa River 1.7 km upstream, so access to the river is not affected by construction activities.

In the long term, the proposed developments are not so large that

they would impede existing public access to the Mararoa River across this section of marginal strip – the proposed developments occupying approximately 1200 m^2 (including monorail footings) of the estimated 4.35 ha of this part of the marginal strip.

Should this site become the entry point for the mountain bike track, as is the Department's preference, visitor access would be enhanced to the marginal strip (and adjacent waterways).

Ongoing effects;
Subject to mitigation in the form of ensuring adequate parking (and accordingly separation between independent visitors and monorail clients at the Mararoa swing bridge road end), and the provision of adequate toilet facilities for any increased use of the site arising from the proposed developments, the ongoing effects of the proposed activities would be minor on other visitors.

Subject to concession conditions including:[176]

- Provision of adequate car parking for mountain bikers at Kiwi Burn 2 site;
- Provision of public toilet facilities for mountain bikers at Kiwi Burn 2 site;
- Provision of bridge access across Mararoa River to start of mountain bike track at Kiwi Burn 2 site;
- Provision of appropriate signage for mountain bikers;
- Notification of construction works in local newspapers during construction;
- Grantor Approval of final design specifications (including final proposed 'on the ground' locations of all structures and developments prior to construction commencing; and
- Construction noise standards to be adhered to;

it is considered that the long term effects on other users of the proposed developments at the Kiwi Burn could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on other users would be **minor.**

The short term [construction] effects on other users would be **significant adverse effects** for some users. These effects would be **temporary.**

(b) Effects on Other Users Proposed Monorail and Construction Track/Mountain Bike Track

Construction effects; RHL propose to construct the monorail from three 'rolling fronts' simultaneously. At each construction front, numerous activities would occur including vegetation removal/track clearance,

[176] See also Appendix 1 of this report "Proposed Concession Conditions"

earthworks, and placement of foundations and piers. The effects on other users arising from these activities would be disturbance, annoyance and potential displacement as a result of noise, disturbance/conflict and visual impacts.

The noise sources identified by RHL during the construction process include;

- Chainsaws during initial bush clearance
- Bulldozers and/or excavators for track clearance and construction access formation
- Trucks delivering concrete items to site
- Small excavators to dig foundations
- Mobile cranes to place precast concrete

The visual effects of construction activities have not been specifically discussed by RHL, but these would include some visibility to other visitors in the area of the construction activities described above.

The noise assessment[177] submitted by RHL acknowledges that construction noise would be 'more sustained' than ongoing operational noise of the monorail.

RHL notes that construction Noise in New Zealand is generally assessed and controlled using the New Zealand Standard NZS 6803:1999 *'Acoustics – Construction Noise'*. This standard allows construction noise levels during daytime to be somewhat higher than for permanent noise sources on the basis that the effects are of relatively short duration. This standard includes a table of recommended noise limits, depending on the duration of noise. The duration is defined as 'short-term' for construction work at any one location for up to 14 calendar days, 'typical duration' (more than 14 days but less than 20 weeks), or 'long-term' (more than 20 weeks). The standard is concerned about noise at 'any one location'. The recommended noise limits for 'long-term' construction are 70 dBA (L_{eq}) and 85 dBA (L_{max}) during daytime, with typical and short duration 5 and 10 dB more lenient respectively. Adherence to this standard does not guarantee natural values would be protected.

This is because the standard is designed to address nuisance and long term effects from sleep deprivation in predominantly urban / residential settings. There are no guidelines available for protected areas. The expectation of people in these areas in regards to quiet and acceptance of human generated sound will be quite different to those envisaged in the New Zealand Standard NZS 6803:1999 *'Acoustics – Construction Noise'*.

[177] Marshall Day Acoustics 2009. *Fiordland Link Noise Assessment* (Appendix H). Marshall Day Acoustics Limited. Christchurch.

Construction activities, RHL states, would result in noise levels of 65-70 dBA at a distance of 50 m. This level of noise would within the maximum noise limits for 'long term construction' activities for visitors who are at least 50 m distant from those activities.

RHL submits that although the construction of the monorail would exceed 20 weeks, the effects of noise on any one person would not, as users of this area only visit for short periods of time, and they do not stay in one place. Also, the construction activities themselves would take place over three separate construction fronts and progress in a linear manner. Not all 29.5 km of the monorail route on public conservation land would be constructed simultaneously. However, trampers in the area would notice construction noise at times, and this would result in short term adverse effects.

The assessment of social impacts is complex as the severity of effect is influenced by visitor expectations, experience, and to a degree, opinions towards the proposed development.

To mitigate potential noise effects on other visitors RHL proposes a *Construction Noise Management Plan* which would address issues such as;

- *Locating potentially noisy fixed items of equipment such as generators and pumps in areas well away from recreational users, and/or enclosing them.*
- *Replacing equipment with quieter technology.*
- *Ensuring that machinery is well maintained, to avoid 'squeaky tracks' etc.*
- *Undertaking construction at off-peak times of the year as far as possible.*
- *Locating construction sites well away from major recreational areas such as the Kiwi Burn terminus.*[178]

To a degree, visitor expectations and resulting annoyance/dissatisfaction can be influenced by the provision of information, which influences visitor expectations (by giving a realistic expectation) of what they will encounter. On the basis that information, visitors can either choose to visit the area anyway with full knowledge that they are likely to encounter construction activities, or, they can avoid the area altogether. RHL proposes to construct alternative tramping tracks and a new tramping hut in order to achieve separation between existing uses and the monorail/mountain bike track on an ongoing basis (see discussion below). So long as these mitigations were in place prior to construction activities commencing, existing users would be able to largely avoid construction areas.

[178] Marshall Day Acoustics 2009. *Fiordland Link Noise Assessment* (Appendix H). Marshall Day Acoustics Limited. Christchurch. page 13

It is debateable whether RHL's suggestion that they could undertake construction at *'off peak times of the year'* (and so avoid other visitors) is achievable i.e. adequate or reasonable. RHL would attempt to maximise construction efficiency whenever possible, such as when the weather is good. However attempting to avoid peak times of year will further reduce potential effects on other visitors

The Department accepts that visitor use of the Snowdon Forest Stewardship Area is relatively low, and although the construction activities would be incongruous in that natural setting, the number of visitors affected is relatively low.

The potential effects of construction activities of the monorail and mountain bike track on other users could not be totally avoided if the concession was granted. For some visitors in the area, these effects will be significant and they will be adverse. However these potentially significant adverse construction effects would be temporary.

Ongoing Effects;

RHL's Assessment of Recreation Effects[179] overlays the proposed monorail route over existing tracks and huts.

This assessment identifies the following sites potentially affected by the monorail proposal:

- Part of Kiwi Burn round trip and start of Snowdon Forest route: Proposed monorail route.
- Whitestone River to Retford Stream: Proposed monorail route.
- Intersection of Army Hut 4WD access: Proposed monorail route.
- Snowdon Forest hunting area: Proposed monorail route.
- Lake Mistletoe: Proposed monorail route, with the potential for passengers at the Te Anau Downs terminal to visit the site.
- Snowdon Forest area, particularly Snowdon Peak and southern Dunton Range.

RHL's assessment concludes that possibly the most severe potential impact of the proposal on recreation would be from noise effects. They state the monorail and trains would not be visible from most tracks and rivers in the general locality of the route. Trampers and anglers may be able to perceive the noise of the monorail when it cannot be seen, and should noise impacts be severe, any recreational setting in the affected area would be significantly

[179] Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* (Appendix L) Rob Greenaway & Associates. Nelson.

downgraded. RHL's noise assessment[180] considers noise levels from the monorail operation would generally be unacceptable to trampers on tracks which are currently close to the monorail alignment, because man-made noises detract from the wilderness experience which this environment offers, rather than because the monorail would be particularly noisy.

RHL notes that fishing activities would be much less affected because of the reasonably high levels of water noise near the rivers. However, it is possible that a short section of the Mararoa River near the Kiwi Burn Terminus would receive levels of noise which are sufficient to detract from the natural quiet of the area. If the detailed design shows that this would happen, it may be necessary to provide access to an alternative section of river.[181]

Mitigation proposed by RHL:

To mitigate for potential adverse effects on existing trampers, RHL proposes to relocate walking tracks, or upgrade existing alternative routes to ensure that trampers have viable options which are not affected by monorail noise. They propose to:

- *Build a new Kiwi Burn Hut within same ROS class area and in similar setting. Relocate tramping track to outside of noise boundary. Retain existing hut for mountain bike use.* [182]
- *Relocate tramping route Whitestone River to Retford Stream (monorail route) to outside noise boundary of monorail.*
- *Develop underpass for 4WD access at intersection of Army Hut 4WD access, Takaro Lodge walks (monorail route). Maintain intersection with walks at an oblique or perpendicular angle (do not run tracks parallel to the monorail).*

RHL have prepared a draft Recreational Users Management Plan, the objectives and details of which are proposed as follows;

'17. RECREATION USERS MANAGEMENT PLAN

17.1 Prior to the commencement of construction of the concession activities, the Concessionaire shall prepare and submit to the Grantor a Recreation Users Management Plan in accordance with condition 3.1(a)(iii) for approval. The Grantor will audit the Recreation Users Management Plan in accordance with conditions 3.2 – 3.8.

[180] Marshall Day Acoustics 2009. *Fiordland Link Noise Assessment* (Appendix H). Marshall Day Acoustics Limited. Christchurch.
[181] Marshall Day's initial analysis suggests that a buffer zone of around 200m would be appropriate between the monorail and a fishing area.
[182] For description of alternatives see Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* (Appendix L) Rob Greenaway & Associates section 5.7 and 5.8

(a) The overall objectives of the Recreation Users Management Plan shall be to:

i. Minimise the actual or potential effects from construction activities on recreational users in the vicinity of the route to the extent that is practicable;

ii. Provide suitable alternative tracks and facilities for recreational users during construction of the concession activities; and

iii. Avoid, remedy or mitigate adverse effects on recreational users during the operation of the concession activities.

(b) The Recreation Users Management Plan shall contain the following details as a minimum:

i. A description of the timing, sequencing and location of construction activities that may affect recreational users within the surrounding locality;

ii. Provision of suitable alternative tracks and huts available to recreational users during construction;

iii. Location and design of facilities at the Kiwi Burn including car parking and access across the Mararoa River;

iv. The redevelopment of existing facilities to retain existing walking, tramping and hunting values in the area, including realignment of the Kiwi Burn Loop Track;

v. The establishment and location of a new hut accessible from the realigned Kiwi Burn Loop Track;

vi. Development of a 4WD underpass at the intersection of the monorail and Army Hut vehicle access;

vii. The realignment of the Army Hut Walk;

viii. A description of the ongoing maintenance obligations of all recreational facilities and

assets constructed or provided by the Concessionaire as part of this Concession, including the existing Kiwi Burn Hut;

ix. *A description of any informative and safety signage proposed; and*

x. *Details of appropriate bridging of the construction/mountain bike track in accordance with SNZ HB 8630:2004.*[183]

Positive effects;

RHL submit that the construction of a mountain biking track from Kiwi Burn/ Mararoa River to Te Anau Downs has the potential to support a significant, low-impact recreation and tourism option in the region. They suggest that enabling off-road cycling traffic between Queenstown, Mavora Lakes, Te Anau Downs, Te Anau and Manapouri (the 'Three Lakes Ride') would create a regionally important tourism opportunity, but with national and international appeal.

RHL suggest that an increase in the recreational use and diversity of the Snowdon Forest Stewardship Area ('net recreation benefit') would be a positive effect on public conservation land

It is not possible to judge the scale of any positive effect without knowing the target user group, and the standard to which the proposed mountain bike track would be built. This report has assumed that, on the basis the mountain bike track is proposed as a 3 m wide track, that it would be appropriate for a less experienced user group as would be built to cycleway standard. As the existing tramper opportunity to the Kiwi Burn hut is an easy 'beginner' opportunity, it is appropriate that the mountain bike track cater to this user group (as opposed to technical riders).

For the mountain bike track to realise its potential as a 'net recreation benefit' in the Snowdon Forest Stewardship Area, it would need to be used. If the track was constructed as a mountain bike track, and never used, the environmental effects of the track in perpetuity on the conservation values of the Land could not be 'justified' or balanced against positive recreation effects. For this reason it is considered that RHL would need to take responsibility, at least in the short term, for advertising and promoting the existence of the track. The Department also would promote the existence of a new public recreational opportunity on public conservation land, and this is recognised as something that the Department and RHL would need to work together on.

[183] Applicants proposed concession conditions attached as Appendix A(vii) to this report

Although a relatively minor point, there have been no discussions to date as to an appropriate name for the proposed mountain bike track. As the name of the track could may well have an influence on public 'uptake' of any new opportunity, this is something that RHL would need to undertake some work on. RHL would need to consult with the Department and other interested parties (including Iwi) in developing a name for the track; the Department would need to approve this track name to ensure it was appropriate.

Effects of use of Mountain Bike Track;

RHL have not quantified the potential number of mountain bikers who may use the new mountain bike track. The terrestrial ecology effects assessment prepared by RHL notes that mountain bikers may have an effect on the forest, however does not qualify or quantify what these effects might be.

The mountain bike track on public conservation land administered by the Department (including the 'Cycle Link Route') would be approximately 40 km long. Cyclists using this track would need toilet facilities en route, and the Department considers that these would be necessary to avoid adverse effects of toilet waste.

Other Potential Users of Mountain Bike Track;

It is possible (if not probable) that a new 3 m wide hardened mountain bike track running from the Mararoa River to Te Anau Downs, would attract 4WD motorbikes. Mavora Lakes is currently used by four-wheel-drive motorbikes, and the Kiwi Burn is quite close by. There is already a level of four-wheel-drive use in the area along the river banks of the Upukerora River in particular (and on nearby private land adjoining that area. The Department already has concerns about the impacts of inappropriate use of these vehicles at Mavora and on the Ashton Flats.[184]

In order for this mountain bike track to be a positive recreational experience for mountain bikers, it would be necessary to prohibit or constrain potential use of that track by motorised vehicles. This is an issue that would need to be closely looked at in the final design stage of the mountain bike track (in respect of design considerations that could constrain motorised access). There may be ongoing management implications for the Department (for example, there may at some stage in the future be a need to legally prohibit some types of access to some areas of public conservation land).

Conclusion;

The short term construction effects on other users (noise, potential disturbance) cannot be avoided, however they are of short duration (i.e. limited to construction period, estimated at 30 months in total and occurring at different locations along the route). These effects are remedied in the longer term, in that they cease to exist.

[184] M. Harbrow *pers comm*.

In respect of the longer term (operational effects) of the proposed developments, subject to concession conditions including;[185]

- concessionaire to inform public of location, timing and duration of construction activities (the most effective methodology to be agreed between Department and Concessionaire but to include public notice in newspapers, and signage);
- detailed proposals for relocation/redevelopment of tracks (including final design specifications for mountain bike track), new hut and any other public recreational facilities to be provided by the Concessionaire to be provided for Departments approval at the same time as design for all other aspects of the proposed developments;
- concessionaire to provide public toilet facility or facilities at location/locations along the track to be determined in consultation with the Department;
- all track/hut relocation and redevelopment to be completed prior to construction works commencing;
- all new recreational assets constructed by the concessionaire to be serviced and maintained by the concessionaire, to standards set by the Department;
- public to have free and unimpeded access to any new recreational assets constructed by the concessionaire; and
- concessionaire to provide suitable bridging for Mountain Bikers along route;

the long-term effects on other users of the proposed monorail and construction track / mountain bike track could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on other users would be minor.

So long as the new mountain bike opportunity is taken up by recreationalists, this would be a positive effect in that it fosters recreational use of the Snowdon Forest Stewardship Area.

(c) Effects on Other Users Proposed Activities at Te Anau Downs

Visitor use of Te Anau Downs in Fiordland National Park is currently limited to the existing clients of Fiordland National Park Lodge (who lease a large part of this area). Construction of the proposed developments (monorail track, bus turning area and terminus building) at Te Anau Downs would have a high degree of visibility from the State Highway and potentially also from Lake Te Anau. State Highway 94 is not public conservation land; however Lake Te Anau is part Fiordland National Park. Potential adverse effects on visitors in the Park would be moderated by the fact that Te Anau Downs is an already developed site on the edge of the state highway.

[185] See also Appendix 1 of this report Concession Conditions

RHL identifies that the potential effects of visitors to Lake Mistletoe would be 'more than minor' on the basis that the proposed monorail route passes near the Lake Mistletoe parking area. There would also be potential for passengers at the Te Anau Downs terminal to visit Lake Mistletoe, thereby increasing its usage. To mitigate these effects RHL proposes to avoid the parking area (if adopting southern route), to landscape parking area boundary (currently of low standard) and upgrade the Lake Mistletoe track if required to cater for increased use of this facility resulting from their developments.[186]

Mountain bikers would not come out at Lake Mistletoe, but at Henry Creek (see discussion below).

Conclusion; It is considered that the effects of the proposed activities at Te Anau Downs could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on other users to the area would be minor.

(d) Effects on Others Users Mountain Bike Track where it separates from Monorail Track 'Cycle Link Route'

New Visitor Opportunity; The proposed 'Cycle Link Route' would be a new visitor facility and opportunity.

Currently the area has a few existing four-wheel-drive tracks, it is unknown how often these are used, or by whom, except that use is relatively low.[187]. Users of the area are most likely to be people hunting in the area, and the occasional mountain biker. [188]

RHL submits that (as part of a wider recreation opportunity in the form of a mountain bike track linking Te Anau Downs with the Kiwi Burn) this mountain bike track would be a positive effect for recreation.

As noted above, the degree to which the mountain bike track in its entirety would be a positive effect is difficult to judge in the absence of a clear understanding of the target user group.

The 'Cycle Link Route' would be necessary to complete the mountain bike track running alongside the monorail. The alternative would be a mountain bike track which stops at the point where RHL no longer requires access across public conservation land - which would be, in effect, a mountain bike track to the 'middle of nowhere'.

