



Waitaki

DISTRICT COUNCIL

TE KAUNIHERA Ā ROHE O WAITAKI

Date: Thursday, 4 April 2024
Time: 9.00am
Location: Council Chamber, Third Floor
Office of the Waitaki District Council
20 Thames Street, Oamaru

Agenda

Late Reports

District Plan Review Sub-Committee Meeting (reconvened)

On Thursday 4 April 2024

Alex Parmley
Chief Executive

Agenda Items

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L URGENT BUSINESS

L.1 PUBLICATION OF SCHEDULE OF OUTSTANDING NATURAL FEATURES (SCHED7)

Author: Katrina Clark, Senior Planner District Plan Review

Authoriser: Roger Cook, Heritage, Environment and Regulatory Group Manager

Attachments: 1. SCHED7 Outstanding Natural Features

RECOMMENDATION

That the District Plan Review Sub-Committee recommends:

That Council approves the attached Schedule of Outstanding Natural Features (SCHED7), subject to final formatting and integration corrections, for notification in a Proposed District Plan.

PURPOSE

This report provides the schedule of Outstanding Natural Features that was omitted from the original agenda for this meeting (18 December 2023).

SUMMARY

Attachment 1 provides the schedule of Outstanding Natural Features – SCHED7 Outstanding Natural Features. This schedule was omitted from the original agenda for this meeting and is now provided as an additional information item for District Plan Review Sub-Committee recommendation to Council for notification in a Proposed District Plan.

SCHED8 - Schedule of Outstanding Natural Features

A natural feature or natural landscape is considered outstanding if it is 'conspicuous, eminent, remarkable or iconic' within the context of the Waitaki district. A landscape or feature must be of at least moderate-high natural character or intactness before it can be considered for outstanding-ness, except in special circumstances such as rarity.

Outstanding natural features and landscapes have been identified through assessment against the following sets of values:

Natural science values: Natural science values are assessed according to the geological, geomorphological, ecological and dynamic components of the landscape. They are important if any one of, or collectively, the following natural elements:

- landform(s), geomorphological process
- geology/geological process, other geopreservation site,
- water body (such as lake, tarn, wetland, river, stream, lagoon), freshwater process
- vegetation community, ecosystem process
- wildlife habitat

are (a) rare in the area/district; (b) particularly good "classic" examples; (c) intact or retain overall integrity and/or (d) clearly and recognisably characteristic of the area/district.

Perceptual Values:

Legibility values: Legibility values relate to the extent to which the landscape expresses the geomorphological, hydrological, climate, ecological, coastal processes that formed it in its current state.

Aesthetic values: Aesthetic values include the degree of visual or scenic harmony, visual coherence, natural character, distinctiveness, memorability and/or vividness of a scene. High visibility or visual prominence are contextual factors making aesthetic values more widely shared (see Shared and Recognised).

Transient values: Transient values refer to the extent to which natural processes such as the presence of wildlife, diurnal/ seasonal weather and hydrological conditions (e.g.: presence of snow, clear light and shadow effects, reflections in water, high water flows) contribute to landscape character.

Associative Values:

Tangata Whenua values: Tangata Whenua values are the extent to which Maori have connection with or to a landscape or a place and the importance of landscapes or places to Tangata Whenua. For example, landscapes may have names of meaning or historical value for Maori because of settlements; pa or battle sites; food sources; rock art sites and caves; or because mountains, lakes and rivers or other natural features express or embody Maori cosmology and occupation of an area.

Shared and Recognised values: Shared and recognised values are the degree to which natural features and landscapes are widely known and valued by community. For landscapes or features with high shared and recognised values, there is a substantial agreement between professional and public opinion that the natural feature or landscape contributes to the sense of place or is of importance. Agreement can be about the values of an area from folklore, art, poetry, song, recorded history and local identity: for instance, 'the Waitaki' or 'the high country'. Areas that are formally protected typically express high shared and recognised value. Visually prominent and distinctive features or places can have shared and recognised values.

Historic values: The historic values are the degree to which an area or a place is known and influenced by its connection to the historical values inherent in the place. Historical values may include, for example, traditional land uses such as farming, food gathering, historic settlement patterns, historic events/activities, architectural periods.

The above values were ranked on a 7-stage continuum, ranging from Very High to Very Low:



If a natural landscape or feature has at least one value in the 'very high' range, it is categorised as 'outstanding' and protected under s.6 of the RMA.

