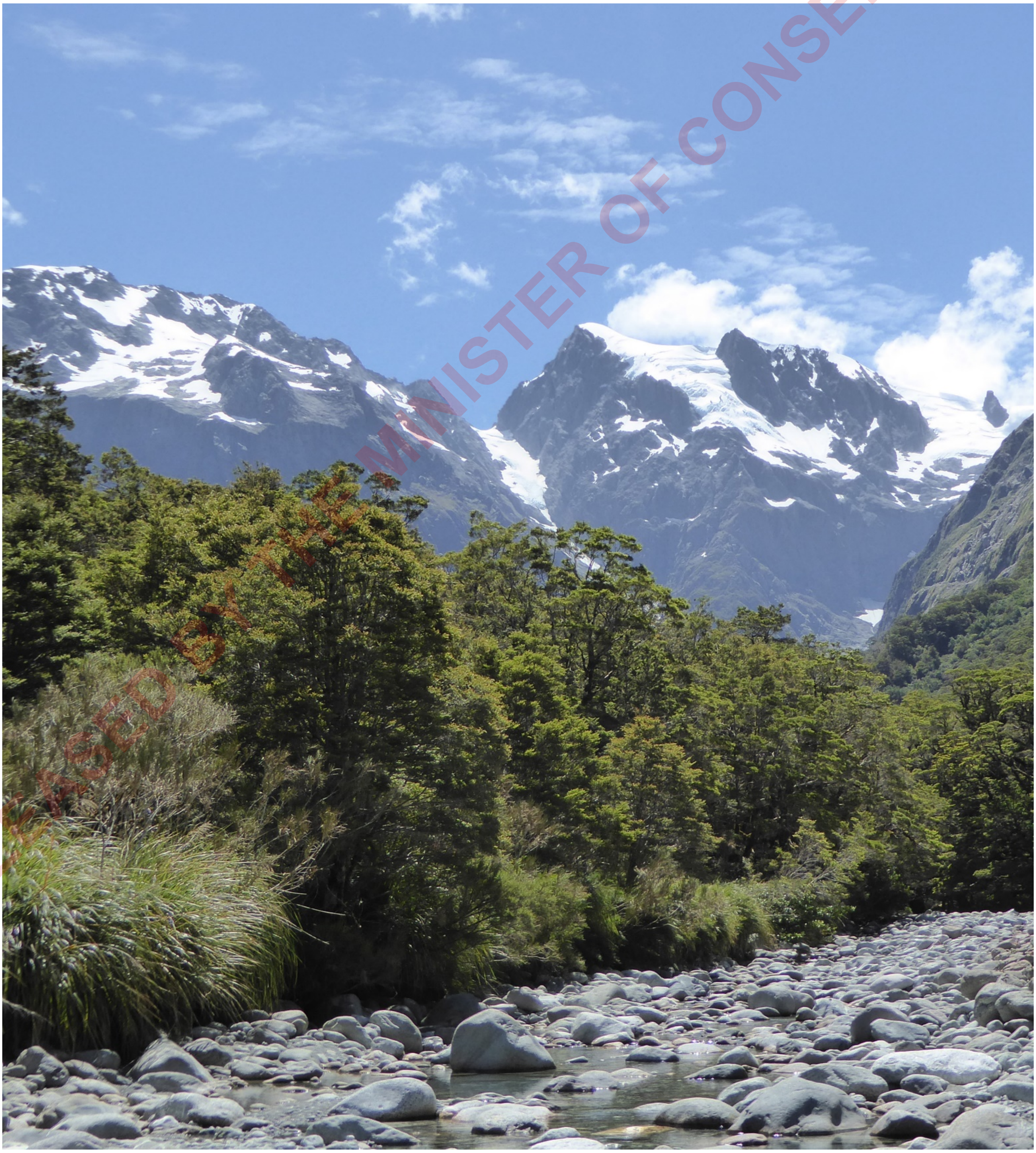
World Heritage Impact Assessment of Milford Opportunities Project Proposals

Feasibility Stage Assessment

Prepared for Milford Opportunities Project



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Executive Summary

Milford Sound Piopiotahi is Aotearoa New Zealand's premier visitor attraction and world class iconic destination. Located within Aotearoa New Zealand's largest National Park (Fiordland) and within Te Wāhipounamu – a UNESCO World Heritage Site, the current management of recreation and tourism along the Milford Corridor and at Milford Sound Piopiotahi needs new thinking to protect its World Heritage Status; cultural and conservation values; and overall visitor experience. A Masterplan has been developed to provide a plan to respond to the stresses on the road corridor and Milford Sound Piopiotahi to ensure a strong future for the corridor and Milford Sound Piopiotahi.[1] A number of additional components have been proposed following the preparation of the Masterplan, which have been incorporated into this assessment as described in the body of the report.

Aotearoa New Zealand has obligations under the World Heritage Convention to protect and conserve World Heritage. Changes both within and adjacent to World Heritage properties need to be managed in line with the Convention's objectives. Accordingly, decisions about any proposed actions that affect World Heritage properties should ensure the protection and conservation of the Outstanding Universal Value of the World Heritage property.

This report outlines an assessment of effects on the outstanding landscapes and ecosystems within the World Heritage area, which will predominantly occur within or adjacent to nodes of existing modification along the Milford Corridor and at Milford Sound Piopiotahi. Landscape and ecosystem attributes are the principal focus of the values for which Te Wāhipounamu was recognised as a Word Heritage Area.

There are potential impacts of the proposals on the values and attributes of Te Wāhipounamu, but these are minimised to a certain extent by the overall objective of focusing changes within areas of existing modification, and by focussing the majority of any necessary development to areas which have previously been modified.

The proposals will result in some modification to attributes which reflect the values of Te Wāhipounamu, namely:

- Establishment of a new overnight walk with an alpine hut;
- Localised forest clearance associated with upgrades to, and the establishment of new tracks and car parking areas; and
- The establishment of a cable car and viewing platform near the top of Bowen Falls, and a new visitor centre and accommodation in Milford Sound Piopiotahi

Recommendations have been made to minimise the impact of the above activities, which include:

[1] Milford Piopiotahi Opportunities Project: A Masterplan for Milford Sound Piopiotahi and The Journey (Revision A), 3 May 2021

- Consolidating the number of tracks, utilising existing tracks where possible, and minimising the length and footprint (width) of tracks.
- Avoiding the clearance of canopy trees.
- Re-routing tracks to avoid important fauna habitats (acknowledging that there may be geographical constraints that pose logistical challenges to achieve this in all instances).
- Sensitive location and design of the proposed cable car access and platform outside the visual catchment viewed by visitors on boats within Milford Sound Piopiotahi, and to ensure that the very high landscape values associated with Bowen Falls do not become compromised by the presence of new infrastructure and a look out point.
- Locating modifications and structures in parts of the landscape where adverse effects on scenic open views can be minimised as much as possible.
- Undertaking specific faunal surveys at later stages of the project to manage effects on indigenous fauna, including those species that are considered to be primitive taxa of Gondwanaland.
- Ensuring that new outdoor lighting is avoided in the first instance, but where it is considered essential, that it is operated via motion sensors, and must use warm-spectrum, hooded and downward pointing lights of the minimum brightness required to serve their purpose and should minimise light spill.
- Establishment of a mechanism for an ongoing financial resource (e.g. from the proposed visitor levy) to support kea advocacy work.
- Landscape-scale control of introduced mammalian predators as an integral component of the Masterplan.

This Impact Assessment reflects recommendations made in the Preliminary Assessment of Environmental Effects report that certain aspects of the proposals are not progressed due to the level of forest clearance required resulting in a significant adverse effect which is unlikely to be able to be managed to an appropriate level. These aspects are:

- the Hine-te-awa Bowen Falls Top Links concept;
- the Little Tahiti heliport or staff accommodation options; and
- the Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail.

Overall, this Impact Assessment finds that the proposals will have very low adverse effects on the attributes that reflect the values of Te Wāhipounamu, subject to the recommendations being given effect to. The proposals will also result in positive impacts on the values of Te Wāhipounamu given the more proactive approach that will be taken to visitor and destination management and the landscape scale pest management. Providing a wide range of opportunities will assist in providing visitors with a more in-depth experience of the natural environment along the Milford Corridor. This will also encourage visitors to spend at least a full day in the area, easing the pressures of simultaneous visitor arrivals in Milford Sound Piopiotahi.

At this stage, based on the information available and subject to the recommendations in this report being given effect to, the protection and conservation of the Outstanding Universal Values of the World Heritage property is anticipated to be achieved.

It will be important that this Impact Assessment is further developed and refined throughout the various design stages and implementation process to inform each subsequent stage of the proposal. It should be used on an iterative basis to make sure that ongoing design of the proposals and their implementation achieve protection and conservation of the attributes and values of Te Wāhipounamu.

There may be opportunities to review and update the Statement of Universal Value (SOUV) for Te Wāhipounamu once the proposals have been implemented to reflect any changes arising, and to also reflect the strong cultural values associated with the World Heritage Area.

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1.0 Introduction

Milford Sound Piopiotahi is Aotearoa New Zealand's premier visitor attraction and world class iconic destination. Located within Aotearoa New Zealand's largest National Park (Fiordland) and within Te Wāhipounamu – a UNESCO World Heritage Site, the current management of recreation and tourism along the Milford Corridor and at Milford Sound Piopiotahi needs new thinking to protect its World Heritage Status; cultural and conservation values; and overall visitor experience. A Masterplan has been developed to provide a plan to respond to the stresses on the road corridor and Milford Sound Piopiotahi to ensure a strong future for the corridor and Milford Sound Piopiotahi.

The goal for the development of opportunities along the Te Anau-Milford Highway was to take the sensitivities of the landscape and ecosystems into account and protect these special places in a sustainable way, as they are the predominant reasons that visitors are attracted to the area. The key to providing a world class visitor experience lies in a sound understanding of the resource, including the landscape and ecological values of the area identified in the Statement of Universal Value (**SOUV**) by UNESCO for Te Wāhipounamu, and in tailoring a recreation offering that is contemporary, unique to place, and future-facing.

While the ecological and landscape values throughout the Milford Road corridor and beyond are high, the Te Anau Basin and Fiordland landscape also contains areas that have an ability to absorb change if undertaken in a sensitive way. The design of the Masterplan prepared in Stage 2 of the Milford Opportunities Project (**MOP**) took into account the protection of the existing values found in and adjacent to Te Rua-o-Te-Moko Fiordland National Park. [2] This formed the basis for site selection for the proposed interventions and development opportunities identified in the Masterplan to ensure that the landscape, biodiversity, amenity and scenic values of Fiordland are respected and protected for future generations.

The visionary planning of world-class visitor experiences and recreation opportunities undertaken for the MOP Masterplan aimed to:

- Ensure that any development upholds the World Heritage status, conservation values, including landscape values, set out in the National Park Management Plan.
- Alleviate pressure on hotspot areas where sensitive resources cannot absorb further development.
- Utilise areas within the landscape for future development that have a high capacity to absorb change.

The landscape and ecological input provided as part of the MOP Masterplan development included extensive review and feedback on proposed visitor destination enhancements and developments throughout the long-listing and short-listing process. The iterative design process took into account the landscape and ecology feedback, including feedback received from the Environmental Reference Group and the Department of Conservation (**DOC**).

A description of the existing environment was provided to the MOP team to inform the baseline reporting on existing landscape attractions and sensitivities in the western Southland area that may be experienced by visitors to Te Anau on their approach from Queenstown or Invercargill. As the design progressed, more detailed ecological and landscape assessments were provided

[2] Milford Piopiotahi Opportunities Project: A Masterplan for Milford Sound Piopiotahi and The Journey (Revision A), 3 May 2021

for the Milford Corridor between Te Anau and Milford Sound Piopiotahi. This ensured that the existing landscape and ecological values were captured at three different scales, as required by the design phases of the project.

This report outlines an assessment of effects on the outstanding landscapes and ecosystems within the World Heritage area, which will predominantly occur within or adjacent to nodes of existing modification along the Milford Corridor and Milford Sound Piopiotahi. The close collaboration of the landscape and ecological experts informed the master planning process through identification of areas most suited for development, both in terms of land/ecosystem capability and opportunities to harness the greatest experience of the landscape for visitors. For each of the visitor destinations identified for development or enhancement in the Masterplan an evaluation of the areas most suited for development was provided together with relevant recommendations relating to the design of buildings, structures and tracks.

This report is focused on assessing the effects and implications of the proposals outlined in the Masterplan, and some proposals that have arisen since the Masterplan was finalised (the MOP Proposals). However, the current feasibility testing and business case process involves presenting a range of options for consideration by decision makers. While these options closely reflect the Masterplan, both in terms of the overall vision and objectives and specific projects, some options contain differences from what was initially proposed.

For example, while the Masterplan proposed a transport model that involved restricting private vehicle access to the road and use of hop-on-hop-off buses, options are being explored that include retaining private vehicle access. So, while the findings of this assessment reflect the broad ambit of what is proposed, a final assessment of UNESCO implications will be needed when decisions on the final approach are taken. This would likely occur through future stages of the assessment process including detailed design, concessioning and consenting processes. The remainder of this assessment sets out:

1. An overview of the relevant legislative context and international convention obligations (Section 2.0)
2. A summary of what an impact assessment against the SOUV for a World Heritage area is required to cover (Section 3.0)
3. An overview of the Masterplan proposal (Section 4.0)
4. A description of the way in which the impact assessment has been approached given the stage the project is at (Section 5.0)
5. The impact assessment (Section 6.0)
6. Summary and conclusion (Section 7.0)

2.0 Legislative context and international obligations

As noted above, Te Wāhipounamu is a World Heritage Area. As such, Aotearoa New Zealand has obligations under the World Heritage Convention to protect and conserve World Heritage. Changes both within and outside World Heritage properties need to be managed in line with the

Convention's objectives.[3] Accordingly, decisions about any proposed actions that affect World Heritage properties should ensure the protection and conservation of the Outstanding Universal Value of the World Heritage property.

Aotearoa New Zealand's legislative and regulatory framework recognises the World Heritage status of Te Wāhipounamu in a number of ways variously under the Conservation Act 1987; the National Parks Act 1980; the Resource Management Act 1991; and their various instruments as summarised in Figure 1 below.

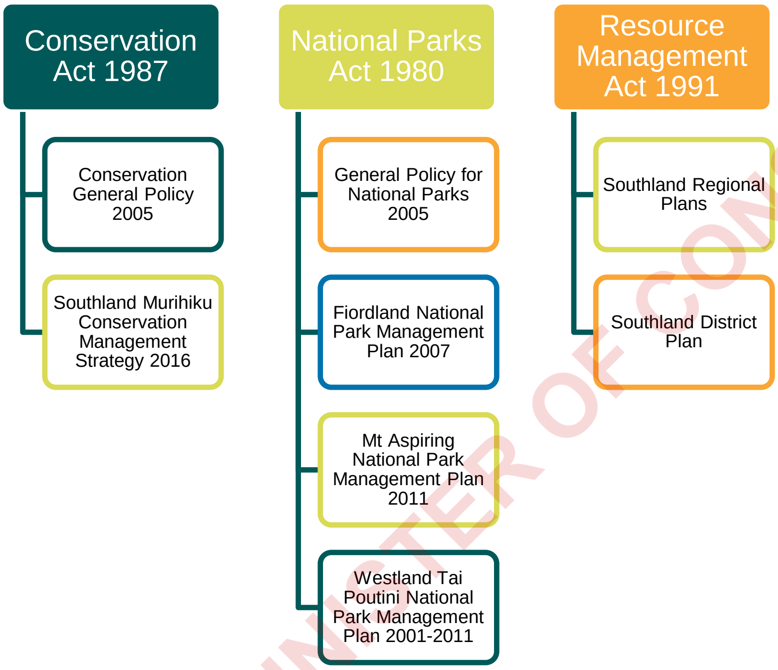

Figure 1: Overview of the various legislative statutes and instruments that relate to the management of activities within Te Wāhipounamu

It is acknowledged that if the proposal proceeds beyond the feasibility and business case phase, the proposal will be required to obtain a range of permissions and authorisations to fulfil these and other legislative requirements. This will require assessment of the proposals against the SOUV for Te Wāhipounamu.