[186] Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* (Appendix L) Rob Greenaway & Associates. Nelson. Table 4: Summary of impacts and mitigations by site

[187] Te Anau Area Office pers comm

[188] Mountain Bike tracks and 4WD tracks observed on site visit Feb 2010 C Visser / B Masser (Te Anau Area Office)

This would not be, by anybody's analysis, a desirable outcome.

Road End Facilities; Some low level road end facilities would need to be provided at the end/start of the track (at Henry Creek), in order to manage and mitigate the effects of users in this area. Currently there are no facilities in this area.

Adequate car parking and signage would need to be provided, and potentially a toilet (depending on the location of the first toilet on the track itself).

RHL would need to provide service and maintain such facilities to mitigate the effects of new visitors to this area.

Conclusion; On the basis that there are currently few users of the area through which the proposed 'Cycle Link Route' would run, there would be little or no effect on other users. Physical effects of new visitors in the area would need to be managed and mitigated by RHL.

Subject to concession conditions including; [189]

- concessionaire to provide appropriate road – end facilities, including toilets and signage, to be determined in consultation with the Grantor;

the long-term effects on other users of the 'Cycle Link Route' could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on other users, and effects of new users, would be minor, and potentially positive.

5.2.6 EFFECTS ON HISTORICAL AND CULTURAL VALUES

Effects and Mitigation; There are no known or recorded historical archaeological or sites in the vicinity of proposed monorail route, works at the Kiwi Burn Terminus site, Te Anau Downs, or the route of the proposed mountain bike track where it separates from the monorail.

As noted in section 3 of this report (Natural, Recreational, Historic and Cultural Values) Hodges Stock Track is located within Snowdon Forest. RHL states the monorail route may run within a few hundred metres of the stock track alignment, however they have not to date defined exactly where the stock track runs.

The exact location of the historic stock track in relation to the final selected monorail route would need to be confirmed as part of the final design stage. The monorail route would not be permitted to impact on this track.

In respect of cultural effects, RHL has provided a Cultural Impact

[189] See also section 8 of this report Concession Conditions

Assessment.[190] In this assessment they state:

'Ngā Rūnanga o Ngāi Tahu will be provided with an opportunity to review and comment on the management plans as they are developed to ensure that their values are protected and the risks minimized. A Koiwi (skeletal remains) and taonga (artefact) accidental discovery protocol will be developed in association with Ngā Rūnanga o Ngāi Tahu and used throughout the construction and operation of the monorail. A draft protocol has been set out in the draft Construction Management Plan.' [191]

It is noted that Nga Rūnanga ki Murihiku have indicated to RHL a desire for further input as appropriate into a final development stage of the project.[192]

Potential impacts on cultural values are largely associated with environmental effect. Should environmental effect be mitigated to the point where they would be minor, any 'flow on' effects on cultural values would also likely be minor.

Conclusion;

Subject to concession conditions including:[193]

- Accidental Discovery Protocol, prepared in consultation with Ngāi Tahu and local Papatipu Rūnanga;
- Any interpretation on matters relating to tangata whenua on public conservation lands subject to consultation / approval local Iwi;
- Location of Hodges Stock Track to be confirmed by RHL and final design to avoid any effects on this track;

it is considered that the effects of the proposed activities at the Kiwi Burn Terminus site, Te Anau Downs, the proposed monorail, construction track / mountain bike track and 'Cycle Link Route' would be reasonably and practicably avoided, remedied or mitigated to the point where any effects on the historical and cultural values of the Land would be minor.

5.2.7 OTHER EFFECTS

Helicopter Landings

It has become explicit relatively late in the concession application process that helicopter landings will be required for construction of the monorail and on an ongoing basis for emergency purposes. A concession is not required for helicopter landings for emergency purposes.

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[190] Te Ao Marama Inc, *Cultural Impact Assessment, Riverstone Holdings Limited for the Fiordland Link Experience* October 2010

[191] See also Applicants Proposed Concession Condition 14 – Archaeological and Heritage Protocols and Plans – attached as appendix A(vii)

[192] Te Ao Marama Inc, *Cultural Impact Assessment, Riverstone Holdings Limited for the Fiordland Link Experience* October 2010

[193] See also section 8 of this report "Proposed Special Conditions"

RHL state;

You have requested details regarding likely helicopter movements during construction and on an on-going basis for assessment purposes. Opus has advised that the construction methodology does not generally involve access by air, but that from time to time helicopter use may be required and may be an essential part of the project. In such circumstances helicopters might be used for:

- *Establishment of survey control[194] early on in project. Once the track is established however there should really be no requirement to fly;*
- *Monitoring during construction – potentially to check on progress, take photos, vegetation monitoring, monitoring of effects;*
- *Possible heli-logging of large trees during clearing of the route to minimise/avoid collateral damage;*
- *Construction of structures in environmentally sensitive or topographically challenging sites;*
- *Emergency access.*

Based on the above, Opus has advised that a rough estimate is that the survey control could take approximately one month, with 2 to 3 flights necessary each day. Thereafter it may be that 2 to 3 flights would be occurring once a week (for half a day maximum usage – one in, one out) during the construction phase. The use of helicopter for emergency is unable to be estimated; however it is of course not anticipated and would only be required in the event of a serious accident.

In terms of effects the use of the helicopter is within an area that is relatively remote, and therefore reduces the effects of noise on people and communities. The use of helicopters for components of the construction will also seek to reduce the adverse effects arising on terrestrial ecology values within the area. Helicopter use will minimise any requirement for additional access tracks, and the removal of vegetation by helicopters in environmentally sensitive areas is a preferred methodology in terms of reducing effects on ecological values overall. In addition noise associated with the temporary use of helicopters will be managed in accordance with the construction noise standard. This will be provided for as part of the Construction Management Plan.

Overall it is considered that the use of helicopters will be temporary and as such any adverse effects will not be significant.

The use of helicopters once the monorail is operational will be minimal. The circumstances of such use will likely be limited to emergency access, and where it may be necessary for maintenance

[194] Survey Control involves the placement of temporary GPS equipment on various sites around the proposed monorail route – readings will be taken and then the equipment removed.

purposes to access via helicopter. Prior to the monorail becoming operational, a helicopter protocol would be submitted for approval. We have suggested amended conditions to reflect this.'[195]

The Snowdon Conservation Area is identified in the Mainland Southland –West Otago Conservation Management Strategy as a 'low impact' recreational opportunity. The objectives of this area are to provide a low impact opportunity, where users are self reliant. In this context, the CMS states that aircraft landings will be permitted for management purposes only. As discussed in section 5.1.2 of this report above[196], the CMS cannot bind the Minister and prohibit her considering the application and to consider the effect of helicopter landings.

The number of landings proposed by RHL to carry out survey work and construction of the monorail are low. They are however likely in excess of the existing level of aircraft activity in the area, which to date is infrequent and associated with works carried out by the Department

It is considered however, given the low level of recreational use of the area, that the short term infrequent landings proposed by RHL will have minor effects on other visitors. Should aircraft landings (apart from emergency purposes and 'extraordinary' management and maintenance purposes, for example removal of trees from the track or track repairs) be restricted to the pre-construction /construction phase only, the long term /ongoing effects of aircraft activity in the area will be minor.

To minimise the number of landings and effects of landings RHL propose the following as a concession condition;

'25. AIRCRAFT ACCESS

25.1 In principle, the Concessionaire shall avoid landing aircraft within public conservation land, except that helicopter landings are permitted in the following circumstances:

- *(a) During emergency situations either during construction or operation;*
- *(b) Establishment of survey control early on in project;*
- *(c) Monitoring during construction – to check on progress, take photos, undertake vegetation monitoring and monitoring of effects;*
- *(d) Heli-logging of large trees during clearing of the route to minimise/avoid collateral damage; and*
- *(e) Construction of structures in environmentally sensitive or topographically challenging sites.*

[195] Mitchell Partnerships 2011 *Memorandum; Applicant's Response to the Draft Determination Report 21 October 2011*

[196] Discussions regarding provisions of the Mainland Southland West Otago CMS

25.2 Details of planned helicopter landings shall be provided in the Construction Management Plan and in the Operational Management Plan.

25.3 All other aircraft access is permitted with authorised Aircraft concessionaires only.'

To ensure that the adverse effects of helicopter landings which could occur under the operating conditions suggested above would be minor the Department would seek to limit landings during the construction period (the construction period being 30 months) to a maximum of 2 landings per 7 day period, subject to the Concessionaire providing details of planned helicopter landings in their Construction and Operational Management Plan.

Cost/management implications for the Department of Conservation;

It is not explicit on the concession Application whether RHL agrees to ongoing management, servicing and maintenance of the proposed mountain bike track, other facilities associated with the mountain bike track (such as any toilet facilities), or new huts (new hut in the Kiwi burn) and tracks offered as mitigation of adverse social effects arising from monorail operation.

Although not explicitly a relevant matter for consideration to the Minister in determining whether a concession for a monorail could be granted or not, it is relevant to consider that the ongoing management and maintenance of a public use facility in the form of a mountain bike track, relocated tracks and new hut has financial and management implications for the Department. RHL is aware of these issues, and has agreed to enter into discussions with the Department to ensure that any new public facilities are appropriately funded and managed in the long term.

RHL has applied to build various visitor facilities as part of this concession, and these are not facilities that would otherwise likely be built by the Department. Accordingly it would be the Departments intent that any new visitor assets and facilities be managed by the Concessionaire, for the term of any concession.

This arrangement would most likely be authorised via a management agreement as a condition of any concession.

Effects at Milford Sound/Piopiotahi;

RHL states that the Fiordland Link Experience would spread visitor arrivals into Milford Sound/Piopiotahi.

Travel time from Queenstown to Te Anau Downs would be at least 1 hr 45 minutes via the Fiordland Link Experience and monorail.[197]

[197] Moriarty, J.P *Fiordland Link Experience, a Tourism Assessment* (Appendix K), and Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November

Adverse weather could slow down the travel time, and passenger egress to /from the different forms of transport could also add to the travel time.

Travelling by road from Queenstown to Te Anau Downs (existing transport option) takes approximately 2.5 hours.

From Te Anau Downs, monorail passengers would continue to Milford Sound by coach.

The time savings made by the Fiordland Link Experience on a one-way journey therefore is around 45 minutes travelling time, which may slightly shift visitor arrivals from the existing peak arrivals between 10am and 2pm.

Any shift in visitor arrivals to Milford Sound /Piopiotahi potentially a positive effect on visitor experience. This effect should not be overstated however, as it remains largely speculative and dependant of various factors not directly under the control of RHL, including other modes of transport to Milford.

Regional tourism benefits;

RHL has provided an assessment on the wider economic benefits of the proposal.[198] This information has not been assessed or considered as part of this concession process, as these are not matters of relevance for consideration by the Minister of Conservation pursuant to the Conservation Act 1987 or the National Parks Act 1980.

Guided Mountain Biking;

RHL have not applied for a concession to operate guided mountain biking on any track constructed by them. This track would be a public facility in the form of a non exclusive easement. Any commercial operator would require a concession to operate on the track from the Department.

Fire Risk (monorail operation)

Although the external audit carried out by the Department (in particular engineering audit) did not identify a risk of fire associated with the monorail, it is prudent to ensure that the monorail would not pose a fire risk to public conservation lands.

RHL have identified the need to prepare an 'Operational Risk Management Plan' to '*identify potential risks and determine a risk management strategy with the options being to avoid, to mitigate, to transfer or accept those risks' including risks associated with fire* [199]

Final design specifications for the monorail will be audited by the

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2009 p. 58. Adverse weather could slow down the travel time, and passenger egress to /from the different forms of transport could also add to the travel time.

[198] Moriarty, J.P *Fiordland Link Experience, a Tourism Assessment.*

[199] See also proposed special condition 12 'Construction Management Plan – Risk Management Plan'

Department and will require approval prior to construction commencing and fire risk is an aspect that be considered at that point (once the details of the particular monorail train have been determined) [200]

5.2.8 SUMMARY AND CONCLUSIONS REGARDING ASSESSMENT OF EFFECTS

Section 17 U of the Conservation Act 1987 (Matters to be considered by Minister) states that the Minister shall have regard to various matters including:

> *'The effects of the activity, structure, or facility'* and *'any measures that can reasonably and practicably be undertaken to avoid, remedy, or mitigate any adverse effects of the activity'.* [201]

Section 17 U (2) of the Conservation Act 1987 states:

> *'The Minister may decline any application if the Minister considers that –*
> *(a) the information available is insufficient or inadequate to enable him or her to assess the effects (including the effects of any proposed methods to avoid, remedy, or mitigate the adverse effects) of any activity, structure, or facility; or*
> *(b) there are no adequate methods or no reasonable methods for remedying, avoiding, or mitigating the adverse effects of the activity, structure or facility.'*

Section 17U (3) of the Conservation Act 1987 states:

'The Minister shall not grant an application for a concession if the proposed activity is contrary to the provisions of this Act or the purposes for which the land is held.'

The areas under application are contained within national park, stewardship area and marginal strip managed under the Conservation Act 1987 and National Parks Act 1980.

The purpose for which land is held as set out in detail, and discussed in section 5.1 of this report.

In summary; conservation stewardship area is held for the purpose that
'every stewardship area shall so be managed that it's natural and historic resources are protected [202]*.*

Marginal Strip is held;

> *'(a) for conservation purposes, in particular-*
> *(i) the maintenance of adjacent watercourses or bodies of water; and*
> *(ii) the maintenance of water quality; and*
> *(iii) the maintenance of aquatic life and the control of harmful species of aquatic life; and*
> *(iv) the protection of the marginal strips and their natural values; and*
> *(b) to enable public access to any adjacent watercourses or bodies of water; and*
> *(c) for public recreational use of the marginal strips and adjacent watercourses or bodies of water.'* [203]

[200] Proposed Special Condition 3 re audit and 30 re fire
[201] Conservation Act 1987 sections 17U(1)(b) and (c)
[202] Conservation Act 1987 section 25
[203] Conservation Act 1987 section 24(c)

National Parks are held;

> *'for the purpose of preserving in perpetuity as national parks, for their intrinsic worth and for the benefit, use and enjoyment of the public, areas of New Zealand that contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that the preservation is in the national interest.'*[204]

The Minister of Conservation is required to consider whether (subject to measures that can reasonably and practicably be undertaken to avoid, remedy or mitigate effects) the effects of proposal is likely to be contrary for the purpose for which the public conservation land is held (as described above).

The effects of the activities proposed by RHL have been challenging to assess in the context of the requirements of part 3B of the Conservation Act 1987.

Particular challenges are posed by;

- The envelope approach proposed by RHL, whereby final route location and design of two separate linear clearances across 29.5 km of public conservation land (within the 200 m corridor) is finalised once a concession (subject to conditions) has been granted.
- The 'adaptive management' approach proposed by RHL whereby final management plans for determining, avoiding and mitigating adverse effects are finalised after final route selection (to take into account the exact route once final design has been determined).

RHL has carried out and provided substantial environmental impact assessment reports, which are indicative of the scale of potential effects arising from the proposed activities. They have provided draft environmental management plans, and proposed concession conditions to demonstrate measures available and proposed to avoid remedy and mitigate potential adverse effects**.** These plans and conditions have been updated and revised by RHL throughout the application process.

The Department largely accepts RHL's assessment of environmental effect, and accepts that the final design stage (including further refinement of management plans) would be likely to avoid or mitigate significant adverse effects as described by RHL's technical experts.

This report has assessed effects as either 'temporary', 'minor', 'potentially significant adverse unmitigated effects' or 'positive' effects. Any of these effects may also be 'residual' effects.

The discussions in the report above conclude that, subject to the successful implementation of 'best practice' construction techniques and concession conditions, the potential effects of the proposed developments can be reasonably and practicably avoided, remedied or mitigated to the point where they would be minor.

There would be however, significant adverse effects during construction in the form of noise and disturbance to other users. These effects cannot be avoided. These effects will be temporary, and remedied in the long term.

This report considers that there would be a number of residual adverse effects which would be permanent effects on the Land.

These effects are;

[204] National Parks Act 1980 section 4.

- Displacement of some other users, who will object to the presence of the monorail and would not 'take up' the alternative recreational opportunity;
- Permanent loss of 22ha of forest habitat, and 4.35ha of non-forest habitat (as currently proposed);
- Ongoing risk of weed invasion on areas that have been cleared; and
- Visibility of parts of monorail structure and termini buildings in the landscape.

This report considers these effects are not adverse to the extent where they are contrary to the protection or preservation of the public conservation land.

In summary;

Effects of Landform (see section 5.2.1 above)

- Earthworks will be required for development of the terminus buildings, monorail track and construction track / mountain bike track. The plans and assessments provided by RHL to date suggest low levels of excavations will be required, however this would need to be confirmed at final 'on the ground' design stage.
- Potential effects arising from earthworks include geotechnical effects (potential erosion and slippage of surrounding landform – which have both a physical and a visual effect) and direct effects of increasing sedimentation into surrounding waterways and resulting potentially adverse effects on water quality and aquatic biodiversity.
- These effects can be mitigated by best practice construction techniques and concession conditions, including prompt rehabilitation of disturbed ground, appropriate erosion and sediment control measures and minimisation of earthworks.
- Subject to concession conditions it is considered that the effects of the proposed monorail, construction track / mountain bike track, terminus buildings, associated roading around terminus buildings, and new hut and associated track re-routes proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where <u>those effects on the Landform values of the Land would be minor.</u>

Effects on Flora and Fauna (see section 5.2.2 above)

- The vegetation clearances required to construct and operate the proposed developments are significant. As detailed in this report, 26 ha of combined forest and non – forest habitat would require clearance to form the monorail track and construction track / mountain bike track. In addition to the permanent habitat loss, some level of additional effect in the surrounding edges of the proposed forest clearance is expected. This 'edge effect' is estimated by the Department as being an additional 45.8 ha, and as discussed in section 5.2.2 (b) of this report above, is an area within which there is likely to be some level of environmental change in response to increased light, micro-climatic changes and wind throw.
- Without meaning to diminish the habitat values of the Snowdon Forest Stewardship Area, in the context of this area and nearby Fiordland National Park, the flora and fauna values affected by the proposed clearances are not rare. RHL propose to avoid effects through route selection and design (avoidance of large trees and habitats of particular ecological value), and mitigate effects through ongoing monitoring and response to effects resulting from their operation (weed and pest invasion in particular).
- These effects can be mitigated by best practice construction techniques and concession conditions, including prompt rehabilitation of disturbed vegetation, survey of trees for bats, and route selection to avoid, as far as possible, large trees, non – forested habitats, and any rare or threatened plant specimen.