Outstanding Natural Feature	Feature description	Biophysical values	Legibility values	Perceptual values	Transient values	Tangata Whenua values	Associative values	Historic values	Values that make the feature outstanding
Hopkins River Te Awa Aruhe	Large braided river system	Very High Well-developed braided river system, one of only three in the district, naturally uncommon and rare globally; important waterfowl and wader habitat including black stilt	Very High System is largely intact. The braided character and range of associated habitats is clearly expressed and easy to see	Very High Visually distinctive, memorable, high natural character; Visual patterns, dramatic contrasts in juxtaposition, visual diversity;	High Effects of changes in flow, weather conditions, seasonal presence/activity of wildlife	Very High Te Awa Aruhe seasonal source of mahinga kai; Part of a traditional awa	Very High Large highly visible key element in popular and easily accessible recreational valley; entire river system is a SSWI.	None known	Biophysical Legibility Aesthetic, Tangata Whenua Shared and Recognised
Canyon Creek Glacial Stairway	Glacial cirque basin with large tarn, and ice-sculpted glacial steps	Very High An exceptionally well-defined glacial cirque basin. Best example in New Zealand of a glacial stairway; the only one in the district	Very High Features are completely natural and extremely well-defined.	Very High highly impressive and memorable; very high natural character and legibility impart very high aesthetic value	Moderate effects of weather, presence of wildlife.	None known	Moderate Part of the Ahuriri Conservation Park, valley is a popular hiking/climbing destination	None known	Biophysical Legibility Aesthetic
Ahuriri Valley Terminal Moraine	Terminal moraine landform	Very High Well preserved and good example of a terminal moraine, best in the district	Very High Completely intact and highly legible form	Very High interesting and distinctive highly legible and very natural feature in a highly natural alpine valley setting has very high aesthetic quality	High Effects of light and shadow, weather conditions, snow cover	None known	Moderate Part of the Ahuriri Conservation Park,	None known	Biophysical Legibility Aesthetic
Snowy Gorge Rock Avalanche	Rock avalanche	Very High Large post-glacial rock avalanche and source basin. Arcuate ripples apparent. Supports native shrubland, lizard habitat	Very High Completely intact and highly expressive of process	Very High Distinctive, memorable, highly legible natural feature with a very high level of intactness within an alpine shrubland, tussock, scree and rock rangeland setting which accords very high aesthetic value.	High Weather conditions such mist, snow, light and shadow; presence of wildlife	None known	Moderate Within Ahuriri Conservation Park. On popular tramping route with hut on north side.	None known	Biophysical Legibility Aesthetic
Birchwood Wetland	Large valley floor alluvial wetland	Very High Large wetland with outstanding wildlife values including large black-fronted tern and wrybill populations, and important fish habitat.	Very High Largely intact and key expressive element of the valley floor and braided Ahuriri river system	Very High visually distinctive and memorable land/water-scape features; rare as a visible landscape element. Wetlands inherently have high aesthetic qualities especially with expanses of water. Very high natural character and high level of intactness supports high visual value. The variety of vegetation cover and juxtaposition with water provides visual interest with contrasts in colours and textures.	Very High presence of wildlife; weather conditions such as mist, snow, reflections in the water;	High seasonal source of mahinga kai;	Very High well-known wetland observed and appreciated by all who pass by on the road and frequent the river bed and side creeks. Enjoyed from the Birchwood Homestead Lodge. Wetland part of the Ahuriri WCO and the wetland is an SSWI. Part of the Ahuriri Conservation Park.	None known	Biophysical Legibility Aesthetic Transient Shared and Recognised
Ben Avon Wetland	Large valley floor alluvial wetland Associated with braided Ahuriri River	Very High Large carex wetland of oxbow lagoons with outstanding wildlife values including large black-fronted tern, black stilt and wrybill populations, bittern habitat and important fish habitat.	High Largely intact and key expressive element of the valley floor and braided Ahuriri river system. Some invasion by exotic species of vegetation eg willows	Very High visually distinctive and memorable land/water-scape features; rare as a visible landscape element. Wetlands inherently have high aesthetic qualities especially with expanses of water. Very high natural character and high level of intactness confer high visual value. The variety of vegetation cover and juxtaposition with water provides visual interest with contrasts in colours and textures.	Very High presence of wildlife; weather conditions such as mist, snow, reflections in the water;	High On the awa of the Ahuriri River; seasonal source of mahinga kai;	Very High Highly visible, well-known wetland observed and appreciated by all who pass by on the road. Wetland part of the Ahuriri WCO and the wetland is an SSWI. Scenic Reserve and part of the Ahuriri Conservation Park. Also part of the Ahuriri Valley	None known	Biophysical Legibility Aesthetic Transient Shared and Recognised