This assessment provides a high-level initial assessment of the proposals against the SOUV for Te Wāhipounamu to inform the business case.

3.0 Impact assessments in a World Heritage Context

UNESCO published *Guidance and Toolkit for Impact Assessments in a World Heritage Context* in 2022. This guidance explains how impact assessments can be used to protect the

[333] *Guidance and Toolkit for Impact Assessments in a World Heritage Context* UNESCO 2022, page 6

Outstanding Universal Value of World Heritage properties in order to manage continuity and change by informing good decision making in the context of the World Heritage Convention.

The UNESCO Guidance sets out a number of principles that should inform Impact Assessments. Commentary as to how this Impact Assessment meets the principles set out in the UNESCO Guidance is set out in Table 1 below, noting that this Impact Assessment has been prepared to inform the feasibility and business case phase of the project.

Guidance principles	Comments – current project stage	Comments – future project stages
All states parties have obligations to protect and conserve World Heritage	These are enduring principles to inform all phases of proposals within World Heritage properties.	
Impact assessment can help achieve sustainable development that is compatible with the protection and conservation of World Heritage.		
Any impact assessment on a World Heritage property should address OUV specifically, as well as other heritage/conservation values.	It is important to identify and address 'other' heritage and conservation values beyond the OUV in any assessment framework. This Impact Assessment describes other heritage and conservation values that are identified within Te Wāhipounamu in the assessment in Section 6.0 of this report.	Other heritage / conservation values may evolve over the project's timeframe, so it will be important that future Impact Assessments recognise the most current values.
Impact assessments should be carried out by specialists with the relevant expertise.	This Impact Assessment has been undertaken by a highly experienced team comprising a planner, ecologist and landscape planner.	This should be a project planning and resourcing consideration at all future phases of the project.
State parties have an obligation to notify the UNESCO World Heritage Centre in advance before considering any proposed action.	The authors understand that DOC sent a letter to the World Heritage Centre on 6 July 2023 to advise the Centre of the Milford Opportunities Project, in accordance with the Department's obligations under the World Heritage Convention.	DOC will continue to be responsible for ongoing liaison with the World Heritage Centre in relation to this project.

Guidance principles	Comments – current project stage	Comments – future project stages
Impact assessment should begin at the earliest consideration of a proposed action that may impact on World Heritage, and should continue during and after the action's development and action	This Impact Assessment outlines the principles that informed the Masterplanning stage, and which reflected the SOUV for Te Wāhipounamu (see Section 4.0 of this report). An Impact Assessment of the proposals against the SOUV to inform the business case decision is set out in Section 6.0 of this report.	In future project stages, it is anticipated that this Impact Assessment will be used throughout the various design stages and implementation process to inform each subsequent stage of the proposal. It is likely that it will be used on an iterative basis to make sure that design proposals and implementation achieve protection and conservation of the SOUV. It will be important to capture any aspects of existing infrastructure that will be decommissioned, and how recovery of those areas will be managed. It will also be important to assess temporary construction aspects (e.g. access tracks, electricity supplies) even if they will ultimately be removed and rehabilitated. Programming and planning of detailed assessments for consents and authorisations should be informed by the requirements of an Impact Assessment that meets best practice standard for a World Heritage Property.
Impact assessment should promote and encourage the effective, inclusive and equitable participation of rights-holders, including indigenous peoples, local communities and other stakeholders.	While not specifically focussed on informing this Impact Assessment, engagement informed the Masterplan, and is detailed within that document. While engagement has not been undertaken to directly inform the preparation of the Impact Assessment (at this stage), engagement about the wider Masterplan	Future project stages should ensure that participation in impact assessment phases will occur throughout project cycle.

Guidance principles	Comments – current project stage	Comments – future project stages
	proposals has been undertaken throughout all stages of the projects. This has included: Stage 1 • A series of meetings between the MOP working group and more than 100 stakeholders during September/October 2018. Stage 2 • A series of updates to stakeholders during November and December 2019. • Engagement with stakeholders about the long list of options in July 2020. • Engagement with stakeholders about the short list of options in October 2020. Stage 3 Targeted engagement with a range of stakeholders from March – December 2023.	
Impact assessment should identify a range of reasonable alternatives and assess their potential impacts.	The Masterplanning process involved the development of a long list of options that were subsequently shortlisted. Section 4.0 of this report provides further details on how specialist input relevant to the values and attributes of Te Wāhipounamu informed this short-listing process.	Future project stages should ensure that Impact Assessments capture the various alternatives that are considered throughout feasibility, detailed design and consenting phases – which may need to be captured in an iterative way as a result of the function of the ongoing 'sense checking' of detailed design options against the SOUV.

Guidance principles	Comments – current project stage	Comments – future project stages
		Detailed Impact Assessments at future project phases should also consider options for the decommissioning of any infrastructure/elements (including activities) that will no longer be needed.
Impact assessment should evaluate broader trends and cumulative impacts	This is a general principle that applies throughout all project phases, and will depend on trends and cumulative impacts at the time of any assessment.	
Impact assessment is an iterative, not a linear, process.	General principle that applies throughout all project phases.	It will be important that the Impact Assessment is integral to the way that future project stages are designed, delivered and managed.
Impact assessment processes should be embedded in the management system of the World Heritage Property.	Details of the various legislative instruments that currently manage activities within Te Wāhipounamu are set out in Section 2.0 of this report.	Subsequent project phases will involve seeking authorisation(s) under these various legislative instruments.

Table 1: Overview of how this and future stages of the project give effect to the guidance principles in the UNESCO Guidance

3.1 Introduction to the values and attributes of Te Wāhipounamu

The SOUV for Te Wāhipounamu describes the values and attributes that the WHA exhibits against the relevant criteria for recognition of World Heritage Properties. In summary, and at a high level, the values for which Te Wāhipounamu was recognised as a World Heritage Area focus largely on its landscape and ecological values, including:

- The many natural features that contribute to New Zealand's international reputation for superlative landscapes, such as its highest mountains, wildest rivers and gorges, and most rugged coastlines.
- The unmatched level of composition, extent and intactness of the temperate rainforests of Te Wāhipounamu anywhere else in the world. Most of Te Wāhipounamu is covered with ancient and original growth stands of southern beech and podocarp forest.
- The world class landscapes and areas of magnificent primeval vistas, with only traces of human influence evident, mainly in peripheral areas.
- Representation of the best modern example of the primitive taxa of Gondwanaland such as flightless kiwis, carnivorous land snails, and 14 species of podocarp and genera of beech.

- An outstanding example of the impact of the Pleistocene epoch of earth history, with ice-carved landforms created by Ice-Age glaciers dominating the landscape.
- A continuum of largely unmodified habitats exhibiting a high degree of geodiversity and biodiversity.
- Long associations of tangata whenua with the area.
- Containing an extensive range of Aotearoa New Zealand's unusual endemic fauna, which represents Aotearoa New Zealand's long evolutionary isolation and absence of mammalian predators.

4.0 Overview of the Masterplan proposal

The corridor along State Highway 94 extends between Te Anau township and Milford Sound Piopiotahi. The highway initially follows the eastern shore of Lake Te Anau to Te Anau Downs. From there the road extends along the Eglinton Valley as far as the Divide which forms the watershed to the Hollyford Valley draining in a westerly direction. As the road climbs upwards along the Hollyford Valley towards Homer Tunnel the landscape character becomes more and more alpine. The road on the western side of Homer Tunnel provides access to the coastal Fiordland character area, as the road drops steeply to sea level at the head of Milford Sound Piopiotahi. A distinctive experience can be gained in each of these different sections along the Milford Road corridor.

Throughout the MOP Masterplan design process multi-disciplinary input was provided to prepare a long and shortlist of options that may be included in the final Masterplan. Some of the over-arching management approaches apply to the entire corridor as drivers for the development of individual ideas within the Project.

Two of the key drivers and recommendations set out in the Masterplan for the management of visitors along the corridor and within Te Anau and Milford Sound Piopiotahi were:

- the change of transport models that minimise the use of private vehicles.
- the development of Te Anau as a visitor hub that encourages visitors to stay overnight.

Providing a wide range of opportunities will assist in providing visitors with a more in-depth experience of the natural environment along the Milford Corridor. This will also encourage visitors to spend at least a full day in the area, easing the pressures of simultaneous visitor arrivals in Milford Sound Piopiotahi.

The public transport model proposed in the Masterplan is focused on a mix of tour bus, hop-on-hop-off and express buses with a transport interchange / terminal to be located in Te Anau. Various other options for transport models are being explored through the feasibility process, including retaining the use of private vehicles alongside buses. The objectives for the transport model are to support a slower, more immersive experience on the Milford Road and in Milford Sound Piopiotahi.

In order to extend the visitors' stay it is considered desirable to provide more attractions along the Milford corridor in addition to the Milford Sound Piopiotahi (currently mostly boat related) experiences. To facilitate these extended visits, it is planned to develop a visitor hub in Te Anau.

During the masterplanning process for proposed visitor experiences / destination enhancements the landscape and conservation advice, in combination with a hazards / climate change risk analysis, pointed to the adoption of an approach that aims to cluster development in areas that have already been modified to minimise sprawl of modification on conservation land. Given that Te Rua-o-Te-Moko Fiordland National Park is of very high value from a landscape and conservation perspective it was considered preferable to consolidate nodes of development instead of scattering visitors and associated modifications across wider, currently unmodified areas.

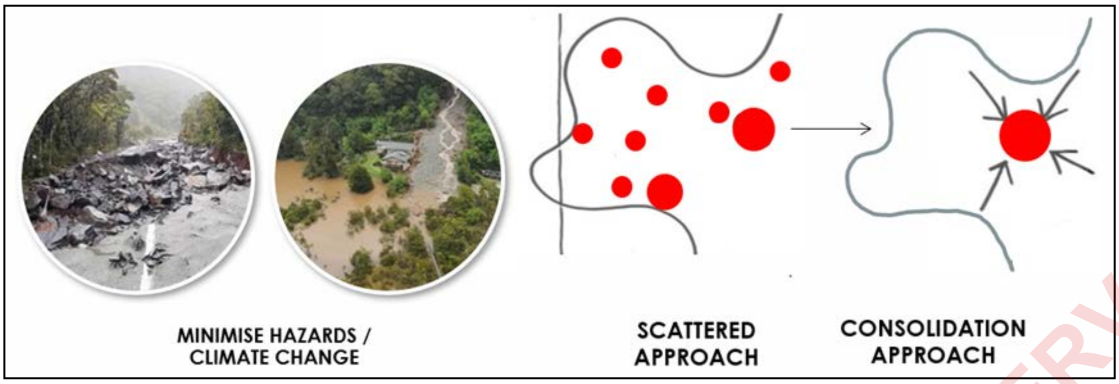

Figure 2: Milford Corridor Landscape Management Approaches

The environmental consequences of visitor activities in conservation areas are not always clear, which sometimes makes it difficult to determine appropriate responses to changing trends in visitor use, or to proposals for new visitor destinations / attractions. It is difficult to generalise the effects of visitor destinations, owing to the particular set of environmental conditions, spatial boundaries, temporal effects, species characteristics, or type of activity occurring. Some changes to the values are obvious, but may not have a significant impact on conservation values. Other changes may be less obvious, but could result in adverse impacts (e.g. the spread of weeds). Some changes can compromise the quality of visitor experiences and satisfaction with the quality of facilities and services within a natural setting.

As part of the long-listing and short-listing process of various options the landscape and conservation input involved an assessment of potential effects on the respective values in various locations. For some locations and / or proposed ideas the potential effects were considered too high to be pursued further, while some of the proposals received full support. This evaluation process was documented in table format and discussed between all the workstreams.

Several potential ideas that involved large-scale change, such as a tunnel linking to Glenorchy or a road to Haast were considered to have significant conservation and landscape impacts. The long-listed ideas that gained highest support from a landscape and conservation perspective were those that either had a beneficial outcome for the landscape / conservation values of an area (e.g. predator control) or were proposed in locations with a very resilient resource (e.g. in an urban context).

A number of potential ideas were considered to be potentially supportable if their design and location could minimise impacts on conservation values. This applied to some of the proposals at key nodes (see following section) that involved the creation of buildings and / or tracks, where particular care needed to be taken through site-specific design solutions.

The proposed ideas that received most detailed scrutiny in the shortlisting process were those that may potentially be supportable from a landscape / conservation perspective if designed and implemented in a way that avoids substantial adverse effects. For some of these visitor destination options the detailed design and micro-siting of buildings, structures and other modifications will be crucial to determine whether effects are acceptable in light of landscape and ecological sensitivity.

This applied in particular to areas that already contain a level of modification but are in proximity to unmodified landscapes, features or ecosystems. For Stage 2 of the MOP landscape and conservation values were assessed as part of the baseline reporting and subsequently the potential visitor destinations and Masterplan design ideas were cross-checked against the values that occur in the proposed areas. This led to amendments in location or design for proposed site-specific ideas, and in some instances, during the short-listing process, decisions were made to not progress some options.

Social impacts can be more significant in some areas than biophysical impacts, in terms of visitor experience, crowding, conflicts and displacement. The tourism experts considered these aspects as part of their assessment of long-listed options, focussing on the quality of the recreational experience, such as visitor satisfaction and visitors' perceptions of overcrowding in locations.

The combined input that was provided from all disciplines throughout the short-listing process led to the definition of a management approach reflected in the Masterplan that directs more substantial development of new visitor destinations (e.g. buildings) into nodes of existing development where landscape, conservation and recreation experience effects can be more effectively managed.

4.1 Milford Corridor Sections

The corridor was split into separate sections for the landscape / conservation assessments and master planning to reflect the different experiences that can be gained by visitors along the way. The diagram below shows indicatively the different corridor sections based on the experience when moving along the highway on the way to Milford Sound Piopiotahi.

The landscape very clearly displays its formative processes, such as glaciation during the ice-ages. This includes both the underlying geology and morphology of the landscape as well as the land cover that is associated with the different ecosystem types that are traversed. The changes in outlook and sense of place throughout the journey are defining elements of the experience.