- Subject to concession conditions it is considered that the effects of the proposed monorail, construction track / mountain bike track, terminus buildings, associated roading around terminus buildings, and new hut and associated track re-routes proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the Flora and Fauna values of the Land would be minor.
- That said, there would be however residual effects in the form of permanent habitat modification and habitat loss in the Snowdon Forest Stewardship Area.

Effects on Water Quality and Aquatic Biodiversity (see section 5.2.3 above)

- The works proposed by RHL would have potential effects on water quality. Construction activities would potentially increase sedimentation/turbity into surrounding waterways. Although an adverse visual effect, in the context of construction works being of relatively short duration, and the high flow / flood flows of the waterways in question, these effects are not considered to be significantly adverse.
- Changes to soil moisture and surface hydrology would result from forming and hardening track surfaces, which would manifest as changes to track edge vegetation and in nearby wetlands.
- These effects can be mitigated by best practice construction techniques and concession conditions, including prompt rehabilitation of disturbed vegetation, and route selection to avoid wetland areas.
- Subject to concession conditions it is considered that the effects of the proposed monorail, construction track / mountain bike track, terminus buildings, associated roading around terminus buildings, and new hut and associated track re-routes proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the Water Quality and Aquatic Biodiversity (of the Land under application) would be minor.

Effects on Visual Landscape (see section 5.2.4 above)

- The developments proposed by RHL would be visually obvious in the landscape in which they are placed. RHL propose to minimise these effects through a combination of structure location and design, and re-route of sections of walking tracks to achieve greater visual separation between users.
- In the context of the low level of use of the Snowdon Forest Stewardship Area, and the visual landscape character being not particularly rare or distinctive (however still highly natural), these visual effects are not considered to be significantly adverse. That said, non-forested / grassland habitats in the area are considered to have 'higher' visual landscape value than the forest habitats, and accordingly would need to be avoided as far as possible. This, and other requirements to minimise visibility of all developments as far as possible, are proposed as concession conditions to avoid and mitigate effects on visual landscape.
- Subject to concession conditions it is considered that the effects of the proposed monorail, construction track / mountain bike track, terminus buildings, associated roading around terminus buildings, and new hut and associated track re-routes proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the Visual Landscape values of the Land would be minor.
- That said, there would be however residual effects in the form of permanent visible structures in the Snowdon Forest Stewardship Area.

Effects on Other Users (see section 5.2.5 above)

- Assessing the effects on existing users is complex. Whether or not people are adversely affected will be influenced by their personal expectations, experiences and feelings towards the appropriateness and desirability of the developments proposed by RHL.

- The proposed developments will be noticeable to other existing users. RHL intend to reduce this 'noticability' by providing visual separation between walkers and the monorail, by re-routing sections of the existing tramping track.
- The existing recreational opportunity to the Kiwi Burn hut will essentially be lost, as the monorail would pass directly in front of this hut. RHL intend to 'relocate' this experience, by providing another hut nearby. The Department considers it feasible that this opportunity be relocated. Now that the monorail start point is no longer intended at the Mararoa swing bridge, it has become more likely that a 'beginner' tramping experience could be provided from the Mararoa swing bridge that largely avoids any direct contact with the monorail and new mountain bike track.
- RHL suggest that there would be a 'net recreation benefit' to the Snowdon Forest Stewardship Area resulting from the provision of a mountain bike track running from the Mararoa swing bridge to Te Anau Downs. Although this is likely, in the absence of any feasibility study as to how many people would use the track, or the user group it is designed for, it is not possible to quantify the scale of any 'net recreation benefit'. In the context of the Government New Zealand Cycle Trail Project *Nga Haerenga*[205] it is possible that this opportunity would link into other cycle trail proposals in the area. At this stage these are in the planning stage, as the potential 'synergies' between a cycle track through the Snowdon Forest and other routes cannot be assessed.
- Subject to concession conditions it is considered that the effects of the proposed monorail, construction track / mountain bike track, terminus buildings, associated roading around terminus buildings, and new hut and associated track re-routes proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on other users would be minor, and potentially positive in the form of a new public access mountain bike track.
- That said, there would be however residual effects in the form of some visitors likely to be displaced from the current recreation opportunity in the Snowdon Forest Stewardship Area
- There will be a low level of aircraft landings associated with the final design and construction of the monorail. Ongoing aircraft access will be required for emergency purposes, and also (it is likely) 'extraordinary' maintenance. These effects would be minor.

Effects on Historical and Cultural Values (see section 5.2.6 of this report above)

- The assessments carried out by RHL and comment on those assessments by Papatipu Runanga have not identified any particular concerns in regard to effects on cultural and historical values, so long as other environmental effects can be avoided or appropriately mitigated.
- The Department has identified various concession conditions that would avoid or mitigate potential effects on cultural and historical values, including identification of the location of Hodges Stock Track, avoidance of any modifications of the existing Kiwi Burn Hut that would compromise its historic integrity, adherence to accidental discovery protocols in respect of discovery of historical artefacts and skeletal remains, and ongoing liaison with Papatipu Rūnanga.
- Subject to these concession conditions it is considered that the effects of the proposed monorail, construction track / mountain bike track, terminus buildings, associated roading around terminus buildings, and new hut and associated track re-routes proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where those effects on the historical and cultural values of the land would be minor.

[205] Ministry of Tourism

5.3 CONSIDERATIONS REGARDING TYPE OF CONCESSION – LEASE, LICENCE, PERMIT, AND EASEMENT.

The Conservation Act 1987 contains various provisions relevant to determining the appropriate type of Concession. These are:

- Section 17Q - Powers to Grant Concessions;
- Section 17U(5) - Interest in Land;
- Section 17U(6)- Exclusive Possession, and;
- Section 17V - Limitations on Concessions and Leases over marginal strips.

These are discussed below.

Section 17Q (1) and (2) of the Conservation Act 1987 states:

> *'(1) subject to this part of this Act, the Minister may grant a concession in the form of a lease, licence, permit or easement in respect of any activity.*
> *(2) the Minister shall not grant an easement in respect of an activity if a lease, licence or permit may be granted in respect of the activity and the Minister considers that a lease, licence or permit is more appropriate in that case.'* (Emphasis added).

Comment

RHL have applied for an easement for all aspects of their proposed activity (construction, operation and maintenance of a monorail, construction track / mountain bike track, and associated termini and facilities).

On the basis that RHL would require exclusive occupation for the footprint of the terminus buildings and the ability to 'close' these buildings from the public (that is – these are not buildings which would necessarily be accessible to the public at all times), it is considered that a lease would be more appropriate than an easement for the footprint of those buildings.

In respect of the area surrounding those buildings (comprising roading, the monorail track, and car parking) these would not need to be exclusively occupied by RHL, in which case an easement would be appropriate. A lease or licence would not be more appropriate in this case.

The monorail structure is essentially a bridge type structure. While the footings of this structure are in effect 'exclusive occupation', the area around and under the monorail is open and accessible to the public. Substantively the monorail structure is not an exclusive occupation of land, and an easement would be appropriate. A lease or licence would not be more appropriate in this case.
Likewise the construction track / mountain bike track, being a facility that is available for public use, would appropriately be an easement. A lease or licence would not be more appropriate for this track.

In respect of the new hut proposed in the Kiwi Burn Valley and other pubic facilities along the track (toilets and shelters), these will be public facilities constructed by the concessionaire. , A licence for construction would be appropriate. In respect of ongoing 'occupation' of these structures, who 'owns' these structure in the long term (the Department or Riverstone Holdings) it is still to be resolved with RHL. It is the Departments' intent, and a proposed condition of grant of any concession to RHL, that RHL contribute substantially to the costs of maintaining all new public recreational infrastructure which has been constructed by RHL as mitigation of effects of their activity. In relation to any new hut in the Kiwi Burn Valley and day shelters along the track, whether this most appropriately implemented via a

concession) or a management agreement with the Department (whereby the Department owns the structure but RHL contributes to its maintenance) is still be resolved.

A lease or licence granting an interest in land may only be granted pursuant to section 17U (5) (Interest in Land) of the Conservation Act 1987 which states;

> *'The Minister may grant a lease or a licence (other than a profit à prendre) granting an interest in land only if-*
> *(a) The lease or licence relates to one or more fixed structures and facilities (which structures and facilities do not include any track or road except where the track or road is an integral part of a larger facility); and*
> *(b) In any case where the application includes an area or areas around the structure or facility, -*
> *(i) Either:*
> *(A) It is necessary for the purposes of safety or security of the site, structure, or facility to include any area or areas (including any security fence) around the structure or facility; or*
> *(B) It is necessary to include any clearly defined area or areas that are an integral part of the activity on the land; and*
> *(ii) The grant of a lease or licence granting an interest in land is essential to enable the activity to be carried on.'*

Section 17U (6) Exclusive Possession states:

> *'No lease may be granted unless the Applicant satisfies the Minister that exclusive possession is necessary for-*
> *(a) The protection of public safety; or*
> *(b) The protection of the physical security of the activity concerned; or*
> *(c) The competent operation of the activity concerned.'*

For the purposes of subsection (6) of this section, the competent operation of an activity includes the necessity for the activity to achieve adequate investment and maintenance.

Comment

The 'footprint' of the proposed termini buildings would be an integral part of the activity. Exclusive possession would be required to enable the competent operation of the activity
That said, section 17V (3) of the Conservation Act 1987 constrains the Minister's ability to grant a lease on marginal strip (the proposed Kiwi Burn terminus site at the Mararoa River is on marginal strip).

Restrictions on granting leases over marginal strip.

Section 17V (3) of the Conservation Act 1987 states:

> *'(3) the Minister shall not grant a lease (other than a lease that formalises and occupation of the land, where that occupation existed before the 10th day of April 1990) over a marginal strip unless he or she is satisfied that -*
> *(a) the grant is permitted by this Part of this Act; and*
> *(b) the activities authorised by the lease require the use of both the marginal strip and the adjacent water; and*
> *(c) the land, structures, and facilities to which the lease relates are essential to the carrying out of such activities.'*

To determine whether or not grant of a concession can be *'permitted by this part of the Act'* (section 17V (3) (a)) regard must be had to the provisions of part 3B of the Conservation Act 1987. These considerations are set out in this report, including 'Purpose for which the Land is held' (section 5.1 of this report) and Analysis of Effects of Activity (section 5.2 of this report). These discussions conclude that;

i. the proposed structures on the marginal strip would not be contrary to the purpose for which the land is held as marginal strip, as these structures would not constrain public access to the marginal strip/ marginal strips (or to the adjacent waterways), and;
ii. subject to concession conditions, the effects of the proposed activities on the marginal strip/marginal strips could be reasonably and practicably avoided, remedied or mitigated to the point where those effects would be minor.

The marginal strip, on which the monorail and terminus structure (and associated roading) is proposed, is large. It runs the length of the Mararoa River and is estimated in its' entirety to be approximately 71 ha. The part of this marginal strip on which the Kiwi Burns developments are proposed is approximately 4.35 ha. This part of the marginal strip has relatively low natural value, and it is not an area actively managed by the Department. The Department became aware of this part of the marginal strip when assessing the concession application, and suggested to RHL that the effects of their proposed activities would very likely be less in this area than at the Mararoa swing bridge (in respect of separating proposed new use from existing use). This particular site also has the advantage of reducing the monorail by 1.7 km, and associated environmental effects.

Section 17V(3)(b) allows a lease to be granted if the lease requires the use of both the marginal strip and the adjacent water and the land, structures, and facilities to which the lease relates are essential to the carrying out of such activities.
The adjacent water to the marginal strip is both the Mararoa River, and the small un-named tributary flowing through the section of the marginal strip on which the terminus is proposed.

It is a tenuous argument that the proposed terminus building requires use of the both the marginal strip and the adjacent water, as per section 17V (3) (b).

The terminus building and the part of the monorail structure proposed to be situated on the marginal strip are an integral part of the monorail, and as such both are essential to the activity of operating a monorail, as per section 17V(3)(c). The monorail structure is appropriately authorised by way of an easement, and it could be argued that the monorail, as it has to cross the Mararoa River, requires use of both the marginal strip (where the terminus building, an integral part of the monorail operation, will be) and the adjacent water (to cross it and to use the water for sewerage purposes)

RHL have indicated that they intend to take water from the Mararoa River adjoining the marginal strip. The Mararoa River, as noted elsewhere in this report, is not administered by the Department. Resource Consent for this aspect of the activity would be required.

Having regard to the particular circumstances of this specific structure more appropriately authorised by way of a lease (the terminus facility), and the specific circumstance of this small part of marginal strip it is relevant to note;

- the effects of the proposed activity would be significantly less on this part of the marginal strip than on another part 1.7 km upstream of the same marginal strip (a relevant consideration in respect of section 17U(4)(ii) of the Conservation Act 1987);
- the natural values of this part of the marginal strip are relatively low;

- the proposed structures would not constrain public access to the waterways adjacent to the marginal strip;
- the effects of the proposed terminus building (subject to concessions conditions) would be minor; and
- a monorail terminus building could not appropriately be authorised by way of an easement, given that RSH would require the ability to restrict public access to the building.

In terms of s17V(3) and the matters covered above, it is considered a lease can be granted as the lease requires the use of both the marginal strip and the adjacent water and the land, structures, and facilities to which the lease relates are essential to the carrying out of such activities.

Conclusions regarding type of concession – lease, licence, permit and easement.

Having regard to the discussions above, the following types of concessions would be appropriate;

Aspect	Construction works	Operation/maintenance
Monorail track and Mountain Bike track	Easement – 200m wide extending to 300m wide at 'Bluff Slip'	Easement reducing to area occupied by monorail and mountain bike track
Termini facilities	Licence	Lease for footprint
Car parking and roading at termini facilities	Easement	Easement
Hut and shelters	Licence	Management Agreement
Track re-routes	Licence	Management Agreement

5.4 CONSIDERATIONS REGARDING TERM OF CONCESSION

RHL has applied for a term of 49 years for any aspects of the concession which would need to authorised via a lease, and 60 years for any concession which could be authorised via an easement.[206]

Section 17Z of the Conservation Act 1987 (Term of Concession) provides;

'(1) A lease or a licence may be granted for a term (which term shall include all renewals of the lease or licence) not exceeding 30 years or, where the Minister is satisfied that there are exceptional circumstances, for a term not exceeding 60 years.

(2) A permit may be granted for a term not exceeding 5 years but shall not be renewable.

(3) An easement may be granted for a term not exceeding 30 years, but-
(a) In exceptional circumstances, the Minister may grant a term not exceeding 60 years:
(b) Where the easement provides a right of way access to a property to which there is no other practical access, the term may be for such longer period as the Minister considers appropriate.'

[206] Letter from Mitchell Partnerships 4 November 2011.

The reason RHL gives for this term is *'the size of the overall capital investment involved requires a period of concession of this duration to boost provide for an adequate security of return to investors'.*[207]

There is no guidance in the legislation to assist in interpreting what might constitute exceptional circumstances. Case law, albeit in different contexts, has considered 'exceptional circumstances' to mean those which are exceptional, abnormal or unusual, but not necessarily extraordinary, unique or rare.[208]

It is considered that the purpose of the longer term is related to the ability of the concessionaire to be able to guarantee that the business will be able to operate for long enough to gain a reasonable return on the investment. Each individual case must therefore be considered on its merits and it is relevant to consider:

- the expected lifetime of the assets;
- the business economic viability of a major capital project; and
- whether or not there is any conservation related justification provided in claiming exceptional circumstances.

Given the level of investment required for the project, if a concession is granted, a term of 49 years and 60 years is considered appropriate.

Timeframe to execute or exercise concession document

Section 17ZD (2) of the Conservation Act 1987 states that:

'A concession lapses on the expiry of 2 years after the date of commencement of the concession, or after the expiry of such longer period as the Minister may allow, unless the concession is exercised before the end of that period.'

Given the scale of the project, if a concession is granted it would be appropriate to allow a lapse period of 5 years to enable RHL to complete the required planning for the projects. The resource consent process is likely to be lengthy and is yet to be commenced. The detailed design stage is also likely to require extensive research and associated time to complete before construction.

5.5 RELEVANT INFORMATION RELATING TO THE APPLICANT'S ABILITY TO CARRY OUT THE ACTIVITY - SECTION 17S(1)(F)

The Applicant (RHL) a private company which is 100% New Zealand owned. The principal shareholder of RHL is the Infinity Investment Group. The application states:

'Riverstone Holdings Ltd is a privately owned New Zealand company. It has been specifically created to take this project from a concept to an operating business. The company will, at the appropriate times increase equity and raise debt finance to ensure adequate funding for the project. It is envisaged there will be opportunities for local investors to be involved in the capital raising(s). The principal shareholder of Riverstone is currently involved in projects with a combined value in excess of $1.5 billion.