							feature in the UNESCO Waitaki Whitestone Geopark.		
Birch Creek Wetland	Large valley floor alluvial wetland and area containing numerous ephemeral tarns	Tarns support kettle lake vegetation and large numbers of aquatic and terrestrial insects; ephemeral wetlands such as kettle lakes are naturally uncommon ecosystems and support threatened species. Habitat for waterfowl and waders such as Black Stilt and rare White Winged Black Tern.	High Wetland is largely intact but modified vegetation by pastoral activity.	Very High visually distinctive and memorable land/water-scape features; rare as a visible landscape element. Wetlands inherently have high aesthetic qualities especially with expanses of water. High natural character and intactness supports high visual value. The variety of vegetation cover and juxtaposition with water provides visual interest with contrasts in colours and textures.	Very High presence of wildlife; weather conditions such as mist, snow, reflections in the water;	High seasonal source of mahinga kai;	Very High well-known wetland observed and appreciated by all who pass by on the road Wetland part of the Ahuriri WCO and the wetland is an SSWI. Scenic Reserve and part of the Ahuriri Conservation Park.	None known	Biophysical Aesthetic Transient Shared and Recognised
McClays Creek Totara	Remnant totara forest	Very High Rare fire-refuge patches of totara forest, a window to the past; and indigenous shrublands; including endangered <i>Olearia fimbriata</i>	Very High Large Patch deep within the scree is intact and expresses natural pattern	Very High visually distinctive and memorable landscape features, notable for their rarity as a visible landscape element. Native forest elements inherently have high aesthetic qualities. Grey shrubland setting together with scree and rock out crop, within a broader pastoral rangeland setting, expressing high natural character and intactness supports high visual value. The variety of vegetation cover provides visual interest in contrasts in colours and textures.	Moderate Wildlife presence; weather conditions such as snow.	None known	Very High Highly visible from SH8; a distinctive and memorable landscape element. Identified as significant in the DOC CRR for Dunstan Downs.	None known	Biophysical Legibility Aesthetic Shared and Recognised
The Knot (Ostler Fault)	Landform Faultline trace	Very High A notable feature of the active Ostler reverse fault zone, where the fault trace in the old river terraces of the Ahuriri River changes around 90degrees in strike. Monitored for precise strain movements and is of international importance. Fault trace expressed in landform across the Ahuriri River and into the Birdwood Range. The continuity of the trace is impressive.	High Generally well expressed under mostly grassland cover but has been cut into or altered by SH8 and other cultural features.	High low profile landscape element, full extent not obvious to the casual viewer. Has some aesthetic merit in its sinuous generally intact natural form especially where there is extensive intact dryland cover. Agricultural development detracts from its appearance.	Moderate Light and shadow, snow effects can enhance.	None known	Moderate Recorded in the Geopreservation Inventory. It is visible from SH8 and local road, which cross it but not remarkable to a casual viewer. Recognisable local landmark.	None known	Biophysical
Ben Dhu Bog Pine	Remnant of bog pine woodland	Very High Best example of this forest type in the region. Native forest remnants are rare within the district, a very small window on the pre-human vegetation, when it is thought bog pine in association with mixed podocarp-broadleaf woodland dominated by totara and celery	High Largely intact but has been modified by pastoral practices	High visually distinctive and memorable landscape features, notable for their rarity as a visible landscape element. Native forest elements inherently have high aesthetic qualities. The variety of vegetation cover provides visual interest in contrasts in colours and textures.	Moderate Possibly weather effects such as snow, mist. Wildlife presence.	None known	High Scientific Reserve and public conservation area. Public access via easement promoted by signage from Quailburn Road. Whilst not highly visible from public roads, it is a distinctive and	None known	Biophysical