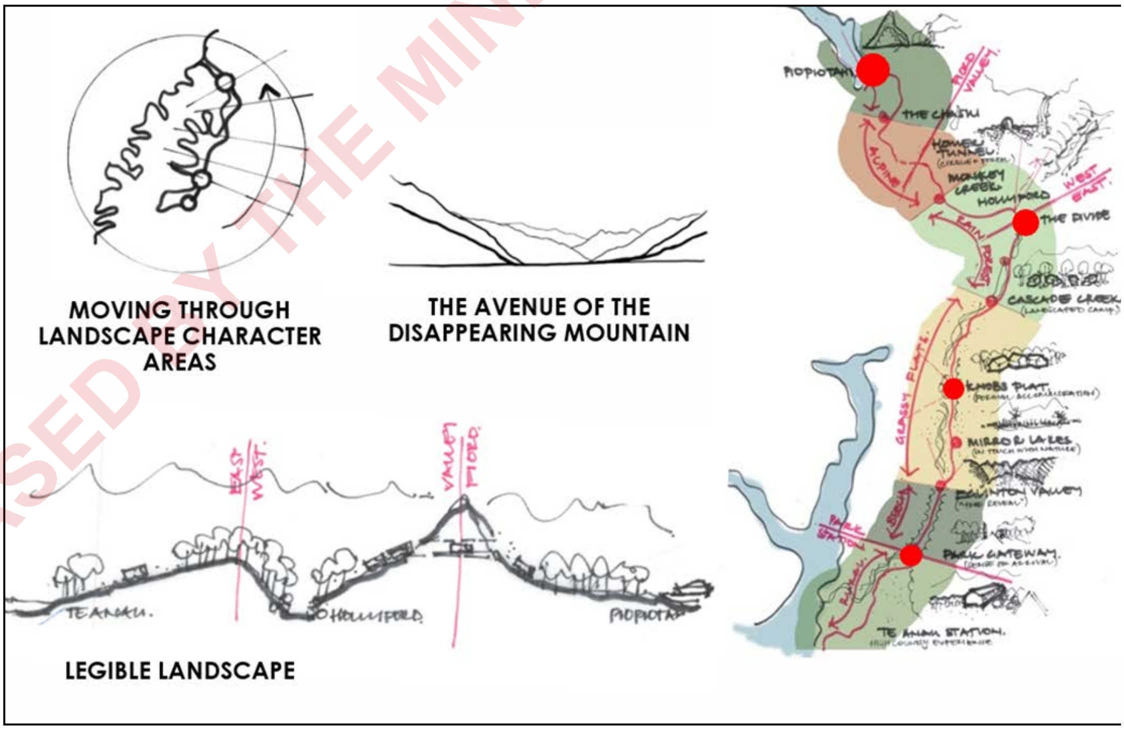

Figure 3: Milford Corridor Landscape Experiences

The following sections are described in more detail in terms of the nodes of existing modification present in the area, and enhanced visitor destinations proposed as part of the MOP Masterplan:

- Te Anau Section (Te Anau Town to National Park (NP) Entrance).
- Eglinton Section (NP Entrance to The Divide).
- Hollyford Section (The Divide to Homer Tunnel).
- Cleddau Section (Homer Tunnel to Milford Sound Piopiotahi).

The proposed key interventions within the following Key Nodes are included in the assessment for each section. The hubs and key nodes include the following:

- Te Anau Hub
- Node 1: Te Rua-o-Te-Moko Fiordland National Park Gateway
- Node 2: Eglinton Reveal
- Node 3: Te Huakaue / Knobs Flat including Kiosk Creek and walks
- Node 4: Ōtāpara Cascade Creek
- Node 5: Whakatipu Trails Head incl. walks
- Node 6: Gertrude Valley incl. walk
- Node 7: Cleddau Cirque
- Milford Sound Piopiotahi Visitors' Hub
- Freshwater Basin Node
- Cleddau Delta Node
- Deepwater Basin Node (including an upgrade to the existing wastewater treatment plant at Milford Sound Piopiotahi)

In addition to the above aspects of the proposal which were set out in the Masterplan, a number of proposals have emerged since the Masterplan was issued. These are as follows:

- The Chasm to Cleddau Horse Bridge Walk
- Little Tahiti including Heliport Option and Staff Accommodation Option
- Tūtoko Bridge to Milford Sound Lodge Walkway

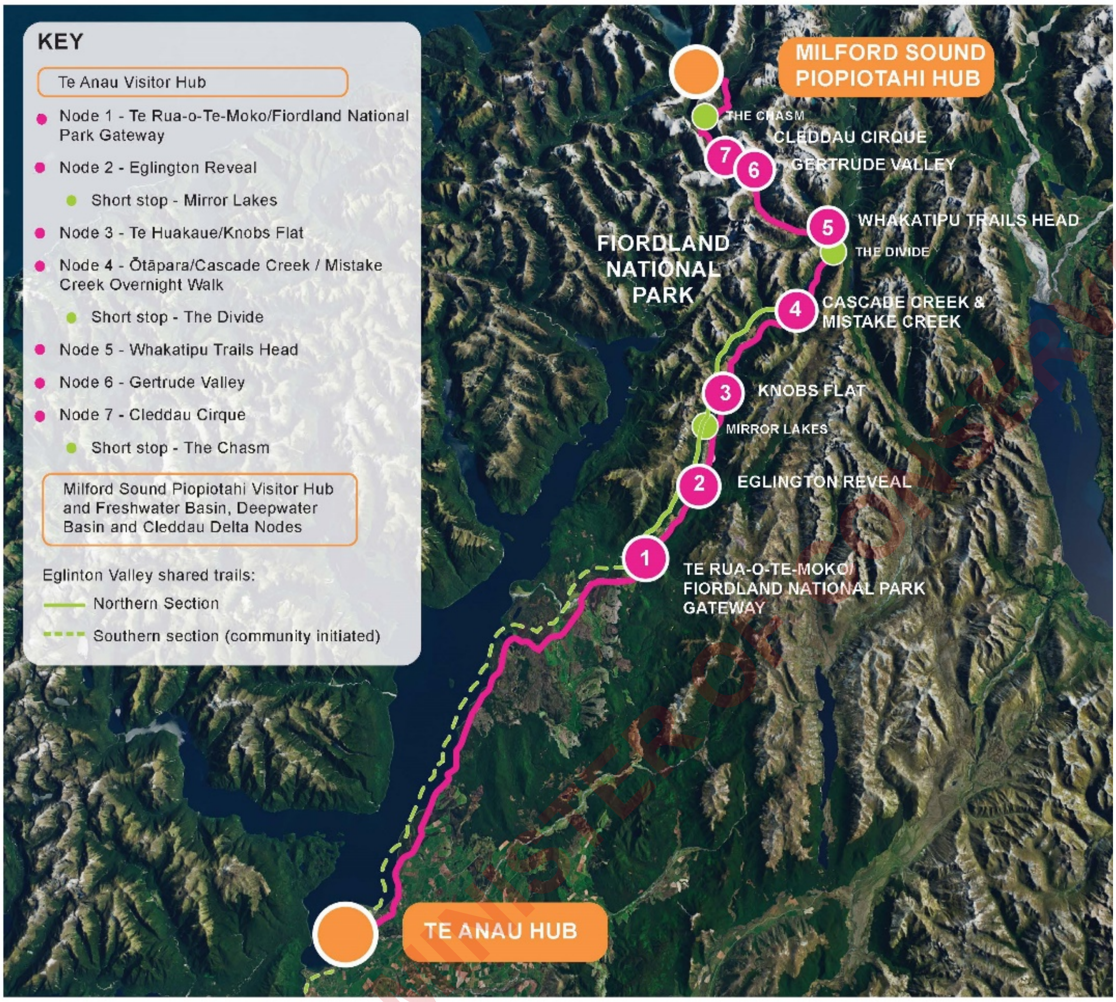

Figure 4: Hubs and Key Nodes along Corridor

In addition, short stop bus stops are proposed in five locations along the route. These sites offering key visitor experience and interpretation opportunities would be developed to accommodate short stop visitation and would be incorporated into tour bus schedules and hop-on/hop-off bus service options (recognising final decisions on transport models are yet to be taken). The design of these sites is yet to be confirmed, but will likely comprise simple shelter structures.

The locations could include the Eglinton Reveal, Mirror Lakes, Cascade Creek, Ōtāpara / Lake Gunn , Gertrude Valley, Cleddau Cirque and the Chasm. Five of these locations are likely to be selected as the final sites for short stop bus stops.

An overview of the nature of the proposed activities and works within each section is set out below.

This Impact Assessment is framed around each of the proposed sections and has been informed by various landscape and environmental effects assessments previously provided to MOP. It is important to highlight that at the time of preparing this assessment, the landscape feasibility assessment had not assessed the proposed Tūtoko Bridge to Milford Sound Lodge Walkway, nor the upgrade to the WWTP.

4.2 Te Anau Section

The Te Anau Section comprises the section of the corridor between Te Anau and the entrance to Te Rua-o-Te-Moko Fiordland National Park. The Masterplan proposes the establishment of a visitor hub and a transport interchange / terminal in Te Anau, which could be located close to the shoreline with the lake (and thus in close proximity to the edge of Te Wāhipounamu).

Node 1: Te Rua-o-Te-Moko Fiordland National Park Gateway

The proposed development at Node 1 is to create a gateway to the park which enhances the transition from the rural environment to Te Rua-o-Te-Moko Fiordland National Park and wider UNESCO Te Wāhipounamu – Aotearoa New Zealand World Heritage Area. The proposal includes the construction of drive through signage, markers, or artwork. Currently the proposal includes several pou[4] at the entrance to the park which visitors would drive through, signalling the entrance to the park.

Whilst the Masterplan proposal does not include any stopping areas or infrastructure due to the confined space available within the existing road reserve, stopping areas (which would presumably be constructed on adjacent farmland) have not been ruled out (S. Moran, *pers. comm.* 2023).

There are no existing visitor facilities or infrastructure present at this location, except for a DOC sign demarcating the entrance to the National Park.

The Node 1 footprint comprises road reserve (SH94) and private farmland (belonging to Te Anau Downs Station). It sits just outside the National Park boundary, and it is therefore assumed that the Node 1 proposal does not include works or the installation or any structures within Te Rua-o-Te-Moko Fiordland National Park itself.

While the Te Anau Section of the corridor is outside the boundary of Te Wāhipounamu, it is a key part of the overall corridor and influences the activities and the proposal that will occur within the remainder of the corridor in Te Wāhipounamu.

4.3 Eglinton Section

The Eglinton Section comprises the section of the corridor between the entrance to Te Rua-o-Te-Moko Fiordland National Park and The Divide. The Masterplan proposes the establishment of the Eglinton Reveal which will be a Gateway Node at the entrance to the Park.

Node 2: Eglinton Reveal

The proposed node at the Eglinton Reveal will be located near the southern extent of the Eglinton Valley where views first open-up when entering Te Rua-o-Te-Moko Fiordland National Park. The valley is the first major stop for many visitors to Te Rua-o-Te-Moko Fiordland National Park due to the impressive views of the Eglinton Valley, Livingstone Mountains, Earl Mountains, and Triangle Peak. The Node 2 area currently includes two existing pull-in areas for vehicle parking on the western side of SH94, with a short track to interpretive signage at the first pull-in. A campground at Tōtara Flat is located nearby on the western side of SH94 with access via a gravel road, but it is well south of Mackay Creek and is entirely outside the Node 2 area.

The proposal may include a visitor's centre or small building for shelter, toilets, interpretative viewing areas and an area for bus and car parking and turning around, and a walking track. This

[4] Carved posts or columns used to mark territorial boundaries or places of significance.

track will be up to 500 m-long (Southern Land Ltd, 2023) approximately 0.75-2 m in width with a well-formed and compacted surface.

The Eglinton Reveal is also the proposed location for a park and ride stop where visitors change to shuttle buses to further access the Milford Road. The Masterplan proposes that from this point on, private vehicles would not be able to access the park without an appropriate permit (although other transport models are being explored through the feasibility and business case process). Carparking at this location will be available for visitors wishing to use the hop on / hop off bus system to access the park without a permit. This is likely to require a relatively large area may be required for parking. The proposed car park is anticipated to require at least a c.900 m^2 area,[5] but this estimate seems unrealistically low as it would accommodate only a few dozen private vehicles at most. No indicative size for the proposed visitor centre is available.

Based on advice provided to MOP in relation to landscape and visual effects, it is understood that there are three potential options for the location of the park and ride, bus stop, and visitors' centre or small shelter. This includes the following:

- **Option 1:** Immediately north of Mackay Creek to the west of SH94. This would be located below the Mackay Creek Bridge. Access to this area could be from the existing pull-in bay area before turning south towards the Mackay Creek bridge.
- **Option 2:** The Eglinton Reveal currently shown in the Milford Masterplan could also serve as a potential location for the proposed visitors' building and parking facilities. The area is located west of the existing pull-in bays for vehicles and within the existing viewing area.
- **Option 3:** Opposite the current Eglinton Reveal area, east of SH94 at the base of an existing terrace. There is also the potential for the visitors' centre or shelter to be located along the base of the terrace, or alternatively a viewing area with picnic tables to be located on the terrace.

Node 3: Te Huakaue Knobs Flat

Te Huakaue / Knobs Flat is located approximately 10 kilometres north of the Eglinton Valley Reveal. Nestled on the forest edge is the existing Te Huakaue / Knobs Flat accommodation and to the north of Kiosk Creek is Kiosk Creek Campsite.

Te Huakaue / Knobs Flat has been used for accommodation since the early 1930s during the construction of the highway. The present 'village' at Te Huakaue / Knobs Flat has cabins and powered camp sites for visitors with a sealed road access / carparking area. Between the camp and SH94 there is an existing vehicle pull-in area with a visitors' centre / toilet block accessed from SH94.

There is also a grassed campsite at Kiosk Creek for tents and non-powered campervans with a gravel access road. There is a gravel stockpile on the western side of SH94 near Upokororo / Eglinton River.

The proposed development at Te Huakaue / Knobs Flat encompasses both the existing Knobs Flat Camp and the Kiosk Creek Campsite and largely contains development along the forest edge within each of the clearings to the east of the valley. The Eglinton Valley Camp known as Te Huakaue Knobs Flat within the Masterplan will include an upgrade to the existing facilities including designated caravan/campervan and camping sites, and cabins. A new research facility

[5] Based on indicative specifications in Appendix 2 of Stantec NZ Ltd. (2021).

is also included within the proposal and will be co-located with the shelters containing interpretative displays and information, while the existing visitors' centre and bus stop will remain.

Te Huakaue Knobs Flat will be a key node at the mid-point of the corridor with interpretation displays, and pūrākau (cultural narratives) in addition to providing several accommodation options. Additional extras including Wi-Fi and seasonal food carts are also part of this proposal.

The existing campground to the north of Kiosk Creek is proposed to accommodate extensive additional development, with the proposed construction of a lodge with up to 25 beds, and several cabins. The development of both sites will be set back from State Highway 94 against the forest edge.

In addition to the development proposed at Kiosk Creek and Te Huakaue Knobs Flat several new tracks are proposed with a total length of 1300 m ('Short Walk' standard) and some areas of track may be formed. The proposed cycle trail, which connects Te Anau Downs to Cascade Creek via the Eglinton Valley, will pass through Te Huakaue / Knobs Flat to the west of SH94. Tracks are also proposed within the margins of Kiosk Creek and between the Kiosk Creek lodge and cabins, to the Te Huakaue / Knobs Flat research facility, visitors' centre, and accommodation, to the Kiosk Creek waterfall, and a looped nature trail with pūrākau is also proposed. Two small 16 m bridges spanning Kiosk Creek would connect the Kiosk Creek development to Te Huakaue / Knobs Flat. Observation points will be used to enhance existing tracks. Te Huakaue / Knobs Flat may also act as a key base for guided experiences within the Milford corridor.

Node 4: Ōtāpara Cascade Creek

Cascade Creek Campsite is located immediately south-west of Ōtāpara / Lake Gunn and approximately 12 kilometres north of Te Huakaue / Knobs Flat. The existing campground comprises approximately 120 sites, a gravel access road and vehicle parking, along with toilets and shelter facilities. The existing Lake Gunn Nature Walk track is located directly north of the campground under the forested canopy between the campground and Ōtāpara / Lake Gunn. The Milford Road Alliance operate a large gravel stockpile on the true right of Upokororo / Eglinton River with material extracted from an unnamed ephemeral waterway draining Melita Peak.