[207] Riverstone Holdings Limited *Department of Conservation Application for Concession Monorail and Mountain Bike Track,* November 2009, p. 8.
[208] See for example *Treasury Technology Holdings Ltd v Commissioner of Inland Revenue* (1998) NZTC 13,752; *Milburn New Zealand Ltd v Commissioner of Inland Revenue* (1998) 18 NZTC 14,005; *Peninsula Watchdog Group (Inc) v Minister of Energy* [1996] 2 NZLR 529 (CA) 536

Current shareholders in Riverstone are Infinity Investment Group Holdings Ltd and Philip Phillips. Bob Robertson, the CEO of Infinity Investment Group is also the Chairman of Riverstone. Other directors are Philip Phillips and John Beattie an Executive Director of Infinity Investment Group Holdings.

The Infinity Investment Group is the majority shareholder (82%) and brings a demonstrated commitment to quality developments and sound environmental practices. Infinity is the largest property developer in the South Island. Current projects include Riverside Village at Albert town, Peninsula Bay in Wanaka, Marina Terrace hotel (200 rooms) in Wanaka and the 7,000 resident Pegasus; a master planned new town north of Christchurch.

Infinity and its principals have demonstrated commitment to environmental causes and leading environmental performance. Infinity is a business member of the Royal Forest and Bird Protection Society of NZ. Infinity was a founding member of the 'Save the Waitaki Trust' and its main benefactor. More recently, both Mr Robertson and Mr Beattie were founding Trustees of the Waitaki Protection Trust. Mr Beattie has also enjoyed a more than 20-year association with the executive of the World Wide Fund for Nature and is the founding Chairman of Sustainable Wanaka. In 2005 Foveran Deer Park, a company affiliated to Infinity, won the Fish and Game New Zealand Environmental Award for Excellence in Riparian Management.

Philip Phillips has many years experience in the tourism and transport businesses and was formerly the Managing Director of the Mount Cook Group Ltd during the 1980s and the Chairman of Queenstown Airport for the Queenstown Lakes District Council.'

Comment;
The business interests involved in RHL/Infinity Investment Group Holdings Ltd have extensive and proven experience in property development. On the face of it this company would have the ability to carry out the proposed activities.

Concession conditions will ensure there are appropriate financial 'safeguards' in place in case of non completion of the proposed developments or business failure (see clause re "Bond" in Appendix 1 of this report).

5.6 ANY RELEVANT ORAL OR WRITTEN SUBMISSIONS RECEIVED AS A RESULT OF PUBLIC NOTIFICATION - SECTION 17U (1) (F)

The effects of this type of activity and the term applied for require this application to be publicly notified pursuant to section 49 of the Conservation Act 1987.

This has not occurred at this point in time

If the recommendation from this report is accepted, then it is recommended that the application be notified in the Herald, Dominion Post, Christchurch Press, Otago Daily Times and Southland Times. Individuals, or groups, may then object, or submit and be heard on the proposal. The objections and submissions will be considered in a 'final' report following notification.

5.7 ANY RELEVANT INFORMATION WHICH MAY BE WITHHELD UNDER THE OFFICIAL INFORMATION ACT 1982 OR THE PRIVACY ACT 1993 - SECTION 17U (1) (G)

Any request for information under the Privacy Act or the Official Information Act would be considered on its merits and on a case by case basis.

5.8 DECLINE OF APPLICATION - SECTION 17U (2)

This provides that the Minister may decline any application if the Minister considers that:

'(a) The information available is insufficient or inadequate to enable him or her to assess the effects (including the effects of any proposed methods to avoid, remedy, or mitigate the adverse effects) of any activity, structure, or facility; or

(b) There are no adequate methods or no reasonable methods for remedying, avoiding, or mitigating the adverse effects of the activity, structure, or facility.'

Comment
The effects of the proposed activities are discussed in section 5.2 of this report.

It is considered that there is sufficient information on the effects of this proposal to enable the Minister to assess the effects of the proposed activity.

It is considered that adherence to the Department's standard conditions and the proposed special conditions would allow RHL to avoid, remedy or mitigate the effects of the application if it is to be granted.

5.9 STRUCTURES – SECTION 17U (4)

Section 17U (4) provides that:
'The Minister shall not grant any application for a concession to build a structure or facility, or to extend or add to an existing structure or facility, where he or she is satisfied that the activity-

(a) Could reasonably be undertaken in another location that-
  (i) Is outside the conservation area to which the application relates; or
  (ii) Is in another conservation area or in another part of the conservation area to which the application relates, where the potential adverse effects would be significantly less; or

(b) Could reasonably use an existing structure or facility or the existing structure or facility without the addition.'

RHL's comments on this section of the Act is attached as Appendix A (ix) of this report. In summary, RHL state;

'Overall it is considered that there are no suitable alternative locations within the conservation estate which the monorail would achieve a lesser level of adverse effects, and similarly, no private land options for the monorail in its entirety that would achieve the objectives of the project. Given this, the construction and operation of the monorail could not reasonably be undertaken elsewhere.

In conclusion:

a) This activity could not reasonably be undertaken outside the conservation estate given the impossibility in accessing private land; and

b) The experience being sought is one largely within conservation land; and

c) The activity could not be undertaken in another conservation area or part of a conservation area where the effects would be significantly less, as in our view this current proposal minimises potential effects on the conservation area; and

d) There is no existing structure or facility that could be utilised for the monorail.

With these conclusions made, there are two parts of the proposed monorail route that have the potential to be relocated, which are likely to result in lesser adverse effects, and would still ensure the Fiordland Link Experience would meet its objectives.

Alternative Terminus Site

As you are aware, and as identified by the Department's external auditors there is an existing marginal strip which extends down from the Mavora Lakes Road to the Mararoa River, downstream of the existing Kiwiburn Swing Bridge (and downstream from the original Kiwiburn terminus location). At your request, this site has been considered by Riverstone as an alternative option to locating the terminus building and associated facilities at Kiwiburn. It has also been identified that this alternative site would shorten the monorail route by approximately 1.7km and would provide a greater degree of separation between existing users and the proposed new activities.

A site visit to assess the feasibility of this alternative site was undertaken in December 2010. Riverstone's experts have confirmed that the site is workable from an engineering perspective and that environmentally the effects on recreation and ecological values are significantly less when compared to the current proposal. On this basis Riverstone would like to proceed with a new alternative, and seeks to amend its application accordingly. Material to support this amendment has been prepared by Riverstone's experts (engineering, recreational and ecological) and this is attached. Revised plans indicating the amended terminus and monorail route are also attached.

We would appreciate if you would consider this letter as formally amending the application in this regard.

As discussed with you at our meeting, we see merit in the mountain bike activity commencing at the existing swing bridge off the Mavora Lakes Road, and making use of part of the Kiwiburn track until it connects with the monorail. However we would be happy to discuss the merits of this approach with you.

Limestone Hill

As you are aware the proposed monorail route currently traverses around Limestone Hill, staying within the Conservation Estate. An alternative route has been identified through Glen Echo Station, which is privately owned land. Riverstone agrees that there is merit in adopting this alternative route which is a more direct line, provides easier terrain and consequently probable lesser ecological effects on the environment. However the current status of Glen Echo Station means that Riverstone is not in a position at this time to commence formal negotiations regarding the future use of this land. In the event a concession is granted and should an opportunity arise to locate the monorail through Glen Echo Station, thus avoiding going around Limestone Hill, Riverstone undertakes to fully investigate this option. On this basis Riverstone seeks to progress with its current proposed route design.

Comment

The amended site for the Kiwiburn Terminus has been considered in this report.

RHL have stated they require access to public conservation land for the structures proposed as they do not have access private land at this stage (note the intention to attempt to access private land in respect of Limestone Hill). The Department accepts this, and considers that at this point in time the proposed structures (terminus buildings and monorail) could be not be reasonably undertaken at another location outside the conservation area or in a different part of the conservation area where the effects would be less..

6.0 OTHER INFORMATION FOR CONSIDERATION

6.1 PAPATIPU RUNANGA

Kaitiaki Roopu was sent the application, including RHL's Cultural Impact Assessment for comment. They provided comment to the Department at a meeting on 2 December 2010.

Kaitiaki Roopu expressed concern that the Historic Places Trust's archaeological interests would be different to that of iwi, and to need for both RHL and the Department to be aware of that. They stated they were in full support of Dean Whaanga's input/decisions regarding the RHL application (that is the Cultural Impact Assessment prepared by Te O Marama.[209]

The application has been sent to Te Runanga o Ngāi Tahu for comment in December 2010 (via hard copy and email). No comment has been received.

6.2 NGĀI TAHU SETTLEMENT CLAIMS ACT 1998

The area is within the takiwa of Ngāi Tahu. Lake Te Anau is subject to statutory acknowledgement (schedule 58) of the Act.

The proposed developments do not directly affect lake Te Anau, and concession conditions will ensure that there are no adverse effects in the lake arising from construction activities.

6.3 SOUTHLAND CONSERVATION BOARD

The Southland Conservation Board was sent the application for comment and provided comment to the Department at a meeting on 2 December 2010. These comments are attached as Appendix A(viii).

The matters raised by the Southland Conservation Board have been considered in the appropriate sections in the body of this report. These comments relate to the effects of the activity and the provisions of the Mainland Southland –West Otago CMS.

6.4 SECTION 55 NATIONAL PARKS ACT.

The section of road at Te Anau Downs would (in addition to a concession) require authorisation pursuant to section 55(2) of the National Parks Act 1980.

[209] Te Ao Marama Inc, *Updated Cultural Impact Assessment, Riverstone Holdings Limited for the Fiordland Link Experience* October 2010

Section 55(2) states;

'Roads with park-

(2) Except with the consent of the Minister, given in accordance with the management plan for a park, no roads may be made over or through the park…'

Consideration in respect of consistency with the FNPMP of the proposed roading at Te Anau Downs is set out in section 5.1 of this report. In summary, this discussion concludes that the proposed road in the Front Country Area of Te Anau Downs would not be contrary to the provisions of the FNPMP.

Having regards to the effects of the proposed activities, the provisions of the FNPMP and the provisions of Part 3B of the Conservation Act 1987, it would be appropriate to (in addition to a concession) grant approval pursuant to section 55(2) of the National Parks Act for the roading developments associated with the monorail and monorail terminus facility at Te Anau Downs (as shown in the application).

7.0 CONCLUSIONS

This report has been prepared pursuant to section 17 S (4) (a) of the Conservation Act 1987. Its purpose is to provide an analysis of the concession application lodged by RHL pursuant to part 3B of the Conservation Act 1987. This report analyses the application within the context of the relevant legislation, the statutory planning framework and actual and potential effects, so that the Minister can consider the application; confirm that it should be notified; and make a decision in principle whether the concession application should be granted or declined, subject to public notification.

The discussions in this report conclude;

1. The information provided by RHL is complete enough to allow consideration pursuant to part 3B of the Conservation Act 1987. Subject to Applicant comment on the contents of this Officers Report, the application is deemed to be complete.

2. Having regard to section 17U(2)(a) of the Conservation Act 1987, it is considered that the information available is sufficient and adequate to enable the Minister of Conservation to assess the effects of the activity.

3. Having regard to sections 17U(1)(c) and 17U(2)(b) of the Conservation Act 1987, it is considered that the potential effects of the developments proposed by RHL could be reasonably and practicably avoided, remedied or mitigated to the point where those effects would be minor. Concession conditions requiring RHL prepare final 'on the ground' design specifications and plans and to obtain the Grantors further approval for those plans before construction can commence, will either confirm the level of effects as being no greater than those assessed in this report to date, or will identify unanticipated effects which RHL would need to demonstrate could appropriately avoided or mitigated before works could commence.

4. Having regard to section 17U(3) of the Conservation Act 1987, it is considered that the proposed activities, subject to effective mitigation of potential adverse effects as discussed in this report (including proposed concession conditions), would not be contrary to the purpose of which the land is held as Stewardship Area, Marginal Strip or National Park.

5. Having regard to the matters set out in 17W of the Conservation Act 1987, it is considered that the proposed activities, subject to effective mitigation of potential adverse effects as discussed in this report (including proposed concession conditions), would be consistent with the provisions of the Mainland Southland/West Otago CMS and the Fiordland National Park Management Plan.

8.0 PROPOSED CONCESSION CONDITIONS

Section 17 X of the Conservation Act 1987 provides that the Minister may impose such conditions as he or she considers appropriate for the activity, structure or facility, including;

'(a) the activity itself, the carrying out of the activity, in the places where it may be carried out....
(*c) the payment of rent, fees and royalties....,*
(d) the payment of compensation to any adverse effects of the activity on the crowns or public interest in the land concerned, unless such compensation has been provided for in the setting of rent,
(e) the provision by the concessionaire of bonds-

(i) to cover any costs incurred by the Minister in carrying out work that the concessionaire has failed to carry out and it was required by the concession document to be carried out; or
(ii) to mitigate any adverse effects arising from but not authorised by the concession or not reasonably foreseen at the time the concession was granted.'

It should also be noted that section 17ZC (3) of the Conservation Act provides that the Minister;

'on request on his or her own motion, may vary the conditions of concession where -...
(b) variation is necessary to deal with significant adverse effects of the activity will not reasonably foreseeable at the time the concession was granted or
(c) variation is necessary because the information made available to the Minister by the concessionaire of the purposes of the concession is application contains inaccuracies the material influence the decision to grant a concession in the effects of the activity permitted by the concession require more appropriate conditions'

In the context of this particular concession application, given the lack of an exact on the ground route and specified final design, should significant adverse effects which have not been reasonably foreseen at this point in time (that is, prior to final on the ground route selection and final detailed design) become evident, the Minister of Conservation has the ability to set further conditions on the activity.

Successful implementation of the concession on the ground would require a systematic, effective and ongoing process of communication and liaison between RHL (the Concessionaire) and the Department (the Grantor), to ensure that prior to construction commencing, the level of environmental effect has been confirmed by the Concessionaire and Grantor to not exceed that which RHL has described in the concession application (and accordingly has been assessed and considered by the Department to this point in time).

Such a process would require ongoing commitment and resources from the Department to enable participation in these discussions in a timely manner.

In addition to the Department's standard concession conditions (which are attached as Appendix C.), Proposed Special Conditions are attached as Appendix 1 to this report.

These conditions include requirement for;

- Project Liaison Officer
- Implementation Protocol
- Preparation of (by Concessionaire) and Grantor Audit and Approval of final Construction Specifications and Plans
- Application of Route Selection Criteria
- Construction Management Plans
- Operational Management Plans

9.0 APPLICANT'S COMMENTS

RHL was sent a preliminary draft Officers Report on 8 March 2011. In response to this draft report RHL revised and amended various management plans and proposed concession conditions. This material has been considered in this report.

Bond

Prior to the finalisation and execution of the concession documentation, the Department would require the applicant to enter into a formal process with an independent professional bond/surety assessment firm (e.g. Golder Associates, URS Corporation) to assess and calculate bond/surety amounts for both the construction and operation phases of the concession. The Department would participate in this exercise as an observer. These bond amounts calculated would be expected to be sufficient to mitigate any adverse effects that fall outside the agreed programme of works and ongoing operation of the project, right through to the complete abandonment of the project with an ensuing full reinstatement

RHL have advised the Department that they wish to have further discussions with the Department in respect of the standard bond clause proposed (by the Department) as a condition of grant. RHL have advised that they are investigating suitable financial arrangements to meet the objectives of the Department in respect of bond. At this point in time these investigations have not been concluded.

The standard bond clause states;

> *The surety must execute (in the case of two or more jointly and severally) in favour of, and on terms acceptable to, the Grantor/ Minister/Lessor a performance bond initially set at NZ$_____ (_____dollars) for due and faithful performance by the Concessionaire of the obligations under the Concession and/or reinstating any disturbed area of the Land to a standard satisfactory to the Grantor/ Minister/Lessor where disturbance has been caused by the Concessionaire or any agent of it and/or otherwise remedying or mitigating any adverse effects of the Concession Activity.*

Imposition of a bond clause by the Minister of Conservation is necessary to ensure that there are appropriate financial safeguards in place to ensure that the adverse effects of the activity can be reasonably and practicably avoided, remedied or mitigated during construction and during the term of the concession. Accordingly this report recommends that the standard bond clause is imposed as condition of any intent to grant at this stage. Should RHL wish to seek a review of this condition (or

any other) should the concession be finally granted, they have recourse via section 17ZJ[210] of the Conservation Act to do so.

10.0 RECOMMENDATION

Pursuant to a written delegation dated 20 May 1998, it is recommended that Barry Hanson, Conservator Southland

1. **Deem** this application to be complete in terms of section 17S of the Conservation Act 1987;

2. **Approve in principle** the granting of concession lease for a term of 49 years and concession licences and easements for a term of 60 years to Riverstone Holdings Limited, subject to the outcome of the public notification process, the Departments standard concession conditions, and special concession conditions identified in Appendix 1 of this report for;

(i) Monorail;
Easement for construction, operation and maintenance of a Monorail on marginal strip, stewardship area, and national park within the area shown on the map attached; (200 m wide easement increasing to 300 m wide at 'Bluff Slip')

(ii) Construction Track/Mountain Bike Track
Easement for the construction and maintenance of a construction track (including spur tracks) and adaptation of that construction track at the conclusion of construction of the Monorail to a Mountain Bike Track on stewardship area within the area shown on the map attached; (200 m wide easement increasing to 300 m wide at 'Bluff Slip')

(iii) Kiwi Burn Terminus;
Lease of 1350m^2 for construction, operation and maintenance of a of terminus building, and Easement for access roading and car parking and other associated facilities on marginal strip (Mararoa River) as shown on the map attached;

(iv) Te Anau Downs Terminus;
Lease of 1350m^2 for construction, operation and maintenance of a of terminus building, and Easement for access roading and car parking and other associated facilities on Fiordland National Park (Te Anau Downs) as shown on the map attached;

(v) Cycle Link Route;
Easement for construction and maintenance of a Mountain Bike Track across public conservation land as shown on the map attached;

(vi) Kiwi Burn Public Hut
Licence for the construction and maintenance of a public hut in the Kiwi Burn Valley, at a final location to be determined in consultation with the Grantor, but within the area shown on the map attached;

(vii) Mountain Bike Track Public Toilets;

[210] Section 17ZJ Reconsideration of Decisions

Licence for the construction, maintenance and servicing of public toilets at a location or locations along the Mountain Bike track, at a final location to be determined in consultation with the Grantor; and

(viii) Other Public Recreational facilities;
Licence for the construction, maintenance and servicing of any other public recreational facilities (including but not limited to road-end car parking, toilets, day shelters and signage) as provided for or required by this Concession.