		pine covered the drier eastern ranges and parts of the basin floors.					memorable feature of this part of the basin.		
Paritea/Clay Cliffs	Badlands erosion on upthrust fault block landform	Very High Spectacular uncommon large erosion feature expressed as very tall rock-capped pinnacles, cliffs and deep narrow ravines between ("badlands"). Layering and tilting visibly evident. Also, a well-defined reverse fault block feature along the active Ostler Fault marking its trace. Excellent <i>Olearia odorata</i> , <i>Matagouri</i> and Native Broom community.	Very High Dramatically clear erosion feature with high level of intactness	Very High highly visible, very distinctive, striking and memorable feature. Uniquely impressive feature for its scale, degree of development and clarity. Form pattern texture and colour within the feature is remarkable. Overall very high visual coherence and harmony.	Very High The effects of different weather conditions can result in stunning colours, light and shadow and patterns	None known It is closely connected with the awa of the Ahuriri River.	Very High Prominent distinctive and memorable landform viewed from SH8, Ahuriri River. QEII Covenant. Open to public and actively promoted. Former RAP. Geosite#1128.	None known	Biophysical Legibility Aesthetic Transient Shared and Recognised
Red-Raupo-Swan Lagoon Complex	Collection of tarns and wetlands in moraine and associated ecosystems	Very High Naturally uncommon moraine tarns and wetlands. Waterfowl and wader habitat. Red Lagoon is a rare example of its kind being the only known lake of its type in the region. Swan Lagoon is an important black stilt feeding area and wrybill are present	Moderate-High clear water and wetland forms, dry landforms and intricate wetland vegetation patterns legible with low stature cover. Some modification through pastoral use, fencing, roading	High water body and intricate wetland vegetation patterns have high aesthetic value. Moderately High legibility and natural character support high aesthetic value.	High effects of different weather conditions eg still water and reflections; snow; mist. Presence of wildlife.	None known	Very High Distinctive and memorable features seen from Lake Ohau Road. Tarns and wetlands are SSWIs. Partly within a QEII Covenant area.	None known	Biophysical Shared and Recognised
Ohau Outwash Plain	Fluvio-glacial feature (outwash plain) and associated dryland ecosystem	Very High large well-formed glacial outwash plain expressing the typical braided hump and hollow pattern. This is the only outwash plain remaining in an undeveloped state in the district. Outwash plains are natural rare ecosystems and support threatened plant species and are important habitat for a range of insects, several of which will be endemic to the Mackenzie Basin; also important for native bird species such e.g., banded dotterel. Soils of inland outwash plains are also becoming rare in an undeveloped state. Part of it is in SNA 32, 33 and 44 due to supporting a relatively high diversity of indigenous plant species including good populations of At Risk plants.	Very High very clear largely intact form; highly legible braided hump and hollow; degraded ecosystem but retains typical species and low very open stature	High Distinctive austere and exposed character. High level of intactness and high natural character, and the intriguing braided pattern all confer visual value. Overall high visual coherence and harmony where undeveloped. The landform as a whole and its micro patterns are visually striking and memorable although best appreciated from the air or elevated viewpoints. The very open and homogenous landscape is highly photogenic from Lake Ohau Road, in association with Table Hill.	Moderate Effects of different weather conditions.	None known	Very High Widely appreciated as distinctive open foreground to spectacular mountain views from Lake Ohau Road. New conservation land for the most part (2019).		Biophysical Legibility Perceptual Shared and Recognised
Willowbank Saddle	Reverse fault trace through moraine on active Ostler Fault, the oldest	Very High A notable feature of the active Ostler reverse fault zone, where faulting activity has uplifted a lower block with a gentler	Very High very clear form, micro features visible under continuous fine textured grassland,	Moderate Has some aesthetic merit in its generally intact natural form especially where there is extensive intact dryland cover. Integral part	Moderate-Low Light and shadow effects on surface topography	None known	Moderate-High No particular value known. It is a distinctive low part of an prominent hill range highly visible	None known	Biophysical Legibility