The proposed development within this node is broadly split into two areas: the southern shore of Ōtāpara / Lake Gunn, and an existing campsite at Cascade Creek. The node will be located at the end of the walking and cycling trail between the Upokororo / Eglinton Valley and Cascade Creek and accessed as part of the park and ride bus service.

The proposal includes a small level of development within the footprint of the existing campsite to upgrade the campsite grounds and facilities. This will include the formalised designation of campervan and camping sites, construction of additional shelters, and toilet facilities, and the construction of a stop bank for flood protection from Cascade Creek. Campervan and camping sites will be formed and improved through the planting of native vegetation within the campsite, to soften and screen the sites. The campsite will also become a base for recreational opportunities at Ōtāpara / Lake Gunn, including walking, packrafting, and kayaking, and will provide jetties, boat storage and Wi-Fi to facilitate these activities.

The Gunn Lake Nature Walk may be used to provide access to Ōtāpara / Lake Gunn for kayakers and pack rafters. As part of flood protection from Cascade Creek, the Masterplan proposes a stop bank extending the length of the campsite on the true right of the creek, and partially extending north-east along Upokororo / Eglinton River West Branch.

Countess Range Overnight Walk

The southern extent of the Eglinton Valley is bound to the east by the Countess Range which forms part of the wider Livingstone Mountain Range. This part of the proposal is located within the Mavora Lakes Conservation Area.

The proposal is to create an overnight walk which will be accessed from State Highway 94 near Walker Creek Campsite, with the indicative location for a carpark being an open area east of SH94 in the vicinity of 30 Mile Creek. The potential proposal is a tramping track that will follow both the Walker Creek and Mackay Creek valleys to the treeline before traversing the upper slopes of the Countess Range.

A hut is proposed on the upper slopes of the Countess Range to provide accommodation for walkers. This would either be a serviced <20 bunk hut accessed via an 'Advanced' standard tramping track, or a <44 bunk hut accessed via an 'Easy' standard tramping track. The track could be either a loop (c.11 km) or an out and back option (c.5-6 km).

The proposal was not initially included within the Masterplan but has since been included as a potential alternative to the Mistake Creek Overnight Walk proposed in the Masterplan.

4.4 Hollyford Section

Node 5: The Divide / Whakatipu Trails Head (Lake Marian)

At the convergence of the Livingstone Mountains and the Earl Mountains is The Divide and Hollyford River Valley. The area is characterised by the Hollyford River and steep mountain slopes of Mount Christina, Mount Lyttle and the Ailsa Mountains.

The Divide / Whakatipu Trails Head (Lake Marian) is located at the convergence of several walking tracks within the Hollyford Valley including one of Aotearoa New Zealand's Great Walks. Node 5 is currently proposed to be split into two interlinked areas. The first includes the expansion and development of the Lake Marian Track Carpark within the Hollyford Valley, while the second involves an upgrade to the carpark at the western extent of the Routeburn Track.

This proposal involves the expansion and development of the Hinepipiwai / Lake Marian Track carpark within the Hollyford Valley. The trail head will include several tourist amenities and will cater to a variety of visitors. These facilities will include observation points, interpretive displays, track information, shelters, vaulted toilets, car parking, and a hop on / hop off bus stop. In addition, the trail head will act as a base for the more advanced tramps within the Hollyford Valley, connections to The Divide and Hunaiti / Lake Howden, and provide for day walkers wishing to walk the Hinepipiwai / Lake Marian track.

The proposed tracks under consideration are as follows (Southern Land Ltd, 2024):

- Upgrade the existing Hinepipiwai / Lake Marian Track – upgrade waterfalls section with gantry from Walking Track to Short Walk standard (750 m). Existing tracks / structures would be widened to 1.5 m. Upgrade the remainder of the existing track to Hinepipiwai / Lake Marian from Advanced to Easy Tramping Track standard (2.4 km).
- Create a new loop track to return from Hinepipiwai / Lake Marian – create loop on true left at Easy Tramping Track standard (3.2 km). Requires a bridge over lower Marian Creek.
- Create a 'Covered Nature Loop' walk in the carpark area at Short Walk standard, accessible to less-able users (500 m). The proposed track would be roofed and requires

a new larger bridge over the Whakatipu-ka-tuku / Hollyford River and a viewing platform. New toilets are already planned for the existing carpark.

- Create a 'Divide Creek Track' at Easy Tramping Track standard (2.7 km). Requires bridge over Divide Creek.
- Create a 'Pass Creek Link Track' at Easy Tramping Track standard (3.0 km). A viewing tower is also proposed, and the track requires three short bridges.
- Upgrade the existing Pass Creek Track from Advanced to Easy Tramping Track standard (3.2 km). Requires short boardwalk sections.

In addition to the tracks under consideration above, and due to the significance of this node to mana whenua, as part of the Milford Masterplan the Whakatipu Trails Head node will include a wānanga / living classroom. The wānanga space (c.200 m^2) is to be constructed primarily for Ngāi Tahu rangatahi (youth) to learn about the cultural heritage of Ngāi Tahu, with opportunities for a tourism aspect to the structure for visitors to learn about the connection mana whenua have to the area.

The Stage 2 Infrastructure report (Stantec NZ Ltd, 2021) anticipates a 500 m^2 upgrade / expansion of the existing Hinepipiwai / Lake Marian Track carpark area. It also anticipates that visitor facilities at the Trails Head area would require a hydro power scheme, but no details are available, and this aspect of the proposal is not assessed below.

Upgrades to the carpark at the western end of the Routeburn Track (the Divide) are proposed. This includes the addition of a hop on / hop off bus stop and areas for express coaches and short-term vehicle parking. A weather / bus shelter, interpretative displays and toilet facilities would be added or upgraded.

Node 5: Key Summit to Ōtāpara Cascade Creek

The proposed Key Summit to Cascade Creek track was not detailed in the Masterplan but was instead indicated generally in a conceptual diagram in the Masterplan. It is understood to include a 1-day walking route accessed from the Divide and / or Whakatipu Trails Head. A new track would be built from Key Summit along the ridge to Cascade Creek to either Easy or Advanced Tramping Track standard; it would be c.17 km in total length. To construct to Easy Tramping Track standard, 'considerable' (c.2.5 km) benching (i.e., track formation / earthworks) and two footbridges would be required in the Cascade Creek area (Southern Land Ltd, 2023). A new toilet somewhere along the route would likely be required. An Advanced Tramping Track standard track would require two three wire bridges over Cascade Creek.

An additional option under consideration as part of MOP Stage 3 is an alternative 'short loop' from Key Summit south to Pt. 1086 (as on Topo50 maps) that then descends to The Divide, creating a loop. The 'short loop' is considered in the draft Walking & Cycling Experiences Feasibility report (Southern Land Ltd, 2023).

The Routeburn Great Walk includes a side-track to Easy Tramping Track standard to the top of Key Summit, where the proposed track would commence. An informal trail continues along the range to the south, with an obvious ground trail reaching Pt. 1086 and a less obvious trail beyond. No other tracks or facilities are present along the proposed track alignment.

Node 6: Gertrude Valley (and loop track)

The Gertrude Valley is located approximately 1.5 kilometres south-east of the Homer Tunnel and approximately 14 kilometres from The Divide. The U-shaped valley is highly expressive of its glacial formative processes with extensive areas of exposed and steep granite overlooking the valley below. Within the lower extent of the valley, beech forest dominates before transitioning into extensive sub alpine vegetation and exposed rock in the upper reaches.

An existing gravel parking lot accessed from SH94 provides parking for vehicles and serves as the starting point for the generally unformed, but marked, Gertrude Saddle walking route. The existing walking route, within Node 6, includes various signage and a footbridge over the Gertrude Valley branch of a frequently dry reach of the upper Whakatipu-ka-tuku / Hollyford River. It also provides access to the New Zealand Alpine Club's Homer Hut which occupies a small clearing nearby. Relatively unobtrusive rock armouring (built using large boulders from the ephemeral riverbed) protects the carpark and Homer Hut from occasional flood events. Nearby, but outside of the Node 6 area (closer to Homer Tunnel), the Milford Road Alliance operates a large compound including a prominent roadside building from which road maintenance activities are based.

The proposed development at this node includes trail head facilities such as the construction of a hop on / hop off bus stop, car parking, a visitor shelter with information and toilets, and observation areas to view the Gertrude Valley. Bunding and a refuge may be constructed to provide protection for internal and external viewing areas where flooding, rockfall or avalanches are a risk. In addition, the construction of a looped nature walk is proposed to replace the former (now closed due to rockfall) Homer Tunnel Nature Walk. The new loop track would be c.1.9 km in length and built to Short Walk standard; it would extend to about the uppermost forest margin of the Gertrude Valley on the true left.

4.5 Cleddau Section

Node 7: Cleddau Cirque

The Cleddau Cirque is the first node to the west of the Main Divide and located on the western side of the Homer Saddle. The Cleddau Cirque forms the southern headwaters of the Cleddau River. The cirque is an expansive and striking valley, which is largely devoid of vegetation on the sheer rock walls and due to constant slips during heavy rainfall experienced on this side of the Main Divide.

The proposed Cleddau Cirque node is located at an existing gravel pull in bay on the second corner of the road after the Homer Tunnel which is shielded by a rock fall barrier and bund. The proposal is to create a more formal observation point and park and ride and express bus stop with limited carparking for visitors to appreciate the surrounding landscape. The stop is designed to be a short stop after the Homer Tunnel before the descent into Milford Sound Piopiotahi and will act as an observation point for visitors. As the node is located within an area prone to rockfall and avalanche risk, the proposal includes a refuge structure accommodating one to two coach loads at a time (45 to 90 people).

The Stage 2 Infrastructure report (Stantec NZ Ltd, 2021) anticipates a 900 m^2 park, a 'robust shelter' and 75 m of retaining wall. As the existing carpark is c.750 m^2, it is therefore assumed that the proposal would be largely contained within the existing sealed area, but with up to c.10 m westward encroachment into alpine scrub (based on the indicative node extent and area requirements).

The Node 7 area is an existing sealed carpark with a rockfall protection bund, surrounded by alpine scrub.

Milford Sound Piopiotahi Hub

Milford Sound Piopiotahi is located at the north-western extent of State Highway 94 and the end of the Milford Corridor. Milford Sound Piopiotahi is both an iconic tourist destination and a commercial port. To the north of the Cleddau River delta is Freshwater Basin, with existing structures including the tourist and boat terminal, the Milford Sound Breakwater, visitors' centre and hotel, and nature trails. The Cleddau River delta, and Deepwater Basin to the south includes workers' accommodation, a fishing port, and smaller tourism operators including kayaking tours. Freshwater Basin and Deepwater Basin are currently separated by the existing airport and runway which occupies the northern extent of the Cleddau River delta.

Within Milford Sound Piopiotahi there are several nodes proposed to redevelop the major tourist destination.

Piopiotahi Visitors' Hub

The proposed 'Piopiotahi Visitors' Hub' will include a bus terminal and car parking on arrival, and a covered walkway which will extend between the bus terminal and visitor accommodation. The visitors' accommodation will be orientated to the north-west towards Mitre Peak with carparking to the east. This layout may include a service lane for service vehicles, and parking for staff.

The Piopiotahi Visitors' Hub will include enhancements to the foreshore providing better access and amenity to the waterfront. This will include the construction of a water-based viewing deck to the north-west of the hub within Freshwater Basin.

Above the proposed visitors' and staff accommodation the enhancement and extension of the existing Barren Peak Spur walkway will provide views to the north-west towards Mitre Peak. This upgrade will involve an extension to the existing track and will follow the ridge of the spur within the forest. The existing track will be upgraded to Short Walk standard, with 50 m of stairs up a rock face to provide access to 1-2 new viewing structures at c.80 masl, with c.400 m of track in total. The viewing structures are intended to require minimal removal of mature tawai / beech forest and will screen the built infrastructure of the visitor hub below.

Freshwater Basin Node

The proposed development within the Freshwater Basin node of the Masterplan includes the redevelopment of the boat terminal, including the construction of covered jetties, and the construction of several nature trails which will provide access to local landscape features such as Bowen Falls, Bowen Valley, and northern Cleddau River delta.

While the layout of the existing boat terminal will largely remain the same, a cable car is proposed on the slopes immediately above the terminal to provide access to Bowen Falls, and the Bowen Valley via a walkway. This would be via a nature walk to Short Walk standard along the ridge to the top of the falls where there would be a cantilevered lookout structure. A longer easy tramping track to the upper Bowen Valley is also proposed. The alignment of the cable car will approximately follow an existing penstock alignment which extends from above the terminal to Freshwater Basin below and is used to generate hydro power for Milford Sound Piopiotahi.

Cleddau Delta Node

The Cleddau Delta will see one of the greatest changes within the Masterplan proposal. The runway is proposed to be decommissioned and redeveloped into a 'regenerative spine' (noting that options are being explored that would involve retaining the runway). The runway will be re-forested and will include several walkways throughout the delta providing views towards Mitre

Peak. This will also include connecting the visitors' centre and boat terminal to Deepwater Basin to the south which is currently severed by the runway infrastructure.

Similar to the Freshwater Basin Node, the Cleddau Delta Node will also include two refuges for protection from natural hazards.

Deepwater Basin Node

The Deepwater Basin Node will include the revitalisation of the existing commercial marina and operational areas, including the existing area of staff accommodation. Staff accommodation will be removed from the area and relocated to either Little Tahiti or within the visitors' centre and accommodation complex. This is to allow for visitor car parking, bus layover areas, and a heliport.

To the south near the confluence of the Cleddau River with Deepwater Basin the existing commercial marina will be secured from public access. The proposal will also include the upgrade of the existing recreational boat ramp, sea kayak launch and storage area, short term boat trailer parking, and a space for a visitor viewing area and food carts. Similar to other nodes, the Deepwater Basin Node will provide a refuge in the event of any natural disasters.

Potential wastewater treatment plant upgrades

The existing Wastewater Treatment Plant and network, including the outfall pipe, may need to be upgraded or replaced to accommodate the MOP proposals at Milford Sound Piopiotahi Village. Upgrades or replacement would provide for a higher rate and quality of treatment.

Other MOP Proposals

The Chasm to Cleddau Horse Bridge Walk

The proposed Chasm to Cleddau Horse Bridge Walk is not described in the Masterplan, but the Chasm is included in the Masterplan as a Short Stop to be repaired (following damage in the 2020 floods) and upgraded with additional infrastructure. An indicative alignment on the true left of the Waipāteke / Cleddau River, between the Chasm and an existing historic (but derelict) 'Horse Bridge' is available, based on Southern Land Ltd. (2024). It would involve the construction of c.3.2 km of walking trail to Walking Track standard (i.e.,1.0 – 1.2m width with well-formed surface; and will likely require a structure, such as a gantry of c.175 m length, to effect a route around steep bluffs that descend to the river below Sheerdown Peak just upstream of the Horse Bridge. The proposal would also require the replacement of the Horse Bridge.

Little Tahiti - Staff Accommodation or Heliport Option

Little Tahiti is a well-hidden clearing accessed from State Highway 94 and is adjacent to the Cleddau River, just downstream from the confluence with the Tūtoko River. The area is surrounded by dense beech forest and overlooked by the slopes of Barren Peak and Mount Underwood. This area is also not accessible to the public and is currently used as a small stockpile and storage yard.

As part of the options for staff accommodation, Little Tahiti has been considered as one of two potential locations. The first was outlined in the Masterplan and is located within the Piopiotahi Visitors' Hub at Milford Sound. Little Tahiti was not considered as an option within the Masterplan due to the natural hazard risk of lightweight structures in the event of landslide-induced tsunami, but has since been re-identified as an option.