3. Having regard to the matters set out in this report, **determine** that the intent to grant the application be notified for public comment pursuant to section 17T (4) and 17T (5) of Conservation Act 1987.

4. Having regard to the matters set out in this report, **determine** that public notice be given pursuant to section 49 of Conservation Act 1987 and that notice be given in the Herald, Dominion Post, Christchurch Press, Otago Daily Times and Southland Times.

Report prepared by Chris Visser 15 November 2011

DECISION

Recommendation Approved / Declined

1. Approved / ~~Declined~~

2(i) Approved /~~Declined~~

2(ii) Approved /~~Declined~~

2(iii) Approved /~~Declined~~

2(iv) Approved /~~Declined~~

2(v) Approved /~~Declined~~

2(vi) Approved /~~Declined~~

2(vii) Approved /~~Declined~~

2(viii) Approved /~~Declined~~

3. Approved /~~Declined~~

4. Approved /~~Declined~~

Signed
.....
Barry Hanson Conservator

Date ..... 2 Dec 2011

APPENDICES

Appendix 1 – Proposed Special Conditions and Maps referred to in decision

Special Conditions

Definitions

Practicable:
Means in this context:
the reasonableness and appropriateness of a method for preventing or minimising adverse effects on the environment, having regard, among other things, to:

(a) The nature of the activity authorised by the concession and the sensitivity of the receiving environment to adverse effects:
(b) The financial implications, and the effects on the environment, of that option when compared with other options; and
(c) The current state of technical knowledge and the likelihood that the option can be successfully applied.

1. Project Liaison Advisor

1.1 The Concessionaire shall fund the role of Project Liaison Advisor to act as a liaison contact between the Concessionaire and the Grantor prior to and during the term of construction of the concession activities authorised by this concession. The position description, tenure and level of remuneration of the Project Liaison Advisor will be agreed between the Concessionaire and the Grantor, and failing agreement will be determined by arbitration under condition 19 of Concession Documents standard conditions.

1.2 The role of the Project Liaison Advisor will include:

(a) Giving effect to the 'Implementation Protocol' in accordance with condition 2;

(b) Participating in the final route selection process;

(c) Review of Construction Specifications and Plans and other documentation submitted to the Grantor under this concession;

(d) Facilitating the audit (as required by conditions 3.2 – 3.8) of the Construction Specifications and Plans and making appropriate recommendations to the Grantor based on those documents;

(e) Monitoring compliance by the Concessionaire with Construction Specifications and Plans required pursuant to this concession; and

(f) Monitoring and coordinating any ongoing restoration works and making recommendations to the Grantor regarding successful progressive and long-term restoration and rehabilitation of the Site.

1.3 The appointment of the Project Liaison Advisor will be by the Grantor following consultation with the Concessionaire, and the Project Liaison Advisor will report to the Grantor.

1.4 The Project Liaison Advisor will be a senior position, requiring a range of professional skills necessary for liaising effectively and autonomously with the Concessionaire, the Department, territorial authorities, other external consultants, insurance companies and bondsmen. The Project Liaison Advisor must have a strong proven performance in relationship management for large-scale developments in environmentally sensitive areas.

1.5 The Project Liaison Advisor must be appointed by the exercise date for this concession, which is not longer than five years after the commencement date. The Concessionaire shall give to the Grantor approximately 6 months notice of the intended exercise date to allow the appointment process to commence. Pending such appointment the Grantor may, if he/she considers it necessary and desirable, appoint an interim liaison person at any time between the date of execution of this Concession and the exercise of this concession; and such interim liaison person will carry out the role of the Project Liaison Advisor as envisaged by condition 1.2 of the Special Conditions for this concession.

1.6 The Project Liaison Advisor's role will cease once the construction of the monorail and termini are complete. The Project Liaison Advisor's role may continue past this point if both the Grantor and Concessionaire agree. If this occurs, the role of the Project Liaison Advisor will be re-defined and agreed to in writing by both the Grantor and Concessionaire.

1.7 The Project Liaison Advisor may, with the prior approval of the Grantor and Concessionaire, call on additional independent external consultants for specialist advice on matters reasonably raised by the Concessionaire's operations carried out under this concession. The Project Liaison Advisor will advise anticipated costs of consultants to both the Concessionaire and Grantor and such costs shall be approved by the Concessionaire prior to any consultant being engaged. The Concessionaire shall meet the approved and reasonable costs of such consultants.

2. IMPLEMENTATION PROTOCOL

2.1 The Concessionaire shall prepare, in consultation with the Grantor, and submit to the Grantor for approval an Implementation Protocol. The purpose of the Implementation Protocol shall be to outline the process for conducting relationships and reaching agreements between the Grantor and Concessionaire. The Implementation Protocol shall include, but not be limited to the following:

(a) A description of the intentions and objectives of both the Grantor and Concessionaire to work together in good faith to implement the Concession;

(b) A description of a process to facilitate discussions between the Grantor and Concessionaire should any matters arise during the implementation of the Concession that require further discussion, review or resolution;

(c) A description of a dispute resolution process which shall be implemented should any disagreement arise between the Grantor and the Concessionaire during the implementation of the concession; and

(d) The process to identify and determine the final route selection having particular regard to the criteria set out in condition 5.

3. CONSTRUCTION SPECIFICATIONS AND PLANS

3.1 Prior to construction, the Concessionaire shall prepare for the approval of the Grantor Construction Specifications and Plans for all components of the concession activity, to demonstrate compliance with the concession conditions.

(a) The Construction Specifications and Plans shall include;

i Final Design Specifications including final proposed 'on the ground' location of all structures, vegetation disturbance and land disturbance proposed or required by this concession;
ii A Construction Management Plan;
iii A Recreation Users Management Plan;
iv A Vegetation and Habitat Management Plan;

(b) The specifications and plans listed in (a) may be prepared and submitted to the Grantor in separate parts, and be submitted to the Grantor at different times.

(c) Once approved by the Grantor, the specifications and plans set out in (a) shall be implemented by the Concessionaire or its agents.

(d) Any amendment to the specifications and plans identified in condition (a) shall be submitted to the Grantor in writing, and approved via the audit process set out in condition 3.2 – 3.8.

3.2 Audit of Construction Specifications and Plans

The Grantor will audit the Construction Specifications and Plans to ensure that final 'on the ground' design and construction specifications do not differ substantially in location, type, scale and /or level of effect to the concession application lodged by the Concessionaire (the concession application lodged by the Concessionaire comprises those documents listed in schedule ## (Appendix A(ii) of this report 'documents comprising concession application')). The Concessionaire shall ensure that these plans are prepared by a suitably qualified person or persons.

3.3 Audit to Include Physical Inspection

The audit process shall be agreed between the Grantor and the Concessionaire, but is to include physical on the ground inspection of the proposed location of all structures, vegetation disturbance and land disturbance (as defined).

3.4 Audit may be Conducted Independently by Approved Auditor

The Grantor may require the Construction Specifications and Plans provided pursuant to this concession to be independently audited by an auditor approved by the Grantor. The auditor shall certify that the specifications and plans have been prepared in accordance with best practice for the relevant discipline, and shall advise the Grantor if the level of effect arising from on the ground application of the Construction Specifications and Plans would exceed the level of effects, or type of effects, described by the Concessionaire in the concession application.

3.5 Approved Plans, Specifications become part of Concession Agreement

Once audited and approved by the Grantor, the Construction Specifications and Plans shall form part of this concession, and the Concessionaire shall not deviate from these Specifications and Plans set out in condition 3.1 without prior written approval of the Grantor.

3.6 Costs to be Met By Concessionaire

The Concessionaire shall pay the reasonable costs incurred by the Grantor (including costs of independent audit) in auditing and approving all Construction Specifications and Plans required pursuant to this Concession. All costs shall be discussed with the Concessionaire prior to engaging any outside consultants.

3.7 Submission and Approval within a Reasonable Timeframe

All Construction Specifications and Plans provided pursuant to this concession shall be provided by the Concessionaire to the Grantor within reasonable time frames to allow the Grantor to review these plans. The Grantor shall review and approve all documents submitted in accordance with condition 3.1 within reasonable timeframes. Such approval shall not be unreasonably or arbitrarily withheld.

3.8 Construction following Written Approval

Construction shall not commence until the Construction Specifications and Plans have been approved by the Grantor, unless written approval to do so has been provided by the Grantor.

CONSTRUCTION SPECIFICATIONS AND PLANS

4. FINAL DESIGN SPECIFICATIONS

4.1 Prior to the commencement of construction, the Concessionaire shall submit Final Design Specifications in accordance with condition 3.1(a)(i) to the Grantor for approval. The Grantor will audit the Final Designation Specifications in accordance with conditions 3.2 to 3.8. The overall objectives of the Final Design Specifications shall be to:

(a) Detail the proposed 'on the ground' location of all structures authorised by this concession; and

(b) Detail final design of all structures, land disturbance and vegetation clearance authorised by this concession, including estimates of earthwork cut and fill volumes, vegetation clearance areas and volumes; and

(c) Provide a map (or series of maps) which identifies sites of significant habitats along the route, an explanation of the effects on such significant habitat and a description of any mitigation proposed. The mitigation shall be implemented in accordance with the Vegetation and Habitat Management Plan set out in condition 18.

5. ROUTE LOCATION SELECTION CRITERIA

5.1 In selecting the final location for the structures, land disturbance and vegetation disturbance provided for by this concession (in accordance with the Implementation Protocol required by condition 2.1(d), and presented as part of the Final Design Specifications required by condition 3.1(a)(i)), the Concessionaire shall protect the following habitats (known as "significant habitats" which are those which are considered ecologically valuable by virtue of their rarity, integrity, habitat value, species diversity and/or representativeness within the region) by avoiding or protecting them from the construction of the concession activities to the extent that is practicable:

(i) Short tussock grasslands;
(j) Wetlands;
(k) Bog pine shrubland; and Matagouri shrubland, or other divaricating shrubland;
(l) Red tussock grasslands;
(m) Threatened plant species such as *Alepis flavida;*
(n) Mature red beech forest (with height exceeds 25 m and diameters exceeding 55 cm);
(o) Mature mountain beech or silver beech forest (with heights exceeding 20 m and diameters exceeding 45 cm);
(p) Regenerating shrublands and forest edge; Fertile, well drained flood plains (Environment L1.1c) covered with indigenous vegetation.

5.2 In selecting the final location for the structures, land disturbance and vegetation disturbance provided for by this concession (in accordance with the Implementation Protocol required by condition 2.1(d), and presented as part of the Final Design Specifications required by condition 3.1(a)(i)) the following matters shall:

(f) Minimise the amount of earthworks required to the extent practicable so as to reduce the potential for weed invasion;

(g) Maintain the highest practicable canopy cover through the forested sections of the route. This will be achieved by selecting a route requiring reduced vegetation clearance relative to other routes and by judicious felling of individual trees so as to avoid collateral damage;

(h) Protect large trees (with diameters at breast height exceeding 60 cm), and in particular potential bat roost trees, from any disturbance or earthworks within the outer canopy drip line. Such disturbance will be minimised to the extent practicable by appropriate route selection in consultation with the Grantor. At locations where it is agreed that avoiding disturbance within the outer canopy dripline is not practicable, management to protect shallow and surface roots will be considered on a case by case basis in consultation with the Grantor;

(i) During construction, minimise to the extent practicable any adverse effects of river crossings on nests of any threatened river bird species; and

(j) Avoid to the extent that is practicable ridgelines which would result in structures or land disturbance being visible outside of the easement corridor.

5.3 The Concessionaire shall not remove any tree with a DBH (measurement of diameter at breast height) exceeding 2 m.

5.4 Disturbance of riparian margins shall be minimised to the extent practicable.

6. LIMITATIONS ON AREA TO BE DISTURBED

6.1 The Concessionaire shall work in the smallest area practicable, taking into account the route selection criteria described in condition 5.

6.2 The Concessionaire shall use best endeavours to ensure that the vegetated clearance areas for those elements of the concession activity listed below do not substantially exceed the areas set out below;

	Clearance (m^2)
Monorail track	109,800
Construction/ MTB track incl link route	177,730
Spur tracks	19,988
Passing places	8,130
Terminus Buildings	1,350
Roading	5,589

6.3 Areas in addition to those listed in 6.2 will be cleared for concession activities not listed above (such as, but not limited to, for the new Kiwi Burn Hut and any toilets or shelters constructed by the concessionaire along the MTB track).

6.4 Areas in addition to those listed in 6.2 will be cleared for activities such as waste disposal fields and cut and fill batters at the terminus sites. Where practicable, these will be rehabilitated with vegetation following the completion of construction.

6.5 Anticipated vegetation clearance areas will be included in the Final Design Specifications required by condition 3.1(a)(i), and audited in terms of conditions 3.2 to 3.8.

6.6 If, during the preparation of the Final Design Specifications, the Concessionaire determines that the total clearance areas will exceed the areas set out in 6.2 above, the justification for the areas to be cleared will be included in the Final Design Specifications and audited by the Grantor in accordance with the process set out in conditions 3.2 to 3.8.

6.7 Once audited and approved by the Grantor in accordance with conditions 3.2 to 3.8, the vegetation clearance areas shall form part of the Vegetation and Habitat Management Plan required by condition 18.

7. CONSTRUCTION MANAGEMENT PLAN

7.1 Prior to the commencement of construction, the Concessionaire shall submit a Construction Management Plan to the Grantor for approval in accordance with condition 3.1(a)(ii). The Grantor will audit and approve the Construction Management Plan in accordance with conditions 3.2 to 3.8. The overall objectives of the Construction Management Plan shall be to:

(a) Provide guidance on environmental management for the construction of the concession activities;

(b) Reduce any adverse environmental effects associated with construction of the concession activities where practicable;

(c) Provide detail of the construction methodologies and management of effects during construction;

(d) Describe the methods proposed for the construction of the concession activities and the programme for construction of each element;

(e) Describe what actions will be taken to manage the actual or potential effects of construction of the concession activities;

(f) Provide a list of key personnel and points of contact throughout the construction period; and

(g) Describe how stakeholders will be kept informed during construction and how complaints (if received) will be managed.

7.2 The Concessionaire shall ensure that the Construction Management Plan includes a sub-set of management plans that cover the following topics as a minimum:

(a) Health and Safety;

(b) Hazardous Substances;

(c) Traffic Management;

(d) Noise and Lighting Management;

(e) Risk Management;

(f) Waste Management;

(g) Archaeological and Heritage Protocols and Plans;

(h) Erosion and Sediment Control; and

(i) In River Works.

8. CONSTRUCTION MANAGEMENT PLAN - HEALTH AND SAFETY PLAN

8.1 The Concessionaire shall ensure that a Health and Safety Plan pertaining to the construction of the concession activities within the site is prepared and audited in accordance with conditions 3.1 to 3.8. The objectives of the Health and Safety Plan shall be to:

(a) Avoid harm to the workforce and visitors on site during construction of the concession activities;

(b) Identify areas where construction works are likely to overlap with areas used by the public and include management provisions to ensure the safety of both contractors and the public; and

(c) Identify, isolate and minimise any risks associated with hazards, and to implement and adhere to appropriate emergency protocols and incident reporting.

8.2 A list of all hazardous substances likely to be stored, handled or used in the construction of the concession activities will be included in the Health and Safety Plan. The Concessionaire shall ensure that material safety data sheets (MSDS) are held on site for all chemicals included in this list.

8.3 Procedures for the storage and handling of the hazardous substances listed in accordance with condition (immediately above) will be included in the Health and Safety Plan. The Concessionaire shall ensure that all staff are trained in the management of hazardous substances.

9. CONSTRUCTION MANAGEMENT PLAN - HAZARDOUS SUBSTANCES MANAGEMENT PLAN

9.1 The Concessionaire shall ensure that a Hazardous Substances Management Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objectives of the Hazardous Substances Management Plan shall be to:

(a) List the hazardous substances kept on site and record the material safety data sheets (MSDS).

(b) Reduce the risk that hazardous substances pose with respect to environmental and health and safety matters including risks to staff and the public from the accidental discharge of hazardous substances;

(c) Ensure that all practicable measures are taken to safely store hazardous substances and to reduce the likelihood of accidental spills; and

(d) Reduce the adverse effects of any accidental spills.

9.2 Refuelling, lubrication, mechanical repairs, and storage of hazardous substances or dangerous goods during construction of the concession activities shall be undertaken in accordance with the Hazardous Substances Management Plan required by condition 9.1, so as to ensure that spillages of hazardous substances onto the land surface or into a water body does not occur and accidental spillages are dealt with properly.

9.3 The Hazardous Substances Management Plan shall require the Concessionaire to ensure that any refuelling vehicle carries a spill kit of loose absorbent material at all times, to absorb spilled fuel. In the event of a spill, the absorbent material shall be laid immediately over the site of the spill, and every practical step taken to contain the fuel. All contaminated soil must be removed from the site and disposed of in an environmentally safe manner. The Concessionaire must immediately report all fuel spills over 1 litre to the Grantor.

9.4 The Hazardous Substances Management Plan shall require the Concessionaire to ensure that machinery with fuel or oil leaks shall not be used on the site.

9.5 The Hazardous Substances Management Plan shall require any stationary diesel storage tanks (maximum size 1250 litres) to be bunded when on site and these tanks shall not be located closer than 10 m to any waterway.