	surface the fault has affected.	dip slope so that overlying moraine has been deposited over it and has remained. It forms a broad open 2km wide saddle between higher upthrust and tilted blocks of deep gravels (Quailburn Hill and Benmore Hill.		of the upstanding Ostler Fault hill range.			from SH8 that is distinctive and memorable as a whole. Geosite# 648.		
Otematata Station Saline Patches	Saline patches and associated flora	Very High Naturally uncommon ecosystem. Two relatively large mainly bare saline areas contain native holophytes including <i>Atriplex buchananii</i> (which has never been recorded from the area before) <i>Chenopodium detestans</i> and <i>Lepidium sisymbroides</i> . Lepidoptera found include <i>Hierodoris fridiga</i> <i>Sporophylla oensopra</i> <i>Loxostege</i> sp. <i>Eudonia atmogramma</i> and a new species of <i>Dicromodes</i> . The area is the only site outside Central Otago of inland saline soils associated with a saline flora. The area is considered to be a soil of at least national importance.	High Largely intact but have been modified by pastoral practices	Low Unremarkable in a wider visual sense in a modified setting. Some visual interest conferred by being rare and distinctive especially at the micro scale of the plants.	Low spring flowering, spring annuals	None known	Moderate Features are not visually prominent and Site is on private land and has no protection status; recognised as a site of national importance; Some value for sense of place and local character.	None known	Biophysical Legibility
Te Ikaraeroa/Parsons Rock	Rock outcrop	High Distinctive isolated outcrop of particularly resistant rock (shattered and cemented greywacke/low grade schist) forming a lumpy "tower" in open pasture, supporting a diversity of vegetation.	High Rock tower appears intact but vegetation is modified	Very High Visually prominent; a visually striking and intriguing natural feature. Its rugged expression and unusual humped shape is visually dramatic, within a setting of open green pasture on smoother terrain, and associated with the turquoise waters of the lake. Vegetation is diverse and interesting	Moderate weather effects such as mist or strong low light and shadowing; and wildlife.	None known	Very High Visually prominent; very memorable natural feature easily seen from the highway and the lake margin; a highly recognisable landmark.	Moderate At least two local stories about this rock	Aesthetic Shared and Recognised
Hawkdun Range Glacial Cirque Basin	Glacial cirque basin with tarn	Very High Classic example of a glacial cirque basin on a broadly sloping dip slope of the Hawkdun Range, an ancient tilted greywacke peneplain. Nationally significant as an excellent example, one of the best in NZ. Also exhibits former peri-glacial and frost patterned ground. Full sequence of bioclimatic zones from high alpine to montane grassland. Tarn and wetland communities.	Very High Landform and vegetation patterns almost completely intact; minor tracking a scar	Very High A striking and impressive landform, with a jewel-like tarn of starkly contrasting blue-green colour at its centre (in certain light). It is a memorable, highly legible and highly natural feature including water bodies, with a high level of intactness set within a high country tussock and scree rangeland setting which accords it very high aesthetic value.	High Weather conditions such as snow and mist or clear light and shadowing. Alpine flowers.	None known	Moderate Remote feature but lies within Oteake Conservation Park.	None known	Biophysical Legibility Aesthetic
Hawkdun Range Alpine Wetlands – Rambling Gorge	Large alpine summit wetland	Very High outstanding example of the low alpine <i>C. macra</i> tussock land and	Very High Largely intact with distinct patterning	Very High Visually distinctive and memorable land/water-scape features.	High Weather conditions such as snow and	None known	Low-Moderate	None known	Biophysical Legibility Aesthetic