The proposal may potentially include the construction of staff accommodation (to be determined), communal outdoor space, and car parking separate or in addition to the visitors' accommodation within the Piopiotahi Visitors' Hub.

This assessment also evaluates whether Little Tahiti could instead be considered an alternative to the heliport proposed at Milford Sound Piopiotahi. Similar to the proposed staff accommodation, this was reviewed during Stage 2 of the project and was not included within the Masterplan.

Tūtoko Bridge to Milford Sound Lodge Walkway

The proposed Tūtoko Bridge to Milford Sound Lodge Walkway is not described in the Masterplan but was referred to in an infrastructure assessment report prepared as part of MOP Stage 2 (Stantec NZ Ltd, 2021). The following assessment is based on an indicative alignment (on the true right of the Waipāteke / Cleddau River), extending from Milford Sound Piopiotahi / Milford Sound Lodge to the start of the Tūtoko Valley Track and historic Tūtoko Bridge, involving up to 2.4 km Walking Track standard.

There is a small pull-over at the Tūtoko Bridge where the Tūtoko Valley track leaves the road. Nearer Milford Sound Piopiotahi Village there is an extensive footprint with buildings and developed impervious or gravelled surfaces around the Milford Sound Lodge, which receives high numbers of visitors. The walkway largely follows an existing marked (but otherwise generally unformed) predator trapping line.

4.6 Corridor-wide aspects

Creation of Nodes in Areas of Existing Modification

Given that the site selection for the nodes was informed by detailed Landscape and Ecological Analysis report in Stage Two of MOP, the areas identified for development are all located within parts of the Milford Corridor that have some potential to accommodate change. From a landscape perspective, there is capacity to absorb most of the proposed/potential development at each of the seven nodes, as well as the Countess Range overnight track, Little Tahiti and Milford Sound Piopiotahi. The proposed development will be mostly contained within existing areas of modification and clustered to reduce unnecessary sprawl within the landscape and across unmodified ecosystems. This includes working with the natural characteristics of the local topography to reduce potential landscape effects from earthworks and vegetation clearance. The Masterplan largely achieves this by utilising existing infrastructure and nodes of development along the Milford Road.

Consolidation of built infrastructure is proposed to minimise human footprints to protect conservation areas. The design and build aims to minimise risk from natural hazards (noting that these builds may not be light-weight structures). The proposed infrastructure will be located, designed, constructed and operated to minimise energy use and utilise renewable sources. Materials used to construct buildings, and structures are recommended to be of a high quality with low light reflectivity values (i.e. dark colours) to complement the materials and tones found in the natural surroundings. Use of complementary colours which reflect tones within the landscape, such as greens, browns and greys, are also considered to assist in reducing landscape effects.

When clearing vegetation for the construction of new tracks or structures, it is proposed to minimise the loss of vegetation. Plants to be introduced as part of the design or for mitigation purposes will be exclusively native and endemic to the area. Control of weeds as part of undertaking earthworks is essential.

Managed Access and Transportation Model

The Masterplan proposes that access will be controlled, with options being explored that involve reduced restrictions or no restrictions. An express hop on/hop off park and ride service from Te Anau using zero emission (H2 or EV) buses and smart technology is being explored to improve safety and provide a better visitor experience. Other models being explored include mixed bus and private vehicle use. Objectives are to distribute access over the day to reduce Milford Sound Piopiotahi congestion and road traffic crowding, as well as need of car parking. This will allow greater overall numbers while preserving character of the place and slowing the journey down to provide a richer experience overall.

The Masterplan also proposes requiring international visitors to pay a fee for entry into the Milford Corridor / Milford Sound Piopiotahi to help fund infrastructure and operational costs, as well as local conservation initiatives. The proposal is that access for Aotearoa New Zealanders would continue to be free of charge but managed through a permit system.

Pest Management

As was suggested in the Conservation Impact Analysis for MOP Stage 2 (Boffa Miskell, 2021), the single most pressing opportunity for net gains is landscape-scale control of introduced mammalian predators. This is recommended as an integral component of the Masterplan to be funded through the proposed visitor levy.

The advantages of funding landscape-scale control of introduced mammalian predators in the area include:

- The technology to control most introduced mammalian predators at a landscape scale is already available and limited only by funding.
- The approach aligns with Predator Free 2050 (PF2050) as well as other initiatives being considered in this area. However, a far greater emphasis on controlling feral cats is required.
- It would replace the need for numerous, small scale, less effective, and often sporadic predator control programmes currently being undertaken.
- Removal of introduced mammalian predators would allow for the recovery of populations of indigenous fauna currently being impacted by introduced mammalian predators.
- It would allow for the re-introduction of indigenous fauna that previously occurred in the area. This would have several benefits including increasing the natural range and populations sizes of the re-introduced species, supporting existing conservation objectives and returning the ecological functions these species once played to the area (e.g., seed dispersal / pollination etc).
- Re-introduction of indigenous fauna would improve the visitor experience and provide an exciting opportunity to make these species visible to visitors in their natural (historical) habitat and provide an example of what New Zealand would have been like before humans.

5.0 Impact assessment

5.1 Baseline description

The baseline values that have been considered in the assessment that follows have been informed by:

- The SOUV for Te Wāhipounamu;
- Other heritage values that are recognised at a national, regional and local level;
- The boundary and buffer zone of Te Wāhipounamu;
- The Land Analysis Report for Stage 2 of the MOP Project (Boffa Miskell 2021);
- The Landscape Feasibility Advice prepared for MOP at Stage 3 of the MOP Project (Boffa Miskell 2023); and
- The Conservation Analysis Report for Stage 2 of the MOP Project (Boffa Miskell 2021) and draft Preliminary Assessment of Environmental Effects Report for Stage 3A (Boffa Miskell 2024).

UNESCO recommends that World Heritage properties should be surrounded by a formally recognised 'buffer' which supports the protection of the property's OUV and attributes. Buffer zones have complementary legal restrictions placed on their use and development to provide an additional layer of protection to the World Heritage Property.

Some (but not all) of the land that adjoins Te Wāhipounamu is public conservation land, which will generally have complementary layers of protection, depending on the classification of the public conservation land, and the purpose for which it is held.

The assessment has focussed on the impacts of the MOP proposals. If any other projects, plans or activities within Te Wāhipounamu emerge in subsequent phases of the project, then these should be considered alongside the potential impacts of the MOP proposals so that a robust understanding of cumulative impacts on the values and attributes of Te Wāhipounamu can be achieved.

5.2 Heritage and conservation values and attributes

An explanation of the attributes that reflect the values of the SOUV for Te Wāhipounamu is set out in the Impact Assessment table that follows, along with identification of any heritage values that have been identified within Te Wāhipounamu at a national, regional or local level.

5.3 Impact assessment

The Impact Assessment table assesses the impacts of the MOP Proposals (as outlined in Section 4.0 above) against the values and attributes of Te Wāhipounamu, based on the level of information available about the proposals to date.

Table 2: Values and attributes of Te Wāhipounamu World Heritage Area

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
Te Wāhipounamu SOUV			
(vii) to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;	Te Wāhipounamu is an area that contains many of the natural features which contribute to New Zealand's international reputation for superlative landscapes.	Within the corridor the features listed below occur under the following attributes: Highest mountains (Livingstone, Earl, Ailsa and Darren Mountains) Longest glaciers (N/A) Tallest forests (mixed beech forest) Wildest rivers and gorges (Eglinton, Hollyford, Cleddau Rivers including The Chasm, Bowen Falls) Most rugged coastlines (Milford Sound Piopiotahi, Cleddau Delta) Deepest fiords and lakes (Milford Sound, Lake Te Anau, Ōtāpara / Lake Gunn, Lake Marian) Remnant of an extinct volcano (Solander Island- N/A).	**Mountains & Glaciers** The only part of the proposal in the mountainous area is the walking track and hut proposed in the Countess Range which is located outside the WHA. The glaciers within the WHA are all located at higher elevation and not affected by the proposal. **Forests** The Eglinton Valley supports one of the largest areas of lowland mixed beech forest in the country. It has extensive areas of red beech forest on the flat, fertile valley floor, with silver and mountain beech more prominent on the steep valley sides. Silver beech forest predominates on the floor and valley walls below the natural treeline in the upper Hollyford Valley. The Cleddau Valley is mostly mixed beech forest with Milford Sound Piopiotahi Hub largely surrounded by silver beech / kamahi forest with silver beech – mountain beech forest on alluvial surfaces adjacent to the Cleddau delta. Most MOP concepts and proposals are located in existing modified areas meaning forest clearance is not required. However, clearance of forest will be required for some concepts including the expansion of the Hinepipiwai / Lake Marian Track carpark and associated facilities, the Hine-te-awa Bowen Falls Top Links concept, Little Tahiti heliport or staff accommodation options, Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail and several proposals for new or upgraded walking tracks[6]. **Rivers** The Milford Road Corridor follows the alignment of the Eglinton, upper Hollyford and Cleddau Rivers. A substantial bridge near the delta, as well as other smaller bridges, retaining walls or erosion/flood control structures are likely to be required for the construction of new cycling tracks in the Eglinton Valley. There are currently two options considered, with the trail option on the true right bank of the Lower Eglinton River potentially leading to moderate to high landscape effects in some places. The landscape impacts of the trail option in vicinity of the road corridor would be localised and low due to the limited scale of tracks and structures in the more modified environment. The upgrade of the campground at Ōtāpara will occur in the area that is already occupied by an existing campground adjacent to Ōtāpara. The campground area has a low sensitivity to the proposed enhancements and structures being nestled against the forest edge and within an area of existing modification. Outside this node the proposed structures are located away from rivers and other waterways to minimise effects. **Coastline** The only coastline affected by the proposal will be within the head of Milford Sound Piopiotahi where the existing area of development is located. Interventions along the coastline, which include Foreshore Enhancements, the Hine-te-awa Bowen Falls Experiences Lower Pontoon Walkway, Dedicated Sea Kayak Area and upgrades to the existing Wastewater Treatment Plant and Recreational Boat Ramp are very localised within this environment. The highest landscape effect in relation to a waterway in the coastal environment is expected from a viewing platform near the top of Bowen Falls in Milford Sound Piopiotahi. Sensitive location and design of the cable car access and platform outside the visual catchment viewed by boat tourists within the Sound is critical. **Fiords and Lakes**

[6] This includes walking tracks, at or associated with the following: Te Huakaue Knobs Flat, Ōtāpara Cascade Creek, Countess Range Overnight Walk, several tracks in the vicinity of the Whakatipu Trails Head, Key Summit to Ōtāpara Cascade Creek, Gertrude Valley, The Chasm to Cleddau Horse Bridge Walk, Tūtoko Bridge to Milford Sound Lodge Walkway, Barren Peak Spur Walk and Viewing Structure, and Cleddau Bush Tracks.

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
			Lake Te Anau is located within the WHA, but the Milford Road corridor follows the part of the shoreline that is located outside the WHA. Ōtāpara / Lake Gunn is in proximity of the Cascade Creek node and small structures such as jetties and for boat storage are proposed for recreation in the area. The landscape and ecological effects would be very localised. The track to Lake Marian would also have very localised effects on the lake itself, which will form the destination/ turn-around point. **Summary** Overall, it is considered that the proposal will have very low effects on the attributes of the WHA that contribute to Aotearoa New Zealand's international reputation for superlative landscapes, since the proposed modification will be clustered in nodes that already contain modification along the Milford Road Corridor.
	The temperate rainforests of Te Wāhipounamu are unmatched in their composition, extent and intactness by any such forests anywhere in the world.	Much of FNP/ WHA is covered with ancient and original growth stands of southern beech and podocarp forest. <u>Eglinton Section</u> The Eglinton Valley supports one of the largest areas of lowland mixed beech forest in the country. It has extensive areas of red beech forest on the flat, fertile valley floor, with silver and mountain beech more prominent on the steep valley sides. <u>Hollyford Section</u> Silver beech forest predominates on the valley floor and valley walls in the Upper Hollyford Valley (above the Lower Hollyford Road turnoff) below the natural treeline, except in areas susceptible to winter and spring avalanche. <u>Cleddau Section</u> The valleys that feed into Milford Sound Piopiotahi have a degree of intactness and support such a wide range of Threatened and At Risk species that the Milford Sound Piopiotahi Catchment is one of the most important sites for terrestrial biodiversity in New Zealand. Below the natural treeline, the valleys support silver beech forest (with occasional emergent podocarps (in particular rimu and miro). Due to the lack of deer browse, the forest has a dense understory that is largely unmodified and intact.	New infrastructure required for the MOP proposals will largely be located in existing modified areas minimising clearance of temperate rainforests, and where vegetation clearance is required it is largely within areas of secondary (modified) vegetation rather than more intact original growth forest. Proposals that have the potential to effect the composition, extent and intactness of temperate rainforests include the expansion of the Hinepipiwai / Lake Marian Track carpark and associated facilities, the Hine-te-awa Bowen Falls Top Links concept, Little Tahiti heliport or staff accommodation options, Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail and several proposals for new or upgraded walking tracks (as listed above). Potential effects of new tracks / track upgrades which could impact the composition, extent and intactness of temperate rainforests include direct vegetation clearance, edge effects, damage to large trees that are potentially vulnerable to damage from soil compaction and / or track erosion and introduction of weeds. While many of the proposals would lead to relatively minimal direct impacts when considered individually, there will not be 'no impact' especially if all proposed tracks (etc.) are built. Recommended measures to reduce effects on the composition, extent and intactness of temperate rainforests include consolidating development along the existing Milford Road Corridor and at Milford Sound Piopiotahi, locating infrastructure in existing modified areas, consolidating the number of tracks, utilising existing tracks where possible, and minimising of track length and footprint (width / degree of earthworks) and avoiding clearance of mature canopy trees. Forest clearance associated with the Hine-te-awa Bowen Falls Top Links concept, Little Tahiti heliport or staff accommodation options and the Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail are likely to result in significant adverse effects on areas of temperate rainforest that are unlikely to be able to be managed to an appropriate level. It is recommended that the Hine-te-awa Bowen Falls Top Links concept, Little Tahiti heliport or staff accommodation options, and the proposed trail' (on the true right of the lower Eglinton Valley) and 'Divide extension' of the Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail are not progressed further. Overall, and largely because most infrastructure will be located in existing modified areas which avoids clearance of intact original growth temperate forest, most of the proposals will not result in significant effects on the temperate rainforests of Te Wāhipounamu when recommended impact management measures are considered. It is recommended that those that will (as outlined above), are not progressed further.