10. CONSTRUCTION MANAGEMENT PLAN TRAFFIC MANAGEMENT PLAN

10.1 The Concessionaire shall ensure that a Traffic Management Plan pertaining to the site is prepared and audited in accordance with conditions 3.1 to 3.8. The objectives of the Traffic Management Plan shall be to reduce construction traffic and vehicle movements as far as is practicable so as to allow a safe and efficient construction programme and reduce the impact of traffic associated effects, including safety, noise and traffic flow on land administered by the Grantor. The Plan shall detail the traffic management measures to be put in place during construction, including as a minimum management procedures for onsite traffic during construction and measures to minimise traffic noise and traffic dust generation.

11. CONSTRUCTION MANAGEMENT PLAN - NOISE AND LIGHTING MANAGEMENT PLAN

11.1 The Concessionaire shall ensure that a Noise and Lighting Management Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the Noise and Lighting Management Plan shall be to reduce as far as practicable the impact from noise and light spill arising during the construction of the concession activities. The Noise and Lighting Management Plan shall include the methods and measures to reduce any adverse effects of noise and light spill on the surrounding environment including as a minimum details of the following:

(a) Measures to ensure compliance with relevant standards for construction noise including NZS6802:2008 'Environmental Noise' and NZS6803:1999 'Construction Noise' (or relevant subsequent standards);

(b) Noise associated with helicopter landings measured and assessed in accordance with NZS6807:1994 "Noise Management and Land Use Planning for Helicopter Landings Areas" (or relevant subsequent standards);

(c) Contingency measures (in the event that construction noise standards are exceeded) to be developed; and

(d) A requirement that all lighting used on site during construction shall be hooded and reflectors are to be positioned downward on the working area as far as practicable.

11.2 The Noise and Lighting Management Plan shall require that during construction of the concession activities the concessionaire shall comply with the requirements of NZS6802:2008 and the long term noise levels tabulated in NZ6803:1999 (or subsequent relevant standards). The appropriate location for monitoring the levels of noise undertaken during construction of the concession activities are the walking tracks and other publically accessible areas most exposed to construction noise.

12. CONSTRUCTION MANAGEMENT PLAN - RISK MANAGEMENT PLAN

12.1 The Concessionaire shall ensure that a Risk Management Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the Risk Management Plan shall be to identify potential risks and determine a risk management strategy so as to avoid, mitigate, transfer, or accept any risks identified. The Risk Management Plan shall provide for appropriate measures to be put in place to deal with accidents, or emergencies and that any incidents or potential incidents are dealt with effectively and efficiently. As part of the Risk Management Plan the Concessionaire shall maintain on a regular basis a risk register that covers the following matters as a minimum:

(a) Health and safety risks:

(b) Environmental risks;

(c) Technical risks;

(d) Timing risks;

(e) Fire risks; and

(f) Weather and Natural Hazards risks

12.2 The Risk Management Plan shall require that during construction of the concession activities no fires are to be lit on the site and extreme care is to be taken with equipment likely to start fires. Appropriate fire extinguishing equipment is to be kept on the Site at all times during construction.

13. CONSTRUCTION MANAGEMENT PLAN - WASTE MANAGEMENT PLAN

13.1 The Concessionaire shall ensure that a Waste Management Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the Waste Management Plan shall be to avoid or minimise as far as is practicable the production of solid waste materials, manage the storage of waste so as to prevent contamination of soil or water at or near the site and to manage the disposal of waste. The Waste Management Plan shall contain a waste management strategy which includes as a minimum:

(a) A strategy to ensure the maintenance of a tidy construction site (i.e. clear of rubbish, food scraps to prevent pests); and

(b) A description of the appropriate treatment (if applicable), storage and disposal facilities for waste products.

13.2 The Waste Management Plan shall require that all rubbish and surplus materials are to be removed from the site at the completion of construction works.

14. CONSTRUCTION MANAGEMENT PLAN - ARCHAEOLOGICAL AND HERITAGE PROTOCOLS AND PLANS

14.1 The Concessionaire shall ensure that Archaeological and Heritage Protocols and Plans are prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the Archaeological and Heritage Protocols and Plans shall be to manage any potential or actual construction effects on any cultural, archaeological or heritage sites identified either prior to construction or unearthed during the construction phase. The Archaeological and Heritage Protocol and Plan shall contain the following matters as a minimum:

(a) Identification training;

(b) Accidental discovery of Koiwi (human skeletal remains), taonga or artefact protocols and procedures; and

(c) Pounamu discovery protocols and procedures.

14.2 Prior to construction commencing the Concessionaire shall implement a training programme for construction staff by a recognised archaeological expert regarding methods for appropriately identifying, reporting and managing features of archaeological significance including artefacts, sites and human remains.

14.3 The Concessionaire shall ensure that in the event of any Koiwi (human skeletal remains) being discovered during construction the following actions are taken in accordance with the Archaeological and Heritage Protocol and Plans required by condition 14.1:

(a) Construction work within a 50 m radius of the site shall cease immediately and indefinitely until Te Ao Marama Inc and/or New Zealand Police advise that it can recommence;

(b) Advice of the discovery shall be reported, as soon as practicable, to Te Ao Marama Inc (Ngāi Tahu Murihiku Resource Management Consultants), the New Zealand Police, the Project Liaison Advisor and the Grantor;

(c) A site inspection by the appropriate Te Ao Marama Inc and their advisors including statutory agencies, and/or the New Zealand Police will be scheduled to determine whether the discovery is likely to be extensive and whether a thorough site investigation is required; and

(d) Any materials discovered will be handled and removed by iwi responsible for the tikanga appropriate to their removal or preservation.

14.4 The Concessionaire shall ensure that in the event of discovery of any artefact or historical, cultural, or archaeological material during construction, the following shall apply in accordance with the Archaeological and Heritage Protocol and Plans required by condition 14.1:

(a) Construction work within a 50m radius of the artefact or historical, cultural or archaeological material shall cease immediately;

(b) Advice of the discovery shall be reported, as soon as practicable, to Te Ao Marama Inc (Ngāi Tahu Murihiku Resource Management Consultants), the Project Liaison Advisor and the Grantor; and

(c) No work shall recommence until an agreement has been reached between the parties regarding appropriate protection measures for the artefact or material found.

14.5 The Concessionaire shall comply with their Cultural Impact Assessment (Te Ao Marama. 2004. *Cultural Impact Assessment on the Ngāi Tahu Spiritual and Cultural Relationship with the Manawapopore/Hikuraki [Mavora Lakes] Area, prepared for Riverstone Holdings Limited for Fiordland Link Project*, Te Ao Marama In, and subsequent *Updated Cultural Impact Assessment, Riverstone Holdings Limited for the Fiordland Link Experience* October 2010) in regards to agreements made with Iwi regarding ongoing liaison and consultation regarding the project.

14.6 The Concessionaire shall consult the relevant Papatipu Rūnanga if they wish to use Ngāi Tahu cultural information. If the Concessionaire wishes to use the Tōpuni or statutory acknowledgement information contained in schedules 14-108 of the Ngāi Tahu Claims Settlement Act 1998, or any Department produced interpretative material in respect to Ngāi Tahu cultural information, they are requested to notify the relevant Papatipu Rūnanga, as a matter of courtesy.

14.7 The Concessionaire acknowledges that pounamu (including all nephrite, semi-nephrite, bowenite and serpentine) is under the ownership of Te Rūnanga o Ngāi Tahu pursuant to the Ngāi Tahu (Pounamu Vesting) Act 1997.

14.8 No pounamu may be removed or recovered by the Concessionaire or their employees/clients.

14.9 Where any pounamu is found by the Concessionaire, they shall immediately notify the Pounamu Manager, Te Rūnanga o Ngāi Tahu, Christchurch, ph 0800 Kai Tahu (0800 524 8248).

14.10 The Concessionaire shall ensure that any interpretation provided to its clients on Ngāi Tahu historical, spiritual, or cultural association with pounamu or any pounamu area is entirely consistent with the Ngāi Tahu Pounamu Resource Management Plan or any Department produced interpretative material.

14.11 The Concessionaire shall notify the relevant papatipu rūnanga if they are using the above information, as a matter of courtesy.

14.12 Where the Concessionaire wishes to provide clients with information not contained in these sources, which relate to Ngāi Tahu historical, spiritual or cultural association with pounamu or any pounamu area, then the Concessionaire shall consult with the local papatipu rūnanga before using any other information to ensure such information is both appropriate and accurate.

15. CONSTRUCTION MANAGEMENT PLAN - EROSION AND SEDIMENT CONTROL PLAN

15.1 The Concessionaire shall ensure that an Erosion and Sediment Control Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the Erosion and Sediment Control Plan shall be to reduce any erosion and landform instability resulting from construction of the concession activities. The Erosion and Sediment Control Plan shall include the following details:

(e) Measures to ensure that work is undertaken in accordance with Auckland Regional Council TP90, and any relevant Department of Conservation Standards;

(f) Identification of the works areas and staging;

(g) Measures that will be established to minimise erosion and runoff, including the use of energy dissipaters, fencing, hay bales, and sediment retention ponds required; and

(h) Rehabilitation that will be implemented post construction to minimise sediment and erosion movement.

15.2 The Erosion and Sediment Control Plan shall describe methods to remove any excess fill in a timely manner. The removal of any excess fill must be undertaken in accordance with that Plan.

16. CONSTRUCTION MANAGEMENT PLAN - IN RIVER WORKS MANAGEMENT PLAN

16.1 The Concessionaire shall ensure that an In River Works Management Plan is prepared and audited in accordance with conditions 3.1 to 3.8. The objective of the In River Works Management Plan shall be to ensure that a healthy aquatic ecosystem is maintained in the rivers and streams along the route and that any adverse effects arising from the construction of the concession activities are appropriately managed. The In River Works Management Plan shall include:

(f) Measures to ensure that work within active river beds is avoided as far as are practicable;

(g) Measures to ensure that any works which could affect the integrity of the stream bed and bank structure are avoided as far as practicable;

(h) Protocols to ensure that all equipment and machinery is cleaned before entering or shifting between waterways to prevent the spread of Didymo;

(i) Measures to ensure that where it will affect waterways the construction of the monorail is timed where practicable to occur during the summer months; and

(j) Measures to ensure that construction within the rivers or streams is undertaken as quickly as practicable to avoid ongoing adverse effects.

16.2 Prior to the commencement of construction of the concession activities the Concessionaire shall undertake a survey of all streams and waterways to be crossed by the final route in order to delineate the distribution of Didymo through the catchments prior to construction. This study will form the basis for determining whether the streams are Didymo free prior to construction and whether Didymo control methods may be required in areas where Didymo is found after construction of the monorail is complete. The results of this survey shall be submitted to the Grantor.

16.3 The In River Works Management Plan shall require that during construction of the concession activities the Concessionaire shall comply with the Didymo prevention and cleaning protocols as set out in Schedule ## before and after contact (including people, equipment, clothing, footwear and other items) with any waterway.

16.4 The In River Works Management Plan shall require that during construction and operation of the concession activities the Concessionaire shall comply with all guidelines and notices put out by Biosecurity New Zealand regarding measures to avoid spreading the pest organism *Didymosphenia geminata* (refer to www.biosecurity.govt.nz/didymo).

16.5 The In River Works Management Plan shall set out methods that the Concessionaire shall implement to protect small watercourses alongside the construction track from contamination by fill or runoff sediment either by a suitable stand-off distance or by way of physical barriers (including but not limited to silt protection fencing or rock rip-rap).

17. RECREATION USERS MANAGEMENT PLAN

17.1 Prior to the commencement of construction of the concession activities, the Concessionaire shall prepare and submit to the Grantor a Recreation Users Management Plan in accordance with condition 3.1(a)(iii) for approval. The Grantor will audit the Recreation Users Management Plan in accordance with conditions 3.2 – 3.8.

(c) The overall objectives of the Recreation Users Management Plan shall be to:

iv. Minimise the actual or potential effects from construction activities on recreational users in the vicinity of the route to the extent that is practicable;

v. Provide suitable alternative tracks and facilities for recreational users during construction of the concession activities; and

vi. Avoid, remedy or mitigate adverse effects on recreational users during the operation of the concession activities.

(d) The Recreation Users Management Plan shall contain the following details as a minimum:

i. A description of the timing, sequencing and location of construction activities that may affect recreational users within the surrounding locality;
ii. Provision of suitable alternative tracks and huts available to recreational users during construction;
iii. Location and design of facilities at the Kiwi Burn including car parking and access across the Mararoa River;
iv. The redevelopment of existing facilities to retain existing walking, tramping and hunting values in the area, including realignment of the Kiwi Burn Loop Track;
v. The establishment and location of a new hut accessible from the realigned Kiwi Burn Loop Track;
vi. Development of a 4WD underpass at the intersection of the monorail and Army Hut vehicle access;
vii. The realignment of the Army Hut Walk;
viii. A description of the ongoing maintenance obligations of all recreational facilities and assets constructed or provided by the Concessionaire as part of this Concession, including the existing Kiwi Burn Hut;
ix. A description of any informative and safety signage proposed; and
x. Details of appropriate bridging of the construction/mountain bike track in accordance with SNZ HB 8630:2004.

17.2 The Concessionaire shall provide, service and maintain adequate car parking and toilet facilities at the Mararoa River and Te Anau Downs (site of Kiwiburn Terminus and 'Cycle Link Route' road end) for users of the mountain bike track, for the duration of this concession.

17.3 The Recreation Management Plan shall demonstrate that the public shall have full access to the recreational facilities provided or maintained by the Concessionaire for the duration of the concession. Such facilities include;

(a) Mountain bike track;

(b) "New" Kiwi Burn Hut (provided but not maintained by Concessionaire);

(c) Existing Kiwi Burn Hut (maintained);

(d) All walking track re-routes and new sections of walking track (provided but not maintained by Concessionaire);

(e) Toilet facilities at road ends; and

(f) Toilet facilities and shelters along the mountain bike track.

17.4 Prior to construction commencing, the Concessionaire and the Grantor shall reach agreement on the timing and completion of the new Kiwi Burn Hut and any track re-alignments or re-routes to be constructed by the Concessionaire. This shall form part of the Recreation Users Management Plan. If practicable new hut and track re-alignments will be available for public

use before substantial construction works associated with the monorail commence, so as to mitigate effects on other users of the Snowdon Forest Stewardship Area.

17.5 In accordance with the Recreation Users Management Plan the Concessionaire shall undertake any modifications required to the (existing) Kiwi Burn Hut that are necessary to ensure that the hut is suitable for use by mountain bikers. The Concessionaire and the Grantor shall agree to the modifications necessary, which shall be carried out by the Concessionaire at the Concessionaires expense (timing to be determined as level of use may not be apparent for a period of two years if not longer).

17.6 With the exception of the new Kiwi Burn Hut and re-routed tracks, the Concessionaire shall construct, maintain and service all recreational facilities and assets constructed or provided by the Concessionaire as part of this concession and for the duration of this Concession. The Concessionaire shall construct but not maintain the Kiwi Burn Hut and re-routed tracks. Reasonable costs of maintenance, including inspections carried out by the Grantor, shall be borne by the Concessionaire.

17.7 The Concessionaire agrees to undertake all track maintenance work deemed necessary from an annual inspection by the Grantor of the mountain bike track in accordance with SNZ HB 8630:2004, for the duration of this Concession.

17.8 The Concessionaire agrees to submit a proposed name for the mountain bike track and new hut to the Grantor for approval.

17.9 The Concessionaire shall provide appropriate signage at the start of the track and at locations along the route to be determined in consultation with the Grantor, to guide mountain bikers and provide an indication of distances and expected travel times. These signs will be made according to standard Department guidelines and colours.

17.10 The Concessionaire shall require the approval of the Grantor before providing any on-site interpretation panels or producing any printed interpretation. This approval will be dependent on the Concessionaire demonstrating that it has undertaken adequate consultation with local Iwi regarding the interpretation of Maori history, culture and wähi tapu.

18. VEGETATION AND HABITAT MANAGEMENT PLAN

18.1 Prior to the commencement of construction of the concession activities, the Concessionaire shall prepare and submit to the Grantor a Vegetation and Habitat Management Plan in accordance with condition 3.1(a)(iv) for approval. The Grantor will audit the Vegetation and Habitat Management Plan in accordance with conditions 3.2 – 3.8.

(c) The overall objectives of the Vegetation and Habitat Management Plan shall be to:

viii. Require that particular regard is had to appropriate ecological criteria in selecting the final route alignment to avoid as far as is practicable significant habitats;
ix. Minimise the construction footprint as far as is practicable and to avoid, remedy or mitigate effects on significant habitats during construction of the concession activities;
x. Establish an appropriate monitoring regime;
xi. Establish methods to remove and appropriately dispose of vegetation;
xii. Minimise the introduction and spread of weeds and predator species throughout the construction and operation areas;

xiii. Rehabilitate all worked areas and non operational areas as quickly as possible following construction activities; and
xiv. Provide appropriate compensation to offset adverse effects on significant habitats.

(d) The Vegetation and Habitat Management Plan shall contain the following details as a minimum:

xi. Confirmation that the final route has been selected having particular regard to the route location selection criteria set out in condition 5;
xii. A description of the approximate area and approximate total volume of vegetation clearance during the construction of the concession activities;
xiii. Details of the proposed monitoring programmes including vegetation health surveys of tussocks, wetlands and forest areas that are to be undertaken prior to construction, during and after construction of the concession activities;
xiv. Confirmation of the location of significant wildlife habitats;
xv. Methods proposed to minimise the construction footprint to the extent practicable;
xvi. Methods to mitigate adverse effects on significant habitats including tussocks, wetlands, and forest areas during construction and methods to minimise collateral damage to vegetation outside the construction footprint;
xvii. Methods to ensure the appropriate disposal of vegetation that has been cleared during the construction of the concession activities;
xviii. Identification of the vegetation rehabilitation goals to be achieved, methods to achieve those goals and ongoing management requirements to minimise weeds and predators;
xix. Identification of a range of contingency measures which can be implemented if required;
xx. Details of the compensation proposed.