	on Hawkdun Range	bogs. The site contains a vegetation sequence from high-alpine cushion-fellfield to subalpine <i>Chionochloa rigida</i> tussockland which is representative of the district.	expressive of processes; light pastoral practice imprint	Wetlands inherently have high aesthetic qualities especially with expanses of water. High country range summit setting expressing very high natural character and high level of intactness supports high visual value. The variety of vegetation cover and juxtaposition with water provides visual interest with contrasts in colours and textures.	mist or clear light and shadowing. Alpine flowers, wildlife		Remote feature but lies within Oteake Conservation Park		
Koharau Patterned Ground	Patterned alpine scree	Very High Classic example of stone stripes and polygons expressing periglacial processes; associated scree vegetation and wildlife	Very High Highly expressive of process and almost completely intact with minor tracking	Very High Stone stripes and polygons are spectacular and intriguing and in the wider expansive alpine setting have very high scenic value. Highly memorable, and being also highly legible and highly natural, with a high level of intactness in a high country tussock and scree rangeland setting has very high visual value.	High Weather conditions such as snow and mist or clear light and shadowing. Alpine flowers, wildlife	None known	Moderate Remote feature but lies within Oteake Conservation Park	None known	Biophysical Legibility Aesthetic
Te Awa Whakamau/ Awahokomo (pinnacles)	Badlands erosion feature in limestone	Very High Most western and inland instance of deep Otekaieke Limestone. Karst pinnacles are the eroded remnant of thick sheets of limestone. One of the best-preserved karst landscape features in the district. Contains fossils; of national significance. Dry tussock grassland and herbfield cover on hill slopes around pinnacles, and large patches of grey shrubland. Supports unique limestone <i>Poa</i> grass and <i>Ischnocarpus exilis</i> , a herb (calicoles). This very rare limestone cress is found only at this site and there are a number of other endangered plants here.	Very High Pinnacle features are individually and collectively intact and highly expressive of erosion processes.	Very High Distinctive and unusual erosion features; highly memorable, with subtle patterns in form and colour. Overall high intactness and extremely high legibility, visual coherence and naturalness supports high scenic value, within a natural rangeland setting with dry grassland and shrubland cover.	High Weather conditions – light and shadow in particular; snow; mist	None Known	High QEII Covenant area. Visible distinctive landscape feature from local road only.	None known	Biophysical Legibility Aesthetic Shared and Recognised
Wai o Toura/Gards Road Reserve	Limestone ridge/escarpment and associated flora	Very High Classic limestone smooth dip slope escarpment cliffs with tumbled blocks. Low prominent ridge of limestone with rich marine fossil content; important site for threatened and rare native plants (<i>Carmichaelia</i> , <i>Lepidium</i> , <i>Sophora</i> , and other native species).	High Landform is intact and distinct; vegetation is modified by pastoral practices but contains remnant indigenous flora	Very High Distinctive and memorable; buff coloured bluffs, outcrops and tumbled blocks are striking features, contrasting with smooth sculptural quality of ridge. Overall intactness and naturalness of landform on a large scale.	High Transient effects of light and shadow highlighting overhangs, caves and crevices.	None known It is closely connected with the mahinga kai area of the Oteake River.	Very High Visually prominent from SH83; familiar landmark. Scenic Reserve.	None Known	Biophysical Aesthetic Shared and Recognised
Siberia Hill and Kattothrust	Volcanic peaks	Very High	High	Very high	High	None known	Very High	High	Biophysical Aesthetic

		Part of an alpine plateau area of distinctly different lithology and topographical expression to the rest of the Kakanui Range. Basaltic extrusions have formed small protrusions now weathered to broad low humps and remnant peaks protruding from a spreading base of lava expressed as extensive dry boulderfields of dark rock. The basaltic rock forms an erosion resistant cap over older sedimentary rock formed of shallow marine sand-mud-silt stone which resting on the semi-schist bedrock of the Kakanui Range. The volcanic extrusions on the Kakanui Range are of limited extent, with the vast majority of the range lithology being greywacke and schist. Inland/alpine Basic cliffs, scarps and tors are a naturally uncommon ecosystem.	Landforms and surface features largely intact. Vegetation modified by pastoral practices.	visually impressive, distinctive and memorable area and individual features (peaks, boulderfields). High level of intactness and integrity as landforms and as a whole, with high levels of visual coherence and natural character conferring high aesthetic quality.	weather effects such as snow capping, mist, moon lighting, and light and shadow in clear conditions. Seasonal flowers, wildlife.		Within public conservation area and QEII Open Space covenant. Part of a very distinctive and memorable area with a strong sense of place. Part of whole volcanic plateau area that was RAP5.	features from early pastoral occupation include hut sites, stock yards, fence lines, dog kennels, tracks, cairns, trig stations, and associated site artefacts	Shared and Recognised
Mt Dasher	Volcanic peak	Very High Part of an alpine plateau area of distinctly different lithology and topographical expression to the rest of the Kakanui Range. Basaltic extrusions have formed small protrusions now weathered to broad low humps and remnant peaks protruding from a spreading base of lava expressed as extensive dry boulderfields of dark rock. The basaltic rock forms an erosion resistant cap over older sedimentary rock formed of shallow marine sand-mud-silt stone which resting on the semi-schist bedrock of the Kakanui Range. The volcanic extrusions on the Kakanui Range are of limited extent, with the vast majority of the range lithology being greywacke and schist. Inland/alpine Basic cliffs, scarps and tors are a naturally uncommon ecosystem.	High Landforms and surface features largely intact. Vegetation modified by pastoral practices.	Very high visually impressive, distinctive and memorable area and individual features (peaks, boulderfields). High level of intactness and integrity as landforms and as a whole, with high levels of visual coherence and natural character conferring high aesthetic quality.	High weather effects such as snow capping, mist, moon lighting, and light and shadow in clear conditions. Seasonal flowers, wildlife.	None known	Very High Within public conservation area. Part of a very distinctive and memorable area with a strong sense of place. Part of whole volcanic plateau area that was RAP5.	High features from early pastoral occupation include hut sites, stock yards, fence lines, dog kennels, tracks, cairns, trig stations, and associated site artefacts	Biophysical Aesthetic Shared and Recognised
Takiroa Shelter	Limestone escarpment	High 500m long boomerang shaped calcareous greensand and bioclastic limestone escarpment	Very High Bluff form and surface features intact. Vegetation very modified	Very High Visually dominant large natural feature; impressive in scale, distinctive and memorable;	High Effects of light and shadow on weathered surface	Very High Highly valued by tangata whenua – significant landmark,	Very High Visually dominant and very familiar landmark for local community and	Not known	Biophysical Legibility Aesthetic Tangata Whenua