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	… the landscapes are world class for the sheer excellence of their scenic beauty. It is an area of magnificent primeval vistas.	FNP/ WHA contains a wide variety of landscapes. The Milford Road Corridor follows the Eglinton, Hollyford and Cleddau Valleys. These valleys are framed by the Livingstone, Earl, Ailsa and Darren Mountains. Within the valleys tussock grassland occurs on the valley floors and along the river bed, while dense forests cover the adjacent mountain slopes. The views to the snow-capped mountains are impressive and can be particularly well experienced at the Eglinton reveal (Node 2), Gertrude Valley (Node 6) the Cleddau Cirque (Node 7) and the Milford Sound Piopiotahu Hub. The views from these locations are world-renowned and form key attractions along the Milford Corridor journey. Ōtāpara / Lake Gunn is an attractive lake adjacent to the Milford Road and the impressive rivers along the corridor provide spectacular views. The waterfall at Bowen Falls is one of the main visitor attractions within Milford Sound Piopiotahi. Milford Sound Piopiotahi with the mountains surrounding the steep sided fiord is a world-class visitor attraction of very high scenic beauty. The proposed structures along the coastline are all within the existing development area.	The proposed interventions along the corridor are located at key viewpoints and aim to enhance the visitor experience and safety without adversely affecting the scenic beauty of the landscape and vistas. Most of the sites for the proposed nodes are located within parts of the landscape with a relatively low landscape sensitivity to further modifications due to the presence of existing structures and modifications. The following parts of the proposal are located in areas with a higher landscape/ visual sensitivity. The open character of the lower Eglinton Valley leads to high visual sensitivity, which needs to be a key consideration for the design of the Eglinton Reveal (Node 2). Recommendations have been provided to locate the car parking and viewing platform in parts of the valley where the effects on the scenic open views can be minimised. The Cleddau Cirque is a highly intact, and conspicuous glacially carved valley that remains largely unmodified, with the exception of State Highway 94 providing access to Milford Sound Piopiotahi. The proposed Cleddau Cirque node is located in proximity of the State Highway. The area is largely devoid of structures, with the exception of the rock fall protection bund and fence to the south-west of the pull in bay to protect visitors observing the valley from this viewpoint. Location of the viewing shelter and carpark would minimise visual effects from the State Highway, and work with the sloping terrain to integrate it into the landscape. Within Milford Sound Piopiotahi the world-class views extend to Mitre Peak and the Sound from the village area. In order to maintain these views, the proposed buildings, in particular the multi-storey hotel, are all set back from the shore and within the currently built-up area. A cable car is proposed to access a viewing platform above Bowen Falls and care has been taken to locate this outside the main viewshafts. The viewing platform at the Bowen Falls will need to be set back sufficiently to ensure that views of the falls from the below (as gained from boats) is not adversely affected.
	Only traces of human influence are evident, mainly in peripheral areas.	The interventions proposed in the Masterplan are located within areas already affected by man-made modifications within the Milford Road Corridor. <u>Eglinton Section</u> Several campsites along the road corridor and accommodation at Te Huakaue / Knobs Flat present; Mirror Lakes walkway/ lookout and carpark well established destination; Milford Road associated infrastructure; various existing tracks providing walking access; <u>Hollyford Section</u> Main Divide carpark at Routeburn Track end and track to Lake Marian with carpark in Hollyford Valley present; Small scale hut at Gertrude Valley and Milford Road associated infrastructure/ building;	The WHA covers 2.6 million hectares of mostly very remote conservation estate. The WHA includes the Glaisnock and Pembroke Wilderness Areas, both of which do not contain any man-made structures. The MOP Masterplan (Stage 2) only proposes structures and trails in areas that are already modified. The Milford Road also represents the main access corridor and accommodation is proposed in Nodes that contain human influence (Node 3, 4 and Piopiotahi Hub). The exceptions to this are a potential building at Node 2 (Eglinton Reveal) and staff accommodation or a heliport at Little Tahiti. While both of these locations already have been modified through earthworks/ access road currently no structures are in place. Both nodes are in proximity of the Milford Corridor and effects on the wider conservation estate will be minimal. The hut proposed in upper basin of the Countess Range will be outside the WHA, but the track (either a loop or an out and back option) would largely be within the WHA. The Mavora Lakes Conservation Area lies adjacent to FNP and the proposal is located in a remote zone. While there will be an introduction of man-made elements into this area, it falls outside the WHA. The most significant level of modification is proposed within the existing developed area at Milford Sound Piopiotahi where this type of development is an expected element in the wider unmodified landscape. The aim of the Masterplan is to cluster man-made modifications in confined nodes and hubs along the Milford Corridor. This will assist in maintaining the peripheral areas of the WHA/ FNP largely free

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		Cleddau Section Homer Tunnel provides access for Milford Road into Cleddau Section with associated rockfall protection; various bridges across Cleddau tributaries; Main node of modification located within the area where existing accommodation, port, airport, etc are situated within a confined area.	of human influence. This ensures that the landscape's values associated with wilderness and remoteness are protected while providing opportunities for visitors to enjoy the spectacular views from the access corridor. The ruggedness of the surrounding areas means that it is unlikely that visitors would venture further into these undeveloped areas.
(viii) to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;	Te Wāhipounamu - South West New Zealand is considered to be the best modern example of the primitive taxa of Gondwanaland seen in modern ecosystems – and as such the property is of global significance. The living representatives of this ancient biota include flightless kiwis, carnivorous land snails, 14 species of podocarp and genera of beech.	FNP/ WHA contains rocks, plants and animals which take us back 80 million years to a time when New Zealand was part of the super continent Gondwana. Some of these links to our past include ancient, mature stands of southern beech (silver, mountain and red beech) and podocarp trees (rimu, hall's totara, miro kahikatea) and a number of endemic birds (e.g. northern Fiordland tokoeka, rock wren), fish (galaxid species) and invertebrates (e.g. *Powelliphanta fiordlandica*).	As described above, proposed Masterplan infrastructure will largely be located in existing modified areas along the Milford Road Corridor and at Milford Sound Piopiotahi. This approach minimises clearance of mature stands of southern beech and podocarp trees, because where vegetation clearance is required it is largely within areas of secondary (modified) vegetation. The main exceptions are the Hine-te-awa Bowen Falls Top Links concept, Little Tahiti heliport or staff accommodation options and the Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail. The relatively small footprint of infrastructure development and visitor impacts mean that effects on living representatives of ancient biota (such as northern Fiordland tokoeka, rock wren) are also generally limited. However, several Masterplan concepts and MOP proposals will have adverse effects on indigenous fauna, including 'ancient biota' and species endemic to New Zealand. These effects include habitat loss and / or modification, human disturbance and displacement, and increased interactions with humans. Potential effects on indigenous fauna and measures proposed to manage effects are outlined in more detail below for criterion (x). Predator control, proposed to be funded through a visitor levy, is expected to result in benefits for indigenous fauna, including those species such as northern Fiordland tokoeka which are considered to be living representatives of Gondwana's biota. The project will not have any impact on significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.
	The South West is an outstanding example of the impact of the Pleistocene epoch of earth history. Ice-carved landforms created by these "Ice Age" glaciers dominate the mountain lands, and are especially well-preserved in the harder, plutonic igneous rocks of Fiordland.	Glacier-cut fiords, lakes, deep U-shaped valleys, hanging valleys, cirques, and ice-shorn spurs are graphic illustrations of the powerful influence of these glaciers on the landscape. Depositional landforms of Pleistocene glacial origin are also important, especially in Westland, west of the Alpine Fault. Chronological sequences of outwash gravels, and moraine ridges in elegant curves and loops, outline the shapes of both former piedmont glaciers and Holocene "post-glacial" valley glaciers.	Fiordland's steep and crenulated coastline, with fiords extending from U-shaped glaciated valleys carved out from the southern part of the Southern Alps, is unique in Aotearoa New Zealand and rare globally. The Fiordland landscape as a whole is very legible in terms of the formative processes that have shaped it. Specific attributes relating to the glacially shaped landforms that are evident within the corridor include the following: Eglinton Section The Eglinton Valley is framed by steep and striking mountain ranges which extend in a north south direction. The lower slopes of the mountain ranges include dense beech forest, while the upper slopes and ridges are characterised by rocky peaks, scree slopes, and bare rock. The proposed node at the Eglinton Reveal will be located near the southern extent of the Eglinton Valley where views first open up when entering the WHA/ FNP. Carved by glaciers, the valley contains highly intact beech forest on its fringes and is overlooked by exposed granite and sandstone mountain ranges, with open grassland on the flats. Where the Eglinton River flats open up along the Avenue of the Disappearing Mountain the outlook to the steep U-shaped valley and surrounding mountains is particularly impressive. Since it is generally difficult to visually integrate any buildings or larger structures within large open areas due to the lack of topographical variation, it has been recommended to place these on the side of the valley floor where they can be visually contained. The remainder of the nodes within the Eglington Valley will be located in areas that more influenced by fluvial processes. Lakes Te Anau and Manapouri are large glacier-carved lakes with multiple arms and complex shorelines. The Te Anau Basin landforms vary from a rolling, rural landscape to a series of large

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			lateral moraine deposits between the Upukerora and Eglinton Rivers. None of these areas will be affected by the proposal. <u>Hollyford Section</u> The Main Divide is a dramatic and highly intact mountainous landscape. The expansive u-shaped valley which the Hollyford River now follows, was glacially carved, and the valley remains highly expressive of its formative processes. The Divide transitions from the Eglinton Valley to the south and marks the beginning of the ascent towards the Homer Tunnel for visitors to Milford Sound. The Divide carpark is located within an area of lower landscape sensitivity in comparison to the wider remote and intact landscape. The carpark is an isolated area of existing modification adjacent to the State Highway and is nestled against the backdrop of the Livingstone Mountains and Key Summit. Upgrade of the existing carpark is considered to have low effects, as the footprint will largely remain the same. The proposed site for the Whakatipu Trails Head equally represents a greater area of modification within the wider the Hollyford Valley. In comparison to the wider valley, the Whakatipu Trails Head site has a lower sensitivity to the presence of structures, buildings and modifications, due to the presence of an existing popular carparking area and walking track. The existing Lake Marian Track carpark is considered the most appropriate location for the proposed Whakatipu Trails Head node. The carpark is a safe and less constrained location where several tracks of varying degrees of difficulty could converge. The carpark is also an existing area of modification within the Hollyford Valley which is well concealed from the State Highway, leading to low effects on the wider landscape. The Lake Marian Track is proposed to be enhanced with the construction of a loop track, and shorter covered nature walk which will follow the true right of the Hollyford River. The proposed nature walk will minimise landscape and natural character effects, utilising the existing Lake Marian Track for the first section of the walk and located within dense beech forest. Lake Marian is an alpine lake in a hanging valley formed by glacial action, in one of the most beautiful settings in Fiordland. The lake is above the bush line and is surrounded by mountains with magnificent reflections. Improving the access to the lake will provide opportunities for visitors to gain a better understanding of these underlying processes. The location of a viewing platform will only lead to a very localised effect in the vicinity of the bush line with low effects on the open views of the glacial landscape. The Gertrude Valley is a conspicuous glacially carved valley which is largely devoid of structures and modifications. The area is highly exposed, and open due to the harsh alpine environment, and contains intact stands of beech forest, sub alpine vegetation, and striking sheer granite cliff faces which overlook the valley below. It is a sublime and iconic feature on the Milford Highway. The proposed development within the Gertrude Valley is largely contained to the lower and less sensitive area of the valley, leading to low effects in the landscape context. <u>Cleddau Section</u> The Cleddau Cirque is the first node to the west of the Main Divide. The U-shaped Cleddau Valley was carved by deep glaciers during the Ice Ages, with the hard rocks forming steep-sided walls. The Cleddau Cirque forms the southern headwaters of the Cleddau River and is the first landscape visitors experience when they pass through the Homer Tunnel. The cirque is an expansive and striking valley, which is largely devoid of vegetation on the sheer rock walls and due to constant slips during heavy rainfall experienced on this side of the Main Divide. The stop is designed to be a short stop after the Homer Tunnel before the descent into Milford Sound Piopiotahi and will act as an observation point for visitors. The proposed site for the Cleddau Cirque node, albeit small, is more modified than the wider valley and has slightly more capacity for development. The carpark includes existing infrastructure such as the rock fall protection bund and fence, and the State Highway.

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			Design recommendations were provided that will minimise visual effects from the State Highway, and work with the sloping terrain to better integrate it into the landscape. Milford Sound Piopiotahi is one of the major drawcards for Southland in addition to being the most accessible fiord. Mitre Peak is a spectacular glacially-carved mountain peak with iconic status within Milford Sound Piopiotahi and the wider Coastal Fiordland character area. Maintaining unobstructed views from the existing developed area in Milford Sound Piopiotahi was one of the key considerations in the selection of the development site for the new hotel and visitor hub in the village. While the overall capacity to absorb change within the undeveloped areas of Milford Sound Piopiotahi is low due to the largely high landscape and visual sensitivity, there is some capacity to absorb change within the proposed areas of development within the Masterplan which have already experienced modification. While there is limited detail about the design of the proposed cable car to the Bowen Falls lookout it would likely follow the existing penstock alignment north of the boat terminal, therefore following a direct line of existing modification and stunted vegetation on the rock face. This limits the need for substantial vegetation clearance and containing modification to existing infrastructure and would result in a short and direct route to the top of the spur. Nevertheless, the proposed cable car is in a relatively conspicuous location and in proximity of Bowen Falls. Therefore, care is required, should this be constructed, that the very high landscape values associated with Bowen Falls do not become compromised by the presence of new infrastructure and a look out point.
(ix) to be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;	A continuum of largely unmodified habitats, Te Wāhipounamu exhibits a high degree of geodiversity and biodiversity.	Fresh-water, temperate rainforest and alpine ecosystems are all outstandingly well represented over an extensive array of landforms and across wide climatic and altitudinal gradients. Notable examples of on-going biological processes can be found in the large expanses of temperate rainforest, plant succession after glacial retreat, soil / plant chronosequences on beach ridges, plant succession on alluvial terraces, vegetation gradients around the margins of glacial lakes and ecotypic differentiation of plants on ultramafic soils. The extensive and little modified freshwater habitats, the impressive diversity of alpine ecosystems, extensive alpine plant endemism, and on-going evolution associated with long-standing geographical isolation of animal populations, like the kiwi taxa of South-Westland, are further examples of on-going biological evolution. <u>Eglinton Section</u> From the boundary of the National Park, the Eglinton Valley supports a diverse range of largely unmodified ecosystems representing ongoing ecological processes	As described above, the MOP proposals are located at Nodes along the existing Milford Road corridor and at Milford Sound Piopiotahi and are confined to a relatively small area of FNP / WHA. New infrastructure required for the MOP proposals will largely be located in existing modified areas. However, clearance of less modified habitats, including forest and other relatively intact habitats that support a high degree of biodiversity will be required for some concepts including the Hine-te-awa Bowen Falls Top Links concept, Little Tahiti heliport or staff accommodation options, Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail and several proposals for new or upgraded walking tracks[7]. The Top Links concept is understood to involve the construction of a cable car or similar means to access the top of Bowen Falls. Vegetation clearance would affect diverse indigenous forest of very high ecological value, and an existing modified corridor of lower value. In addition to direct clearance, substantial habitat fragmentation and edge effects are likely. We recommend that this aspect of the Masterplan concept be fully avoided. A key potential impact if the heliport or staff accommodation options at Little Tahiti are pursued is clearance of intact, mature, and diverse indigenous forest habitat. Dependent on scale, clearance of very high value forest habitat to expand the existing clearing would represent up to a significant adverse effect. The Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail will involve over 10 hectares of direct habitat clearance. Based on the current alignment, this will include areas of largely unmodified habitats including at least some loss of wetland extent and loss of extent of several naturally uncommon ecosystems, including ‘wilderness’ and frost flat vegetation. Considering the ecological values of the area, this equates to a significant adverse ecological effect. Due partly to direct impacts associated primarily with vegetation clearance, habitat loss and fragmentation in largely unmodified habitats we have recommended that the ‘Divide extension’ proposal not be considered further. Several other proposed new walking tracks also traverse largely unmodified habitats including temperate rainforest, alpine communities, a braided river and ancient glacial deposits.

[7] This includes walking tracks, at or associated with the following: Te Huakaue Knobs Flat, Ōtāpara Cascade Creek, Countess Range Overnight Walk, several tracks in the vicinity of the Whakatipu Trails Head, Key Summit to Ōtāpara Cascade Creek, Gertrude Valley, The Chasm to Cleddau Horse Bridge Walk, Tūtoko Bridge to Milford Sound Lodge Walkway, Barren Peak Spur Walk and Viewing Structure, and Cleddau Bush Tracks.