19. WILDLIFE HABITAT SURVEY

19.1 As part of the preparation of the Vegetation and Habitat Management Plan the Concessionaire shall commission an appropriately qualified terrestrial ecologist to identify and map along the final route and at the location of all activities authorised by this concession, any areas of significant habitat for acutely threatened species including grey duck, long-tailed bats, short-tailed bats, South Island Kaka, black fronted tern, black billed gull, mohua, *Kirkianella novae-zelandiae* and New Zealand falcon.

19.2 The Concessionaire will where practicable, avoid the habitat. If avoidance is not practicable the Concessionaire will submit to the Grantor an analysis of effects and proposed methods to remedy or mitigate (including any offset or compensation) those effects.

20. VEGETATION SURVEY

20.1 As part of the preparation of the Vegetation and Habitat Management Plan the Concessionaire shall commission an appropriately qualified terrestrial ecologist to carry out a baseline survey of vegetation health along the final route and in one similar control site nearby (chosen in consultation with the Grantor). The Concessionaire shall document the state of the vegetation in both sites and shall collect data with respect to:

(a) Species composition;

(b) Cover abundance in all tiers of vegetation;

(c) Plant condition considering leaf colour, wilt, and physical dieback of plants (or parts of plants); and

(d) Weed presence.

20.2 The Concessionaire shall submit the results and interpretation of the baseline vegetation health survey in the form of a baseline monitoring report to the Grantor. This report shall be used for the purposes of future comparative analysis of vegetation health during and after construction and to determine whether pre construction weed control is required to protect the habitats along the route as provided for in the Vegetation and Habitat Management Plan.

20.3 If, upon consideration of the results of the baseline vegetation health survey, the Grantor and the Concessionaire consider it necessary and appropriate to undertake pre construction weed control along the route then this will be carried out in accordance with the methods set out in the Vegetation and Habitat Management Plan.

21. VEGETATION MANAGEMENT DURING CONSTRUCTION

21.1 The Concessionaire shall ensure that appropriate wash down facilities are in place at the site to ensure that all machinery entering the working areas is cleaned before entering the site.

21.2 The Concessionaire shall ensure that all gravel, fill or other material brought onto the site comes from a weed free source.

21.3 The felling of any trees is to be done in a manner so that damage to surrounding vegetation is avoided where practicable.

21.4 Subject to the provisions of the approved Vegetation and Habitat Management Plan, the Concessionaire shall dispose of vegetation on site in areas approved by the Grantor. Felled vegetation shall not be stockpiled in such a way that would cause damage to the surrounding vegetation.

21.5 All large trees felled pursuant to this concession are to remain the property of the Grantor. The Concessionaire shall comply with all reasonable instructions given by the Grantor to remove large trees to a site approved by the Grantor for disposal.

21.6 During construction of the concession activities the Concessionaire shall monitor the health of the vegetation along the route and in one control site. The monitoring sites shall be consistent with those used in the baseline vegetation health survey undertaken in accordance with condition 20. The survey shall be undertaken once every three months during construction and shall consist of:

(a) Species composition;

(b) Cover abundance in all tiers of vegetation;

(c) Plant condition considering leaf colour, wilt, and physical dieback of plants (or parts of plants); and

(d) Weed presence.

21.7 The results of the survey undertaken in accordance with condition 21.6 shall be compared to the baseline vegetation survey undertaken in accordance with condition 20 to determine the state and health of the vegetation within the construction footprint. The results of the survey and evaluation shall be prepared in report format and submitted to the Grantor as soon as is practicable following each monitoring period.

21.8 The report prepared in accordance with condition 21.7 shall identify if any of the indicator triggers set out in the Vegetation and Habitat Management Plan have been reached. If any of the triggers that are set out in the Vegetation and Habitat Management Plan have been reached, then the Concessionaire shall implement an appropriate contingency action in accordance with the Vegetation and Habitat Management Plan, which may include compensation set out in condition 23.

22. VEGETATION REHABILITATION

22.1 The Concessionaire shall rehabilitate all worked areas (including spur tracks) in accordance with the Vegetation and Habitat Management Plan not required for the ongoing construction or operation of the concession activities within six months of the conclusion of construction related disturbance, to the satisfaction of the Grantor.

22.2 The Concessionaire must stockpile all vegetation cleared during construction for later use to rehabilitate the site, either of the lay down area once it is reduced in size following construction, or the area along the access route.

22.3 It is acknowledged that direct transfer is likely to be more successful and appropriate in areas of low growing vegetation than in forested areas, and where it is appropriate and practicable to do so direct transfer of vegetation techniques are to be used. Any transfer of vegetation shall be managed and monitored in accordance with the methods set out in the Vegetation and Habitat Management Plan.

22.4 Vegetation rehabilitation of worked areas is to be supervised by a suitably qualified person approved by the Grantor (paid for by the Concessionaire). This person may be the Project Liaison Advisor.

22.5 In accordance with the Vegetation and Habitat Management Plan the Concessionaire shall monitor the rehabilitation success in accordance with the monitoring methods set out in that Plan and provide a report on rehabilitation progress to the Grantor on an annual basis until the rehabilitation goals set out in the Vegetation and Habitat Management Plan have been met.

22.6 To Concessionaire shall be required to implement any ongoing management of weeds and pests in accordance with the methods set out in the Vegetation and Habitat Management Plan, for the duration of the concession.

23. COMPENSATION

23.1 As part of the Vegetation and Habitat Management Plan the Concessionaire shall prepare a plan to provide compensation for any adverse effects of the concession activities. In the event that significant wildlife habitats are adversely affected, any compensation for these effects will be determined on a case by case basis. The scope and scale of the compensation

shall be designed in consultation with the Grantor and reflect the scope and scale of residual adverse effects of the concession activities. The Grantor will determine the final level of compensation.

24. OPERATIONAL MANAGEMENT PLAN

24.1 Prior to the commencement of the operation of the monorail, the Concessionaire shall submit an Operational Management Plan to the Grantor for approval. The Grantor will audit the Operational Management Plan in accordance with conditions 24.2 – 24.7.

(a) The objectives of the Operational Management Plan shall be to ensure:

i. The monorail and its associated tracks and infrastructure are maintained to best practice standards, for the duration of this Concession; and
ii. The health and safety of the public and employees are protected at all times during the operation of the monorail.

(b) The Concessionaire shall ensure that the Operational Management Plan:

i. Describes the operational parameters for the monorail, mountain bike track, remaining spur tracks, and amenities and termini;
ii. Describes all ongoing maintenance requirements during operation of the monorail, including any environmental obligations such as sediment control and a helicopter landing protocol;
iii. Describes the ongoing health and safety requirements of the monorail and mountain bike track for both the public and employees. This includes identification of hazards (tree fall, slips, weather conditions), and protocols that will be adhered to during emergency situations (e.g. fire); and
iv. Includes an operational risk register which will be prepared and adhered to during the operation of the monorail.

24.2 Audit

The audit process shall be agreed between the Grantor and the Concessionaire.

24.3 Audit Capable of being carried out Independently

The Grantor may require the Operational Management Plan provided pursuant to this concession to be independently audited by an auditor approved by the Grantor. The auditor shall certify that the plan has been prepared in accordance with best practice for the relevant discipline.

24.4 Operational Management Plan to form part of the Concession Agreement

Once audited and approved by the Grantor, the Operational Management Plan shall form part of this Concession, and the Concessionaire shall not deviate from this Plan without prior written approval of the Grantor.

24.5 Cost of Audit

The Concessionaire shall pay the reasonable costs incurred by the Grantor (including costs of independent audit) in auditing and approving the Operational Management Plan. All costs shall be discussed with the Concessionaire prior to engaging any outside consultants.

24.6 Submission and Approval of Plan in Reasonable Timeframe

The Operational Management Plan shall be provided by the Concessionaire to Grantor within reasonable time frames to allow the Grantor to review this plan. The Grantor shall review and approve all documents submitted in accordance with condition 24.1 within a reasonable timeframe. Such approval shall not be unreasonably or arbitrarily withheld.

24.7 Commencement Following Written Approval

Operation of the Monorail shall not commence until the Operational Management Plan has been approved by the Grantor, unless written approval to do so has been provided by the Grantor.

25. AIRCRAFT ACCESS

25.1 The Concessionaire shall avoid landing aircraft within public conservation land, except that helicopter landings are permitted during the construction phase (the construction phase being defined as a period (to be confirmed once final design specifications and plans are finalised – but not exceeding 30 months)) in the following circumstances:

(f) Establishment of survey control early on in project;

(b) Monitoring of effects during construction

(e) Heli-logging of large trees during clearing of the route to minimise/avoid collateral damage; and

(f) Construction of structures in environmentally sensitive or topographically challenging sites.

25.2 The number of helicopter landings conducted as per clause 25.1 above shall not exceed 2 landings per day

25.3 Details of planned helicopter landings shall be provided in the Construction Management Plan and in the Operational Management Plan.

25.3 All other aircraft access is permitted with authorised Aircraft concessionaires only.

26. POST CONSTRUCTION SURVEY MAP

Once construction of the concession activity authorised under this concession is complete (monorail, construction track, termini buildings, roading associated with termini buildings, Cycle Link Route and new Kiwi Burn Hut) the Concessionaire shall provide a surveyed map of all areas occupied for the Grantors approval. Once approved by the Grantor, this map shall form part of this concession.

27. Other Matters

27.1 The Concessionaire shall either at its sole cost meet all responsibilities and requirements, or reimburse the Grantor in respect of any costs of it meeting any responsibilities or requirements, under either the Building Act 2004 or the Resource Management Act 1991, in respect of structures associated with the concession activity, and will at its sole cost meet all statutory, regulatory of common law responsibilities, requirements or legal obligations arising in relation to such facilities, and indemnify and reimburse the Grantor or the Grantor in

respect of any costs or liabilities arising out of its statutory, regulatory or common law responsibilities, requirements or legal obligations in relation to such facilities.

28. Bond

28.1 Prior to commencing the Concession Activity, the Concessionaire must provide as surety a trading bank, insurance company or bond guarantor who is acceptable to the Grantor

28.2 The surety must execute (in the case of two or more jointly and severally) in favour of, and on terms acceptable to, the Grantor a performance bond initially set at NZ$_____ (_____dollars) for due and faithful performance by the Concessionaire of the obligations under the Concession and/or reinstating any disturbed area of the Land to a standard satisfactory to the Grantor where disturbance has been caused by the Concessionaire or any agent of it and/or otherwise remedying or mitigating any adverse effects of the Concession Activity.

28.3 If the initial amount of the bond has not been set in clause ## then prior to the Concession Activity commencing that amount will be set by the Grantor following an independent risk assessment using a methodology approved by the Grantor.

28.4 The initial amount set under either conditions ## or ## may be reviewed at the discretion of the Grantor at any time.

28.5 The cost of any independent risk assessment or review will be paid by the Concessionaire within 10 working days of being given a notice by the Grantor.

28.6 Notwithstanding the expiry, surrender or termination of the Concession document, the bond will not expire and is to remain in full force and effect until such time as all obligations of the Concessionaire under the Concession document have been complied with to the satisfaction of the Grantor.

28.7 If the Concessionaire breaches any condition or fails to carry out any condition of the Concession or in carrying out the Concession Activity there arise adverse effects not authorised or reasonably foreseen in the Concession document the Grantor may call on the bond entered into under this Document or any portion of it to ensure compliance with the conditions of the Concession document or to remedy or mitigate those adverse effects referred to above.

29. Safety[211]

29.1 The Concessionaire must exercise the rights granted by this Concession in a safe and reliable manner and must comply with the Health and Safety in Employment Act 1992 and its regulations and all other provisions or requirements of any competent authority relating to the exercise of this Concession. The Concessionaire must comply with its safety plan, and with any safety directions of the Grantor.

29.2 Before commencing the Concession Activity the Concessionaire must;
(a) prepare a safety plan;

[211] NOTE – the 'safety clause' is a standard condition of concession leases, but not of concession easements – for clarity it is noted here.

(b) have it audited by a suitably qualified person approved by the Grantor and forward to the Grantor a certificate from the auditor certifying that the safety plan is suitable for the Concession Activity; and
(c) the Concessionaire must obtain from the auditor details as to when the safety plan is to be re-audited. The Concessionaire must comply with any such requirement to re-audit and forward a copy of the re-audit certificate to the Grantor within 5 working days of the certificate being issued.

29.3 If clause (above) applies then if the Concessionaire amends or replaces the safety plan then before the amendment or replacement plan takes effect the Concessionaire must comply with 29.2(b) and (c).

29.4 The Grantor may at any time request the Concessionaire to provide the Grantor with a copy of the current safety plan in which case the Concessionaire must provide the copy within 10 working days of receiving the request.

29.5 Receipt of the certified safety plan by the Grantor is not in any way to limit the obligations of the Concessionaire under clause 5 and is not to be construed as implying any responsibility or liability on the part of the Grantor.

29.6 The Concessionaire must:
(a) notify the Grantor of any natural events or activities on the Land or the surrounding area which may endanger the public or the environment;
(b) take all practicable steps to protect the safety of all persons present on the Land and must, where necessary, erect signposts warning the public of any dangers they may encounter as a result of the Concessionaire's operations;
(c) take all practicable steps to eliminate any dangers to the public and must clearly and permanently mark any that remain and of which the Concessionaire is aware;
(d) record and report to the Grantor all accidents involving serious harm within 24 hours of their occurrence and forward an investigation report within 3 days of the accident occurring;
(e) ensure that all contracts between the Concessionaire and any contractors contain, at a minimum, the same requirements this clause 5.
(f) not bring onto the Land or any land administered by the Department any dangerous or hazardous material or equipment which is not required for purposes of the Concession Activity; and if such material or equipment is required as part of the Concession Activity, the Concessionaire must take all practicable steps at all times to ensure that the material or equipment is treated with due and proper care.

30. Fire Risk

Notwithstanding any clause above, the Concessionaire shall ensure that final design of the Monorail specifically considers and demonstrates appropriate design and methods to avoid the risk of fire on public conservation lands arising from construction and operation of the monorail.

Appendix A - Information for Consideration

A (i) Concession Application Overview Document (Riverstone Holdings)

A (ii) List of Documents Comprising Concession Application submitted by Riverstone Holdings Limited (RHL)

Documents Submitted November 2009

Riverstone Holdings Limited, 2009, *Fiordland Link Experience, Department of Conservation Concession Application,* 4 November 2009.

Brown, S. 2009. *Fiordland Link Experience Landscape Effects Report to accompany application for concession from the Department of Conservation*, (Appendix J). Stephen Brown Environments Limited. Auckland.

Greenaway, R. 2009. *The Fiordland Link Experience Recreation Assessment of Effects* (Appendix L) Rob Greenaway & Associates. Nelson.

Marshall Day Acoustics 2009. *Fiordland Link Noise Assessment* (Appendix H). Marshall Day Acoustics Limited. Christchurch.

Mitchell Partnerships Limited. 2009. *Terrestrial Ecology of the Proposed Fiordland Monorail Route.* (Appendix I.) Mitchell Partnerships Limited. Auckland.

Mitchell Partnerships Limited. 2009. *Riverstone Holdings Ltd Fiordland Link Experience Draft Department of Conservation Communications Protocol November 2009* (Appendix A)

Mitchell Partnerships Limited. 2009. *Riverstone Holdings Ltd Fiordland Link Experience Draft Construction Management Plan November 2009* (Appendix B)

Mitchell Partnerships Limited. 2009. *Riverstone Holdings Ltd Fiordland Link Experience Draft Operational and Environmental Management Plan November 2009* (Appendix C)

Moriarty, J.P *Fiordland Link Experience, a Tourism Assessment* (Appendix K)

NIWA 2009a. *Hydrology and River Geomorphology Assessment for the Fiordland Link Experience.* (Appendix F.) NIWA Client report CHC2009:130.

NIWA 2009b*. Assessment of the potential effects of the Fiordland Link Experience monorail on aquatic ecology.* (Appendix G). NIWA Client report CHC2009:129.

Opus International Consultants Limited. 2009. *Fiordland Link Experience Preliminary Engineering Assessment of Monorail Proposal.* Opus International Consultants Limited. Christchurch. (Appendix E).

Salmond Architecture. *Fiordland Link Experience Riverstone Holdings. Monorail Terminal Buildings for Kiwi Burn and Te Anau Downs.* (Appendix P).

Te Ao Marama. 2004. *Cultural Impact Assessment on the Ngai Tahu Spiritual and Cultural Relationship with the Manawapopore/Hikuraki [Mavora Lakes] Area, prepared for Riverstone Holdings Limited for Fiordland Link Project*, Te Ao Marama Inc. Attached as Appendix M.

Te Ao Marama Inc, *Updated Cultural Impact Assessment, Riverstone Holdings Limited for the Fiordland Link Experience* October 2010

Traffic Design Group 2009. *Riverstone Holdings Limited Proposed Fiordland Link Experience Project, Traffic Impact Assessment*. (Appendix N) .Traffic Design Group.

Documents submitted by Riverstone Holdings January 2010

Mitchell Partnerships Limited. 2010 *Spring Survey Report for Proposed Fiordland Link Experience Monorail Route.* Mitchell Partnerships Limited. January 2010.

Mitchell Partnerships Limited. *Terrestrial Ecology of the Proposed Cycle Link Route for the Fiordland Link Experience.* Mitchell Partnerships Limited. January 2010.

Documents submitted RHL July 2010 (response to external technical audit)

Riverstone Holdings Ltd, (undated but received 23 July 2010) Department of Conservation Application for Concession Monorail and Mountain Bike Track Fiordland Link Experience;

- Noise;
- Landscape;
- Terrestrial Ecology;
- Aquatic Ecology;
- Hydrology and Geomorphology;
- Construction and Operation;
- Recreation.