		forming a northwest facing blunt point on the north edge of Waipati limestone downlands. Surface weathering has created a distinctive pitted or honeycomb effect. Prominent outcrops and overhangs of Otekaieke limestone are rare.	including planted indigenous.	"honey-comb" erosion pattern on surface intriguing. Overall intactness and naturalness of landform on a large scale including an uninterrupted ridgeline.		shelter, traditional place, artefacts, rock art – a taonga. First rock drawings recorded by a European.	regular travellers on SH83; classic escarpment form very characteristic of the area, strong contribution to sense of place and distinctive character. Protective fencing and developed visitor facilities. Part of Vanished World Trail. Geosite# 2106. Feature of the UNESCO Waitaki Whitestone Geopark.		Shared and Recognised
Earthquakes	Limestone hill and escarpments	Very High large tilted slab of limestone overlying non-marine sedimentary rock, forming a large plateau. East end of the plateau ends abruptly in high cliffs cut by the Maerewhenua River. The curved north-western edge has slumped markedly in a blockslide process with a large chunk of plateau falling away creating a rift, filled with large blocks of limestone (Earthquakes Scientific Reserve). High escarpment overlooking Waipati Creek. Major slumping to the southeast, with lumpy terrain falling to the river displaying sinuous slump rents. Some remnant short tussock and shrubland vegetation. Possibly specialised limestone flora remaining in dryland pasture, on the bluffs and bare or bony areas. Includes SNA142 including remnant indigenous vegetation associated with limestone substrate, a naturally uncommon ecosystem. Reserve area has greater woody cover. Internationally significant fossil site with partial fossil skeleton of baleen whale.	Very High Landforms are intact and clearly expressive. Vegetation heavily modified. Some obvious cultural elements.	Very High Visually dominant/prominent or highly visible from many viewpoints; large unusually shaped landform, large scale horizontal layering distinctive and memorable; scarp above Earthquakes Road very impressive, intriguing weathering texture and pattern; overall intactness of landform and composite features with high legibility and distinctive sculptural quality conferring high aesthetic value.	Very High Effects of light and shadow in clear conditions can be striking; also, snow, mist	Not known	Very High Familiar landmark(s) for local community; classic escarpment forms very characteristic of the area, strong contribution to sense of place and distinctive character. Recognised values in Scientific Reserve, for landform/geomorphic process and fossils. Part of Vanished World Trail. Geosite #606 and feature of the UNESCO Waitaki Whitestone Geopark.	Not known	Biophysical Perceptual Shared and Recognised
Elephant Rocks, Fortification Hill, Anatini	Limestone escarpments, canyon and tors	Very High A canyon (paleo valley) in the western edge of a limestone block, with classic escarpments, overhangs and caves. Nationally rare natural arch structure and surface honeycomb weathering in Anatini, and visible whale fossil bones. On the upper surface, weathering in jointed	Very High Landforms are intact and clearly expressive. Vegetation heavily modified. Some obvious cultural elements.	Very High Visually dominant/prominent or highly visible from many viewpoints; large unusually shaped tors are striking in their open setting, large scale horizontal layering distinctive and memorable; intriguing weathering texture and pattern; overall intactness of landform and	Very High Effects of light and shadow in clear conditions can be striking	None known	Very High Very familiar landmark(s) for local community; classic escarpment forms very characteristic of the area, Elephant Rocks are unique. Strong contribution to sense of place and distinctive	None known	Biophysical Perceptual Shared and Recognised