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		including extensive temperate red beech (and mixed beech species) forests on lowland alluvial terraces, large complex fen, bog, and swamp wetlands, extensive valley floor grasslands, unmodified upper river catchments and intact / representative examples of naturally uncommon ecosystem / landform types including a mobile braided river, frost flats, and ancient glacial deposits. <u>Hollyford Section</u> The upper Hollyford Valley contains extensive silver beech forests, seral forests and valley floor forest / shrubland / tussock grassland mosaics maintained by the winter and spring avalanche, precipitous alpine habitats and extensive fellfields supporting specialised lizard and bird species and a dynamic and powerful river system. <u>Cleddau Section</u> The Cleddau Valley contains extensive lowland mixed beech–podocarp forests, relatively unmodified river catchments and estuarine and marine ecosystems in the head of Milford Sound.	Effects of MOP proposals at Milford Sound Piopiotahi (the Freshwater Basin, Cleddau Delta and Deepwater Basin Nodes) that have the potential to impact coastal and marine ecosystems (e.g. Foreshore Enhancements, the Hine-te-awa Bowen Falls Experiences Lower Pontoon Walkway, Dedicated Sea Kayak Area and upgrades to the existing Wastewater Treatment Plant and Recreational Boat Ramp) are likely to be relatively minor. Few proposals are located in subalpine / alpine areas. Exceptions are the track and hut associated with the Countess Range Overnight Walk, the Key Summit to Ōtāpara Cascade Creek Walk, and the Gertrude Valley Walk. Creating the Key Summit to Cascade Creek track at Easy Tramping Track standard would require clearance of a corridor of tussock and shrubs but construction to Advanced Tramping Track standard is recommended as this would likely require little vegetation clearance. Because of the short length of these proposed tracks (or construction standard in the case of the Key Summit to Ōtāpara Cascade Creek Walk), and taking in to account effects management measures, these three track proposals are not expected to result in significant adverse effects on alpine ecosystems. A number of proposals have the potential to adversely affect freshwater habitats. However, generally, these effects are adjacent to existing infrastructure (such as the SH94) and / or are localised and temporary construction related effects. A range of measures are recommended to manage these effects including (but not limited to) avoiding erosion and sediment runoff during construction, using robust stormwater management controls and design to minimise riparian and in-stream disturbance and ensure fish passage is not impeded. Overall, due to the generally small scale of the MOP proposals, and taking into account recommendations to not proceed with some concepts, and recommendations to manage effects, impacts on unmodified habitats that are examples of significant on-going ecological and biological processes are limited in the context of the Te Wāhipounamu WHA. Geodiversity has been addressed under the previous criteria.
	While there is little permanent physical evidence of past human interaction with the natural environment, tangata whenua (the indigenous people who have customary authority in a place) have long associations with the area which was significant to them for natural resources, particularly pounamu (nephrite).		
	European associations are more recent and initially based on natural resource exploitation. The predominant human uses today are associated with sustainable tourism.		
(x) to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.	The habitats of Te Wāhipounamu contain an extensive range of New Zealand's unusual endemic fauna, a fauna which reflects its long evolutionary isolation and absence of mammalian predators.	The property contains the entire wild population of the rare and endangered takahē (Notornis mantelli), the entire population of the South Island subspecies of brown kiwi (*Apteryx australis*), New Zealand's rarest Kiwi, the rowi (*Apteryx rowi*), the only significant remaining populations of the seriously declining mohua / yellowhead (*Mohoua ochrocephala*), the only large populations	Potential effects on endemic fauna include habitat loss and fragmentation, disturbance and displacement, injury and mortality during habitat clearance and increased interaction with humans. As described above, the project will not result in the clearance or loss of large areas of intact forest or other habitats because most infrastructure will be located in existing modified areas. The most significant exceptions are new tracks. A range of management measures will be required to minimise habitat loss including avoiding important fauna habitats, such as wetlands, and clearance of large canopy trees that provide habitat for numerous indigenous bat and bird species. Earthworks and vegetation clearance (especially removal of trees) can lead to direct mortality and injury of fauna. Whilst this is of year-round concern (especially for bats), it is especially important

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
		remaining of kākā and kākāriki / yellow-crowned parakeet, the only remaining population of pateke / Fiordland brown teal in the South Island. Fiordland, Milford Sound Piopiotahi and the Milford Corridor are of international significance for their conservation values and as a largely undeveloped national and international hotspot for threatened and at-risk fauna species, the area has been a major focus of ongoing conservation efforts and scientific study. <u>Eglinton Section</u> The Eglinton Valley, from the Fiordland National Park boundary to the Divide, is famous as one of the most important areas of habitat for Threatened and At Risk species in the country. Numerous endemic fauna occur in the Eglinton value including species such as mohua, South Island kaka, long-tailed and lesser southern short tailed bat, black-fronted tern, rock wren, southern falcon, non-migratory gollum galaxias and other threatened freshwater fauna, korero gecko and southern grass skink. The large population of yellow-crowned kakariki in the Eglinton is also noteworthy. Wetland habitats support cryptic wetland species including marsh crake, spotless crake, Australasian bittern. <u>Hollyford Section</u> The Upper Hollyford supports a range of threatened species including birds such as kea, whio and rock wren. Cirque walls in the area, including Barrier Knob to the north, are home to barrier skink and Cascades gecko. At least two species are known only from the Homer Tunnel area, reflecting the importance of this site not only for unique fauna. The Awakopaka skink (Nationally Critical) is known only from a handful of observations near the Tunnel (Wildlands 2019). <u>Cleddau Section</u> The Cleddau catchment supports numerous threatened endemic species including northern Fiordland tokoeka, South Island kaka, long-tailed cuckoo, kea and rock wren. Whio (Threatened – Nationally	during the bird breeding season (when eggs and chicks are present) and in winter (when lizards and bats are sedentary). Clearance of rank grassland and shrubland, for example for the development of Nodes 2 and 3 on the Eglinton Valley Floor could lead to mortality of lizards, even where exotic grass species are dominant. Another potential effect of the proposal is disturbance to fauna (generally) across a range of outstanding habitats. Disturbance of fauna (especially birds) by human activities can cause effective habitat loss / displacement, because many bird species and other fauna perceive humans as predators. However, the Masterplan concepts are located along the Milford Corridor and Milford Sound, areas that already receive anthropogenic disturbance. The Masterplan's approach to consolidating human activity at Key Nodes aims to minimise effects of human disturbance on fauna. The exception is new tracks that will provide humans access to areas currently are distant from and free of sources of anthropogenic disturbance. The most significant disturbance impacts are anticipated from the Te Anau Downs to Ōtāpara Cascade Creek walking and cycling trail. Re-routing tracks to avoid important fauna habitats is recommended to avoid this effect but geographical constraints may pose logistical challenges in some locations. Outdoor lighting can cause a range of adverse effects to bird, bat, fish, and invertebrate (terrestrial and freshwater) species, including mortality and loss of habitat. For example at Node 3 Te Huakaue / Knobs Flat will be broadly detrimental to some fauna, for example bats foraging on forest edges. New outdoor lighting should be avoided in the first instance, but where it is considered essential to provide lighting on new or upgraded visitor facilities these should be operated via motion sensor (not always-on) and must use warm-spectrum, hooded, and downward-pointing lights of the minimum brightness required to serve their purpose, and that are designed and installed to minimise spill. Adverse kea / visitor interactions occur already, especially along SH94 from Monkey Creek to the Chasm. By providing new visitor facilities at Node 6 (Gertrude Valley) and Node 7 (Cleddau Cirque), the Masterplan proposals may exacerbate these existing issues. On the other hand, implementation of the Masterplan also provides an opportunity to manage the Piopiotahi / Milford Sound visitor experience and visitor facilities in a way that takes kea into account, upfront. Recommendations to manage effects on kea could take the form of MOP establishing a mechanism for ongoing financial resource (e.g., from the proposed visitor levy) for kea advocacy work. Takahē (Notornis mantelli), and rowi (*Apteryx rowi*) do not occur within the project area and will not be impacted by the MOP proposals. As was suggested in the Conservation Impact Analysis for MOP Stage 2 (Boffa Miskell, 2021), the single most pressing opportunity for net gains is landscape-scale control of introduced mammalian predators. This is recommended as a priority for additional investment, as an integral component of the Masterplan and if well-funded and managed will result in substantial benefits for conservation of endemic fauna.

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
		Vulnerable) are present in the fast flowing rivers and tributaries of the catchment. Pāteke / brown teal were released in the Arthur Valley have been anecdotally observed in freshwater habitats in the Cleddau delta area.	
New Zealand Heritage List Rārangi Kōrero	The New Zealand Heritage List Rārangi Kōrero (NZHLRK) identifies four places within Te Wāhipounamu: • Rakituma/Preservation Inlet Historic Area; • Port Craig Sawmill and Settlement; • Tamatea/Dusky Sound Historic Area; and • Richard Henry's Bird Pen, Pigeon Island, Dusky Sound	N/A	MOP has commissioned a Cultural Heritage Assessment to be undertaken, and this is being prepared by Origin Consultants. The cultural heritage assessment is intended to inform the MOP by identifying heritage sites within the project area and providing guidance on how heritage values can be managed and incorporated into the proposals outlined in the MOP Masterplan. Based on the historic background of the area; the sites identified in the Cultural Heritage Assessment; and the statutory and policy framework that applies to the management of archaeological sites and historic heritage places, recommendations are made for the management and interpretation of the area's heritage in the context of the hub and node developments proposed in the MOP Masterplan. These recommendations should inform ongoing project phases so as to ensure that the historic heritage values within the project area and surrounds are appropriately provided for.
National, regional and local recognition – historic heritage values	*Conservation General Policy and National Park General Policy* Both the Conservation General Policy (CGP) and the General Policy for National Parks (GPNP) require subordinate management plans to identify historical and cultural heritage within the jurisdiction of the plan, and to identify the required conservation outcomes for that heritage. [8] They also state that historical and cultural heritage that is assessed as having high significance in accordance with the Historic Places Act 1993 should be actively managed. [9] Other policies in the CGP and NPGP that relate to historic and cultural heritage address specific management outcomes that should be followed if certain circumstances arise, e.g. the unavoidable loss or damage of heritage values.		
	Southland Regional Policy Statement The Southland Regional Policy Statement (RPS) is prepared by Southland Regional Council under the RMA and describes the heritage	N/A	

[8] CGP Policy 5(a) and GPNP Policy 5(a)
[9] CGP Policy 5(b) and NPP Policy 5(a)

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	values within the Southland Region in a general sense, and sets out objectives, policies, and methods to protect these values from inappropriate subdivision, use and development. The methods direct local authorities (Southland Regional Council and Southland District Council in this case) to include provisions in regional and district plans to manage historic heritage. The RPS does not identify particular historic heritage values within the Southland Region.		
	Southland Regional Plan The Southland Regional Land and Water Plan (RLWP) is prepared under the RMA and manages various activities and their impacts on land and water resources. It does not identify specific historic heritage places. Objectives and policies in the RLWP variously seek to avoid adverse effects on historic heritage values that may arise from various activities that are managed by the plan. This means that these types of effects would need to be considered when assessing resource consent applications triggered under the RLWP.	N/A	
	Southland District Plan The Southland District Plan (District Plan) is prepared under the RMA by the Southland District Council. It identifies a number of archaeological sites and historic heritage places within Te Wāhipounamu, some of which may be proximate to the proposed works.		
	Southland Murihiku Conservation Management Strategy The Southland Murihiku Conservation Management Strategy is prepared by DOC under the Conservation Act. It describes the conservation values present in mainland Southland and the Subantarctic Islands, and provides guidance for DOC's work in Southland Murihiku.		

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	As well as the specific provisions that relate to the management of Te Wāhipounamu in the CMS, it also describes the heritage values present within each of the Places that are managed by the CMS, including those within Fiordland Te Rua-o-te-moko. In general, the descriptions for each place include recognition of the cultural heritage values associated with each place (significance to mana whenua); as well as heritage values that relate to European settlement. Outcomes described for the Fiordland Te Rua-o-te-moko Place include that the cultural values associated with the outstanding landscapes of this Place are better known. Additionally, sites of importance to Ngāi Tahu are respected and managed in partnership with them, ensuring the protection of places and the continuation of their cultural connections. Finally, the CMS seeks that historic and cultural values are brought to life through interpretation, giving visitors an enhanced appreciation of the heritage values and leaving them with a connection to the lives of previous generations.		
	Fiordland National Park Management Plan The Fiordland National Park Management Plan (FNPMP) is prepared by DOC under the National Parks Act. It provides for the management of Fiordland National Park and expresses DOC's overall management intentions for the National Park. The FMPMP recognises the cultural heritage and historic heritage values within the National Park;[10] and sets out the approach to managing historical and cultural heritage values.[11]		

[10] Fiordland National Park Management Plan at sections 1.2 and 4.2.4

[11] Fiordland National Park Management Plan at section 4.12

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	Notably, Table 3 in the FNPMP lists the 35 places within the national park which have been selected for active management. These were identified via the Southland Conservancy Historic Resource Management Programme (SHRMP), which is an operational plan. It also to acknowledge places that are recognised by HNZPT.		
National, regional and local recognition – landscape and landform	*Conservation General Policy and National Park General Policy* The CGP require subordinate management plans to identify landscapes, landforms and geological features of international, national or regional significance, or of significance to tangata whenua.[12] The GPNP places a similar requirement on national park management plans but focused on scenic, geological, soil and landform features and other abiotic diversity.[13] The CGP directs that activities which reduce the intrinsic values of such features on public conservation lands should be located and managed so that their adverse effects are avoided or otherwise minimised,[14] whereas in a National Park context, activities which diminish the quality of these features should simply be avoided.[15]		The landscape values within Te Wāhipounamu are extensively described in the CMS, FPNP, the SOUV (above), and the entirety of Te Wāhipounamu (in the Southland District) is recognised as an outstanding natural landscape in the Southland District Plan. A thorough assessment of the proposal against the landscape values described in the SOUV has been set out earlier in this table and in dedicated landscape assessments. This assessment has concluded that there are potential impacts on the values and attributes of Te Wāhipounamu, but that these are minimised to a certain extent by the overall objective of focussing changes within areas of existing modification. Due to a scale of inappropriate effects on landscape values, it has been recommended that: - Sensitive location and design of the proposed cable car access and platform within the visual catchment viewed by visitors on boats within Milford Sound Piopiotahi, and to ensure that the very high landscape values associated with Bowen Falls do not become compromised by the presence of new infrastructure and a look out point. - Locating modifications and structures in parts of the landscape where adverse effects on scenic open views can be minimised as much as possible. Subject to the implementation of these recommendations, and the ongoing recognition of landscape values in any future stages of the project, this assessment has concluded that the proposals will have very low adverse effects on the attributes that reflect the values of Te Wāhipounamu, and will achieve positive impacts given the more proactive approach that will be taken to visitor and destination management.
	Southland Regional Policy Statement The RPS describes the framework for the management of natural features and landscapes within the region, and sets out objectives, policies and methods to identify, protect and manage these values, both outstanding landscape values and locally distinctive landscapes.[16]		

[12] CGP Policy 4.5(a)
[13] NPP Policy 4.5(a)
[14] CGP Policy 4.5(b)
[15] NPP Policy 4.5(b)
[16] Southland RPS, Chapter 10

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	The methods direct local authorities (Southland Regional Council and Southland District Council in this case) to include provisions in regional and district plans to provide protection for outstanding natural features and landscapes (among other matters).		
	Southland Regional Plan The RLWP does not specifically identify particular landscape values. However, objectives and policies in the RLWP variously seek to ensure that activities managed by the RLWP safeguard the values of outstanding natural features and landscapes.[17]		
	Southland District Plan The District Plan identifies significant geological sites and landforms in Schedule 10. It also identifies outstanding natural features and landscapes on the planning maps. The entirety of Fiordland area is identified as an outstanding natural landscape. Rules that relate to the management of activities within outstanding natural landscapes will therefore apply to the proposed works.		
	Southland Murihiku Conservation Management Strategy The description of the Fiordland Te Rua-o-te-moko Place in Section 2.2. describes the diverse range of outstanding landscapes in the Place and describes the geology that underlies the area. It describes the landscape and character of the Place as "highly valued by visitors and locals alike, with words like 'pristine', 'unspoilt', 'stunning' and 'outstanding' being used to describe this Place." Ensuring that the vast and spectacular natural landscapes of the Place remain intact is one of the Outcomes sought for this Place. Policies in the CMS are largely related to the management of specific		

[17] RLWP Objective 9/9A, Policy 20(1)(b), Policy 24(1)(b), and Policy 28.