Documents submitted by Riverstone Holdings Limited 30 September 2010 (further response to external technical audit)

Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Response to Department of Conservation Audit Reports September 2010.*

Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Draft Predator and Weed Control Management Plan 30 September 2010.*

Mitchell Partnerships 2010. *Riverstone Holdings Ltd, Fiordland Link Experience, Draft Forest Management Plan September 2010.*

Riverstone Holdings *Guide to Conditions and Flowchart. Draft Concession Conditions, September 2010*

Letter from Riverstone Holdings Limited 4 February 2011 (response to request for comment 17U(4) Conservation Act 1987, and amendment in respect of location for Mararoa Terminus) including 3 attachments – Engineering Statement Alternative Kiwiburn Terminus (Opus); Recreation Assessment (Greenaway) and Terrestrial Ecology Assessment (Mitchell Partnerships).

Documents submitted by Riverstone Holdings Limited Oct/ Nov 2011

Mitchell Partnerships 2011*, Memorandum – Applicants Response to the Draft Determination Report – Comments, including appendices;*
Route Selection Criteria
Clearance Limitation Areas
Implementation Protocol (Draft)
Construction Management Plan (Draft)
Vegetation and Habitat Management Plan (Draft)
Recreation Users Management Plan (Draft)
Revised Conditions (Draft)

A (iii) List of Reports and Advice Received Pursuant to 17 S (4) Conservation Act 1987

Belhouse, G. 2010. Noise Audit Report: Concession Application: Fiordland Link Monorail Proposal, Bel Acoustic Consulting.

Morgan Pollard Associates, 2010 *Wildland Consultants Ltd Fiordland Link Monorail/Landscape Audit.* Morgan Pollard Associates.

Wildland Consultants, April 2010, *Audit of Terrestrial Ecological Assessment for the Fiordland Link Experience Proposed Monorail Development, Contract Report* 2401 prepared for Department of Conservation Southland Conservancy P.O. Box 743 Invercargill.

MWH, Wildland Consultants Limited. April 2010, *Fiordland Link Concession Application, Technical Assessment of Selected Aspects*, MWH New Zealand Limited.

Goldsmith, R. Ryder, G. March 2010. *Department of Conservation Riverstone Holdings Limited: the Fiordland Link Experience, Concession Application Technical Audit*, Ryder Consulting.

Kazmierow, B. March 2010 . *Technical Audit Report - Recreation. Riverstone Holdings Ltd Concession Application Technical Audit.* Bronek Kazmierow - Recreation and Tourism Consulting

Department of Conservation, Nov 2010, *Riverstone Holdings Monorail Application – Freshwater advice (DOCDM 467980)*

Department of Conservation, Nov 2010, *Riverstone Holdings Monorail Application – Biodiversity Technical Support Advice (DOCDM 671467)*

Also – various internal comment and peer review made directly into Officers Report from November 2010 to present (Nov 2011)

A (iv) Applicant's response to audit reports (July & Sept 2010)

A (v) Applicant's comment section 17U(4) Conservation Act and Alternative site Kiwi Burn Terminus

A(vi) Comments from Southland Conservation Board (December 2010)

6 December 2010

Chris Visser
Concessions Officer (Contract)

Dear Chris

Feedback on the Concession Application Riverstone Holdings (Monorail and construction track / mountain bike track, Snowden Forest) from the Southland Conservation Board.

This is a large and complex concession application with a number of issues. The Southland Conservation Board makes the following comments regarding the above project.

1. The proposed monorail and mountain bike track passes through a number of different Conservation Landscape Unit areas including the Snowdon Forest, Mavora Lakes and Fiordland National Park.
It is also part of the Te Wahipounamu (South West New Zealand) World Heritage Area.

2. The Monorail Project. The Mainland Southland – West Otago Conservation Management Strategy 1998 – 2008 (CMS) mentions a proposal for a monorail from Mt Nicholas to Te Anau Downs in Section 6.19 (Pg 296) Mavora and 6.20 (Pgs 306 – 309)Te Anau Basin Landscape units. This activity was noted in Objective 3 (Pg 307) "To ensure that any proposal for a monorail (or other similar activities) avoids damaging important natural values including landscape features in this unit; and that any proposed route through Snowden Forest is fully assessed for its effects on the existing back country walk-in and/or remote recreation opportunities for that area."

With this in mind, the Southland Conservation Board acknowledges that the Monorail is allowable under the current CMS. It is not specifically mentioned in the Fiordland National Park Management Plan (FNPMP) but a transport node is allowed for in section 5.3.9.6 Implementation 4 (pg 195). The monorail terminal would meet those criteria, as it has the listed purpose of "reducing the perception of congestion and overcrowding at Milford Sound / Piopiotahi and along the Milford Road".

It is assumed that if a monorail were to proceed, the attendant construction / maintenance track with the spur tracks would be part of this development. The monorail could not proceed without it.

However The Conservation Board is concerned the effects of the proposed route may have on the back country and recreation opportunities in the area.

3. **Provisions for a mountain bike track**
The Monorail will need an attendant maintenance track, and the proposal for a Mountain Bike trail using this maintenance track has merit. However the mountain bike track becomes a separate entity from about the 29 kilometre point and travels through pockets of conservation land whilst the monorail continues through private land towards Te Anau Downs.

The CMS provides some direction on the issue of a new mountain bike facility. Section 4.3 (Pg 122) "Any recreation or tourism development has the potential to create … and alter the recreation opportunities already provided… The construction of facilities can alter the entire character of a recreation setting and set in place a chain of events that can have substantial and often unexpected consequences…" Objective 4 states "Encourage the involvement of recreation user groups and community and tourism interests in the planning, development and maintenance of recreation facilities."
Section 4.7 Objective 1 allows "the use of bicycles only on formed roads and on designated tracks where their use can be undertaken to acceptable levels of ecological, social and physical impact".

A new road would have to be built to enable the proposed mountain bike track to go ahead. Section 4.8 Implementation 1 effectively allows for this.

Section 6.20 Opportunity Objectives 2 and 4 could allow mountain biking in the area.

Objective 2 states: ”To allow horse trekking and mountain biking in specified back country areas where they are compatible with the protection of natural values.”
Objective 4 states: ”To provide opportunities outside of central Snowden Forest for visitors to enjoy backcountry areas which offer day and overnight recreation opportunities.”

The board notes that a mountain bike track through this area would complement the “Round the Mountain” cycle way and link into the proposed cycle-way between Te Anau and Manapouri. It is also aware of a growing interest in mountain biking as a leading recreation in New Zealand.

A new mountain bike track in the area using the maintenance track could be supported from the CMS however the Riverstone Holdings Monorail proposal is very short on details for the proposed bike track, with no definite route shown from about the 29 km point. There has been no public consultation for a mountain bike track in the area. Until further information is known about this, the Southland Conservation Board cannot support the Mountain Bike track as part of this application.

4. Concessions in Te Anau Basin Area. The proposed Monorail operation would be in breach of CMS Section 6.20, Implementation 9: “Concessions will be limited to low impact day use excluding weekends and statutory holidays…” The monorail proposal is not limited to weekdays therefore would be in breach of the CMS.
The specific restrictions on weekend and statutory holiday use do not apply to other lands administered by the Department outside of the Snowdon Mountains and the Conservation Board would offer that this is an anachronism and is unreasonable to be applied now.

The monorail construction will not be a low impact activity; therefore the current application is not consistent with the CMS. The actual monorail bed and the attendant maintenance track is also not low impact, covering 29.5 kilometres of Conservation land and requiring the removal of vegetation, bridging, rerouting of walking tracks, placement of a new hut, and the building of terminal buildings on Conservation land.
The building of a terminus building at Te Anau Downs is covered in the FNPMP Section 5.3.9.6 Implementation 4 allows for a request to be made to further develop this site as a transport node for the purpose of reducing the perception of congestion at Milford Sound.

5. Impacts of the Riverstone Holdings Concession;
If the proposed monorail passes through the Mavora Lakes Park the following statements in the CMS (Pg 296) need to be addressed “When such proposals are considered the remote qualities and ecological values of the park must not be adversely affected”. And Section 6.20 Objective 3 quoted above in point 2, “The Monorail Project”

Any negative effects on natural values including landscape features, social effects on other recreational users, on the habitat for flora and fauna and cultural values must be avoided.

Many of the known impacts have been addressed to some degree in Riverstone Holdings extensive plans. However the board still has concerns including:

a. Visual effects. Whist the monorail, the monorail track and the maintenance track will be largely through bush, the sheer size of the track – two metres and up to six above ground in places, with a swath cut through the bush means despite the very best intentions, the track will be visible from a distance. Probably more so than closer at hand. Currently the area is largely unmodified and visitors can experience a “remote” feeling.

The terminal building at the Kiwi Burn end will be visible from conservation land as well as adjoining private land. This is an area with very few buildings so the visual impact of a large terminal building may be significant. It is likely that the terminal and monorail will be seen from a number of peaks in the area.

Although the route of the proposed monorail does not go through the Central Snowdon remote area a section of the proposed track does go along land adjacent to the remote area. This could result in significant adverse effects for users of the remote area as the monorail route is likely to be visible in places.

b. Noise Impacts. In the CMS, Section 4.2 (p. 119) states "Snowdon Forest is an easily accessible and relatively easily navigated backcountry area, which currently provides an area with few facilities and with a level of use that retains a quiet, remote atmosphere".

While it is noted that Riverstone Holdings have opted for a quiet operating system with the design of the monorail, the noise impacts, though sporadic during operation of the monorail, could detract from the enjoyment of other users of conservation land in the area.

During construction phase, the adverse impacts from noise is likely to be significant and could have a significant adverse effect on the enjoyment by other users of the natural quiet of the area. This is especially the case for users of the Central Snowdon remote area.
Depending where the Kiwi Burn hut and track are to be relocated, noise from the monorail may have a significant impact on users of the Kiwi Burn track and hut.

In the Riverstone Holdings concession Overview Document, Section 2.1 (Page 8) states "Once operational, the monorail and mountain bike track will require maintenance, and access will be required for emergency situations. Such activities will involve vehicle and (occasionally) helicopter access to the tracks.
The CMS however (6.20, Implementation 6 pg 309) states "To retain the quiet, remote atmosphere of the Snowden Forest area, Aircraft access will be permitted only for management and search and rescue purposes." Helicopter use for Riverstone Holdings will only be allowed in SAR context, not maintenance.

c. Ecological Impacts. While it is pleasing that the proposed monorail track is to avoid the high value wetland areas, there will still be the removal of an estimated 22 hectares of established native vegetation on conservation land to form the tracks – this is a significant adverse effect which it is difficult to fully mitigate. Riverstone Holdings have an expansive weed control programme planned (Attachment 2 Draft Predator and Weed Control Management Plan). Section 4.6 Post Construction – Rehabilitation lays out plans for rehabilitation, however rehabilitation needs to use proven methods and 'direct transfer' needs to be adhered to with the plants not held in storage. In Riverstone Holdings Forest Management Plan 3.1.3 regarding monitoring it states "This may include photo points …" The Board is of the opinion photo points would be essential to give an accurate measure of the state of the rehabilitation.
The removal of significant stands of vegetation can negatively impact on remaining vegetation through exposure to environmental effects such as wind and light. The risk of significant damage to additional native vegetation would need to be mitigated, not only from a vegetation aspect but also a safety aspect.
It is essential that the planned predator control programme be fully activated along the corridor of the tracks.
Trees removed in the forming of the tracks need to be checked for nests of endangered birds, for example Kaka, and bat roosts. Removal of old trees should be done outside roosting / nesting seasons.

Sections 6.19 and 6.20 of the CMS note that the Snowdon Forest is part of the SWNZWHA and contain internationally significant low tussock altitude grasslands. A monorail and mountain bike track could have significant adverse effects on these internationally significant plant communities. Section 2.2 (p. 24) notes that "tussock grasslands are one of the most under-represented ecosystems in the protected areas of Mainland Southland/West Otago".

Any gravels and other materials entering the area must be screen for unwanted organisms such as weed seeds, didymo. Preferably all materials will be precast (as is planned for the concrete beams etc) or obtained on site.

d. Recreational / Social Impacts on existing users. The CMS Section 6.20 (p. 307) acknowledges the use of the Kiwi Burn Hut as a popular destination for families and less experienced trampers. In Implementation 7 pg 309 provision is made for changing the location of the Kiwi Burn track and hut if the monorail proposal goes ahead. It is essential that this occurs before any work on the monorail track begins so that users of this popular and easily accessible area can continue to enjoy the area.

The Kiwi burn track is particularly enjoyed by many because it has an interesting mix of forest and open clearings. To be as popular, the new track would need to have a similar mix. As a result of both visual and noise impacts, there is a risk that the traditional users of the Kiwi Burn track and hut will no longer wish to use them, because the presence of the monorail and terminal building at the Kiwi Burn removes the backcountry feel of the track and hut.

The proposed monorail track travels between the Whitestone and Upukerora valleys along the "finger" and "Ascension Creek". This is a tramping route, easily accessible within the Snowden Forest, linking two open valleys providing a rugged back country experience. This will be lost totally unless a replacement route of a similar nature is opened. This does not appear to be mentioned in the concession proposal, and is not allowed for in the CMS. Losing this route will have an impact on users such as hunters, fishermen and trampers.

6. In the event of the monorail project being (a) not able to be completed or (b) ceasing to be used, a clause needs to be included in the contract to cover removal / restoration costs etc of the whole project at no cost to the public or DoC.

A(vii) Applicant Response to preliminary Draft Determination Report (21 October 2011)

Appendix B - Provisions General Policy for National Parks

Section 44 of the National Parks Act 1980 provides for the adoption by the New Zealand Conservation Authority (the Authority) of statements of general policy (General Policy) that give both direction and guidance to conservation managers and to communities on how to preserve and protect these special areas and the indigenous species in them. In particular, the purpose of this general policy is to implement the National Parks Act 1980 and to provide consistent national direction for the administration of national parks through conservation management strategies and national park management plans..... The national park management plan for a national park has to be consistent with the general policy for national parks. If a course of action is proposed or an issue arises on which a national park management plan is silent, the General Policy (as well as the National Parks Act 1980 and the relevant conservation management strategy) will still need to be taken into account for any direction or guidance it gives on the issue. Specifically the Department is required, subject to the National Parks Act 1980 and in accordance with the General Policy, and any conservation management strategy and national park management plan covering a national park, to 'administer and manage all national parks in such a manner as to secure to the public the fullest proper use and enjoyment of the parks consistent with the preservation of the natural and historic features in the protection and well-being of the native plants and animals'. (Section 43, National Parks Act 1980)

1(a) The policies in this General Policy will apply to all national parks.

1(d) The words 'will', 'should' and 'may' have the following meanings:
(i) policies where legislation provides no discretion for decision-making or a deliberate decision has been made by the Authority to direct decision-makers, state that a particular action or actions 'will' be undertaken;
(ii) policies that carry with them a strong expectation of outcome, without diminishing the constitutional role of the Minister and other decision-makers, state that a particular action or actions 'should' be undertaken;
(iii) policies intended to allow flexibility in decision-making, state that a particular action or actions 'may' be undertaken.

8.6 Vehicles and other forms of transport

8.6(a) a national park management plan should specify where the use of vehicles and any other forms of transport may be allowed;
(i) consistent with the outcome planned for places; and
(ii) where adverse effects on national park values, including natural quiet, can be minimised.

8.6(f) Powered vehicles
powered vehicles should not be taken into or used in national parks except on roads formed and maintained for vehicle use, and on routes specifically approved for use by specified types of powered vehicle in a national park management plan

10. Activities Requiring Specific Authorisation (not covered elsewhere, including tourism activities)

10.1(b) any application for a concession or other authorisation will comply with, or be consistent with, the purposes of the National Parks Act 1980, the statutory purposes of the place with the activity is located, the conservation management strategy and national park management plan

10.3 Utilities and Roading
The presence of utilities and development of new roads is generally inconsistent with the preservation of national parks in a natural state. It is considered that there is sufficient roading in existing national parks and that further roads are not desirable. The need for ongoing maintenance and potential upgrading of existing roading infrastructure is recognised. There may be circumstances when location of utilities within a national park will be unavoidable; but the adverse effects of any such utilities and access to them should be minor. No roads, tracks, or routes can be constructed and no building or machinery can be erected in a wilderness area within a national park.

Policies
10.3(a) Utilities may be provided for in a national park where:
(i) they cannot be reasonably be established in a location outside the national park or elsewhere in the national park where the potential adverse effects would be significantly less;
(ii) they cannot reasonably use an existing structure or facility;
(iii) their provision, uses and the means of access to them is not inconsistent with the recreational uses and opportunities of the site; and
(iv) they have minimal impact on ecological values, scenery and natural features and on the qualities of solitude, remoteness, wilderness, peace and natural quiet.

10.3(b) Conservation management strategies and national park management plans should require that utilities be of a scale, design and colour that harmonises with the landscape and any seascape, and not have an adverse effect on the natural state of the national park.

10.3(c) The construction or extension of utilities should take into account cultural values and avoid detrimental effects on wahi tapu.

10.3(d) A lease granting an interest in land with exclusive possession for a utility should be considered only when exclusive possession is necessary for the protection of public safety or the physical security of the activity or for its competent operation.

10.3(e) Co-siting of telecommunications and associated facilities should be required, to reduce the adverse effects of the facilities and the access to them, unless applicants can demonstrate that this would be impracticable.

10.3(f) Utilities that are redundant should be removed from the national park for the purpose of minimising adverse effects on the landscape, and the site restored as far as possible to a natural state.

10.3(g) When new facilities are installed or existing facilities upgraded, equipment and technology that reduces visual and other environmental effects should be required.

10.3(h) No new roads will be made over or through a national park except with the consent of the Minister given in accordance with the national park management plan.

10.3(i) New or upgraded roads provided for in a national park management plan should have minimal effect on natural features and those undertaking the construction should take measures to mitigate any adverse effects, including:
(i) avoidance of fragmentation of habitats and ecosystems;
(ii) rehabilitation of surfaces of earthworks;
(iii) weed control; and
(iv) collection and treatment of storm water run-off.

Appendix C Departmental Standard Concession Conditions.