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	activities (e.g. vehicles, mountain bikes, aircraft, animals, hunting etc.). Where applicable, these policies generally include a requirement for various activities to avoid, remedy or mitigate adverse effects on natural, historic or cultural values.[18]		
	Fiordland National Park Management Plan Section 1 of the FNPMP provides an overarching description of the geological features, landforms and landscapes within FNP and highlights the following features/characteristics: - Glaciated mountain landforms - Remote coastline indented by fiords (noting fiords are only found in a few places around the world) - The area is a unique combination of geological and glacial formation characteristics Section 3 describes the overwhelming landscape character of the WHA as wild and unpopulated. Section 4.2.1 describes FNP as being in 'an excellent condition' at a landscape level, essentially still in its natural state except for the very small areas where development has occurred.		
National, regional and local recognition – ecosystems and indigenous biodiversity	*Conservation General Policy and National Park General Policy* The CGP requires subordinate management plans to identify indigenous species and their habitats and ecosystems.[19] It also requires that these management plans to establish management objectives for indigenous species and their habitats and ecosystems consistent with planned outcomes at places. These management objectives should seek		The ecosystem and indigenous biodiversity values within Te Wāhipounamu are extensively described in the CMS, FPNP, and the SOUV (above). The Southland District Council has yet to identify areas of significant indigenous biodiversity in its District Plan, but the Southland Regional Council has identified wetlands of regional significance in the RLWP. A thorough assessment of the proposal against the indigenous biodiversity and ecosystem values described in the SOUV has been set out earlier in this table and in dedicated indigenous biodiversity and ecosystem assessments. This assessment has concluded that there are potential impacts on the values and attributes of Te Wāhipounamu, but that these are minimised to a certain extent by the overall objective of focussing changes within areas of existing modification.

[18] CMS various policies including 3.2.4(d) (vehicles); 3.3.4(c) (mountain bikes); 3.4.2 (electric power-assisted pedal cycles); 3.5.1(d) (watercraft); 3.10.1 (structures); 3.16.3&4 (mining); 3.17.2 (sand and shingle extraction); 3.18.1 (filming); 3.20.1(d), 3.20.3(d), 3.20.5(d) (hunting); 3.22.1(c) (organised sporting events); and 3.23.1(a) (recreational activities using fixed anchors.

[19] CGP, Policy 4.1(a)

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	the range of outcomes set out in Policy 4.1(b). Remaining policies in the CGP on the theme of indigenous species, habitats and ecosystems relate to the restoration of habitats and the management of particular activities e.g. the introduction of sports fish; whitebait fisheries; and customary uses.[20] The GPNP acknowledges that National Parks are places where special emphasis is given by legislation to the preservation of indigenous species (section 4(2)(b) National Parks Act 1980). Further, because of their size and diversity, national parks will always be key places where much of New Zealand's land and freshwater biodiversity is maintained.[21] Stipulates requirements that NPMP must fulfil in relation to the management of indigenous biodiversity.		Due to the level of forest clearance required resulting in a significant adverse effect which is unlikely to be able to be managed to an appropriate level it has been recommended that the following aspects of the proposals do not proceed: • the Hine-te-awa Bowen Falls Top Links concept; • the Little Tahiti heliport or staff accommodation options; and • the Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail. Additional recommendations have been made to minimise the impact of the proposals on ecosystem and indigenous biodiversity values including: • Consolidating the number of tracks, utilising existing tracks where possible, and minimising the length and footprint (width) of tracks. • Avoiding the clearance of canopy trees. • Re-routing tracks to avoid important fauna habitats (acknowledging that there may be geographical constraints that pose logistical challenges to achieve this in some locations). • Undertaking specific faunal surveys at later stages of the project to manage effects on indigenous fauna, including those species that are considered to be primitive taxa of Gondwanaland. • Ensuring that new outdoor lighting is avoided in the first instance, but where it is considered essential, that it is operated via motion sensors, and must use warm-spectrum, hooded and downward pointing lights of the minimum brightness required to serve their purpose and should minimise light spill. • Establishment of a mechanism for an ongoing financial resource (e.g. from the proposed visitor levy) to support kea advocacy work. • Landscape-scale control of introduced mammalian predators as an integral component of the Masterplan. Subject to the implementation of these recommendations, and the ongoing recognition of ecosystem and indigenous biodiversity values in any future stages of the project, this assessment has concluded that the proposals will have very low adverse effects on the attributes that reflect the values of Te Wāhipounamu, and will achieve positive impacts given the more proactive approach that will be taken to visitor and destination management.
	Southland Regional Policy Statement The RPS sets out objectives, policies and methods to understand, identify, maintain, protect and enhance indigenous biodiversity.[22] The methods direct local authorities (Southland Regional Council and Southland District Council in this case) to include provisions in regional and district plans to protect significant indigenous vegetation and significant habitats of indigenous fauna (among other matters). The RPS also recognises the variety of different habitats within Fiordland and their recognition at a national and regional level.		
	Southland Regional Plan The RLWP identifies regionally significant wetlands and sensitive water bodies in Southland. These are		

[20] CGP, Policies 4.1(c) – (i)
[21] NPP, Section 4
[22] Southland RPS, Chapter 6

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	shown on Map Series 7 that accompanies the RLWP. Objectives and policies in the RLWP variously seek to maintain or enhance the range and diversity of indigenous ecosystems and habitats within rivers, estuaries, wetlands and lakes (and their margins);[23] and to protect significant indigenous vegetation and significant habitats of indigenous fauna.[24]		
	Southland District Plan The District Plan recognises the significant biodiversity values associated with Te Wāhipounamu WHA. Until such time as the Council completes a project to identify areas of significant indigenous vegetation and habitats of significant indigenous fauna, the District Plan contains rules that manage the clearance of indigenous vegetation.		
	Southland Murihiku Conservation Management Strategy The description of the Fiordland Te Rua-o-te-moko Place in Section 2.2 states that it is one of the most expansive natural areas of New Zealand and contains 18 priority ecosystem units. In addition, it: - Contains over one-third of New Zealand's indigenous plan species - Is a national stronghold for many threatened and at-risk plants - Is home to the Nationally Critical takahē and kākāpō One of the outcomes sought for this place is that the biologically diverse, uninterrupted altitudinal ecosystem sequences function naturally, providing habitats for ancient and unique biota.[25] Other outcomes sought for the Place include:		

[23] RLWP Objective 14

[24] RLWP Policy 32

[25] Southland Murihiku CMS, p60

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	- That extensive, indigenous alpine ecosystems support an exceptional range of indigenous plants and animals - That Fiordland continues to be a stronghold for threatened and at risk indigenous bird and plant species that were once common across New Zealand - That the ongoing viability of these species is strongly linked to the managed priority ecosystem units found throughout this Place Policies in the CMS are largely related to the management of specific activities (e.g. vehicles, mountain bikes, aircraft, animals, hunting etc.). Where applicable, these policies generally include a requirement for various activities to avoid, remedy or mitigate adverse effects on natural, historic or cultural values.[26]		
	Fiordland National Park Management Plan The FNPMP provides a comprehensive description of the biodiversity values within the National Park, as summarised below. *Vegetation* Temperate rainforest and alpine plant communities are outstanding examples of these important ecosystems.[27] Vegetation of Fiordland is notable both in national and international terms for its diversity and essentially pristine condition. [28] Recognises that about two-thirds of FNP is forested and is the largest continuous area of indigenous forest remaining in New Zealand. Beech forest dominates, but podocarp and other species are also abundant.[29]		

[26] CMS various policies including 3.2.4(d) (vehicles); 3.3.4(c) (mountain bikes); 3.4.2 (electric power-assisted pedal cycles); 3.5.1(d) (watercraft); 3.10.1 (structures); 3.16.3&4 (mining); 3.17.2 (sand and shingle extraction); 3.18.1 (filming); 3.20.1(d), 3.20.3(d), 3.20.5(d) (hunting); 3.22.1(c) (organised sporting events); and 3.23.1(a) (recreational activities using fixed anchors.

[27] FNPMP, Section 4.2.1

[28] FNPMP, Section 4.2.1

[29] FNPMP, Section 1.1.2

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	States that a wide range of alpine plants exist in Fiordland. [30] A discontinuous zone of scrub, prominent in avalanche-prone valley heads, merges into the tussock grasslands and the alpine herb fields, which extend up to 1500-1600 metres. Rock and snow predominate at higher altitudes and plants are restricted to favourable niches. [31] Significant vegetation features highlighted in Section 4.2.2 include: - Southern beeches and podocarps as old elements of NZ flora - Southern rātā, Kāmahi and broadleaf as significant in Fiordland forests because of their adaptability to extreme climate and soil conditions *Fauna* Fiordland provides a wide diversity of habitats, which support a great variety of indigenous and introduced fauna. The only indigenous mammals within Fiordland National Park are the long-tailed bat and the short-tailed bat. [32] *Birds* Fiordland is a stronghold for many of the less common of New Zealand's endemic birds. These include the piwauwau (rock wren), a bird of alpine boulder fields; whio (blue duck), found in turbulent streams; the forest birds - kākā, mōhua (yellowhead), yellow-crowned parakeet and tokoeka (brown kiwi); and the tawaki (Fiordland crested penguin). The flightless and critically endangered takahē has its largest population in the Murchison Mountains.[33] *Reptiles* Lizards are the only reptiles found in Fiordland National Park. There are five species in all: three geckos and two skinks.[34]		

[30] FNPMP, Section 1.1.2
[31] FNPMP, Section 1.1.2
[32] FNPMP, Section 1.1.2
[33] FNPMP, Section 1.1.2
[34] FNPMP, Section 1.1.2

Criteria	Heritage/Conservation values	Attributes	Impact Assessment on Attributes
	Objectives in Section 4.3 of the FNPMP include: To maintain natural biodiversity by preventing, where possible, the further loss of indigenous species from areas where they are currently known to exist within FNP.[35] To retain indigenous biodiversity in such condition in FNP that all ecosystems are self-sustaining with minimal management input. [36]		
Cultural values – Iwi Management Plan	Te Tangi a Tauira is the Iwi Management Plan prepared by Ngāi Tahu ki Murihiku for Murihiku Southland. The area to which the plan relates includes Te Wāhipounamu. Te Tangi a Tauira identifies that the Fiordland region contains an abundance and diversity of culturally significant sites, including: - Ana (caves) - Ara tawhito (ancient trails) - Kāinga nohoanga (occupation sites) - Māra (gardens) - Maunga (mountains) - Tauranga waka (canoe landing sites) - Tauranga ika (fishing grounds) - Urupā (burial grounds) - Mahinga kai (resource/food gathering areas) - Wāhi mahi kohātu (mineral use sites) - Wāhi pakanga (battle sites) - Wāhi pounamu (pounamu areas)		MOP has commissioned a Cultural Values Assessment to be undertaken, and this is being prepared by Kauati. The cultural values assessment is intended to detail the historical and contemporary Ngāi Tahu values, practices and associations with the project area and its surrounds. It is anticipated that the Cultural Values Assessment will build on, and reflect, Te Tangi a Tauira. This assessment should inform ongoing phases of the project to ensure that cultural values associated with the project area and surrounds are appropriately recognised and provided for.

[35] FNPMP, Section 4.3 Objective 1
[36] FNPMP, Section 4.3 Objective 2

6.0 Summary and conclusion

There are potential impacts of the proposals on the values and attributes of Te Wāhipounamu, but these are minimised to a certain extent by the overall objective of focusing changes within areas of existing modification, and by focussing the majority of any necessary development to areas which have previously been modified.

The proposals will result in some modification to attributes which reflect the values of Te Wāhipounamu, namely:

- Establishment of a new overnight walk with an alpine hut;
- Localised forest clearance associated with upgrades to, and the establishment of new tracks and car parking areas; and
- The establishment of a cable car and associated viewing platform near the top of Bowen Falls and a new visitor centre and hotel in Milford Sound Piopiotahi

Recommendations have been made to minimise the impact of the above activities, which include:

- Consolidating the number of tracks, utilising existing tracks where possible, and minimising the length and footprint (width) of tracks.
- Avoiding the clearance of canopy trees.
- Re-routing tracks to avoid important fauna habitats (acknowledging that there may be geographical constraints that pose logistical challenges to achieve this in some locations).
- Sensitive location and design of the proposed cable car access and platform within the visual catchment viewed by visitors on boats within Milford Sound Piopiotahi, and to ensure that the very high landscape values associated with Bowen Falls do not become compromised by the presence of new infrastructure and a look out point.
- Locating modifications and structures in parts of the landscape where adverse effects on scenic open views can be minimised as much as possible.
- Undertaking specific faunal surveys at later stages of the project to manage effects on indigenous fauna, including those species that are considered to be primitive taxa of Gondwanaland.
- Ensuring that new outdoor lighting is avoided in the first instance, but where it is considered essential, that it is operated via motion sensors, and must use warm-spectrum, hooded and downward pointing lights of the minimum brightness required to serve their purpose and should minimise light spill.
- Establishment of a mechanism for an ongoing financial resource (e.g. from the proposed visitor levy) to support kea advocacy work.
- Landscape-scale control of introduced mammalian predators as an integral component of the Masterplan.

This Impact Assessment reflects recommendations made in the Preliminary Assessment of Environmental Effects that certain aspects of the proposals are not progressed due to the level of forest clearance required resulting in a significant adverse effect which is unlikely to be able to be managed to an appropriate level. These aspects are:

- the Hine-te-awa Bowen Falls Top Links concept;
- the Little Tahiti heliport or staff accommodation options; and
- the Te Anau Downs to Ōtāpara Cascade Creek walking / cycling trail.

Overall, this Impact Assessment finds that the proposals will have very low adverse effects on the attributes that reflect the values of Te Wāhipounamu, subject to the recommendations being given effect to. The proposals will also result in positive impacts on the values of Te Wāhipounamu given the more proactive approach that will be taken to visitor and destination management and the landscape scale pest management.

It will be important that this Impact Assessment is further developed and refined throughout the various design stages and implementation process to inform each subsequent stage of the proposal. This is particularly important given the projects and proposals assessed in this assessment may be subject to change through the feasibility and business case process. It should be used on an iterative basis to make sure that ongoing design of the proposals and their implementation achieve protection and conservation of the attributes and values of Te Wāhipounamu.

There may be opportunities to review and update the Statement of Universal Value (SOUV) for Te Wāhipounamu once the proposals have been implemented to reflect any changes arising, and to also reflect the strong cultural values associated with the World Heritage Area.

7.0 References

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