		limestone has left a strange collection of rounded cream and grey tors, the Elephant Rocks. Specialised limestone flora remaining in dryland pasture, on the bluffs and bare or bony areas, Part SNA #135/136 covering remnant indigenous vegetation associated with limestone substrate, a naturally uncommon ecosystem and including three At Risk plant species. Restored wetland in base of valley. Nationally, regionally significant fossil sites.		composite features with high legibility and distinctive sculptural quality conferring high aesthetic value.			character. Recognised values – Anatini QEII Covenant, part of Vanished World Trail. Geosite #2858 and feature of the UNESCO Waitaki Whitestone Geopark.		
Maerewhenua/Dunroon Bluff	Limestone escarpment	High Boomerang-shaped limestone escarpment. Erosion has formed overhangs and caves in places – “pie crust” effect. Better similar features elsewhere but it is a classic form.	High Intact but associated with exotic woody weed cover	High prominent visual feature seen from SH83; distinctive and memorable; strong large-scale horizontal layering “pie-crust” effect an intriguing feature. Frames view inland up the Maerewhenua River valley. Overall intactness and naturalness of landform on a large scale including an uninterrupted skyline	High Effects of light and shadow in clear conditions can be striking	Very High significant landmark, shelter, traditional place, artefacts, rock art – wahi taonga.	Very High Familiar landmark for local community and regular travellers on SH83 and “guards” the entry into the Maerewhenua valley on the Livingstone-Dunroon Road; classic escarpment form very characteristic of the area, contribution to sense of place and distinctive character. Geosite #1872 and feature of the UNESCO Waitaki Whitestone Geopark.	None known	Biophysical Perceptual Tangata Whenua Shared and Recognised
Te Koakaumu Bluff	Limestone escarpment	Very High Escarpment of marine sedimentary rock, calcareous greensand and bioclastic limestone. Rich fossil value of international/national significance. Mid-Oligocene unconformity below brachiopod-rich Kokoamu Greensand (extends to the Maerewhenua Bluff as a lithological value). The exposure displays an unconformity beneath the marine deposits of regional significance.	High Largely intact but associated with exotic woody weed cover, minor earthworks and structures in places	High Prominent visual feature seen from SH83; distinctive and memorable; strong large-scale horizontal layering, tumbled blocks impressive. Overall intactness and naturalness of landform on a large scale including an uninterrupted skyline confers high value.	High Effects of light and shadow in clear conditions can be striking	Very High Significant landmark on the Waitaki awa, shelter, traditional place, artefacts, rock art – wahi taonga.	Very High Familiar landmark for local community and regular travellers on SH83; classic escarpment form very characteristic of the area, contribution to sense of place and distinctive character. Geosite #1872.	None known	Biophysical Perceptual Tangata Whenua Shared and Recognised
Awamoko Stream Valley/Valley of the Whales	Escarpsments and limestone canyon	Very High Large complex stream valley carved into thick Otekaieke limestone and older sedimentary greensands creating canyons including	Very High the classic overall forms of the escarpments and the canyon as a whole are very clear to see as a whole and in detail, with	Very High A spectacular visual feature of a large scale; the massive cliffs are distinctive and memorable; intriguing weathering texture and pattern; overall intactness of	Very High Effects of light and shadow in clear conditions can be striking	Very High mahinga kai source; part of arrival mythology	Very High Very familiar landmark(s) for local community; classic escarpment forms very characteristic of the	None known	Biophysical Perceptual Transient Tangata Whenua Shared and Recognised

		intricately winding narrow ones, enclosed by large escarpments. Weathered limestone surfaces show a variety of sculpted patterns. Contains the Valley of the Whales, an escarpment section that has yielded whale and dolphin bone fossils. Nationally significant fossil sites. Moa bone sites in swamplands. Includes SNAs 138, 139 and 141 covering remnant indigenous vegetation associated with limestone substrate, a naturally uncommon ecosystem, and sedge wetland. Habitat to very small population of nationally threatened plant species (native broom).	most vegetation cover being open grassland and low shrub cover.	landform and composite features with high legibility and distinctive sculptural quality conferring high aesthetic value.			area. Strong contribution to sense of place and distinctive character. Recognised values – part of Vanished World Trail. Geosite # 3312 and feature in the UNESCO Waitaki Whitestone Geopark.		
Island Cliff	Limestone mesa	Very High Unusual large mesa form with a Otekaieke limestone cap, its edges a rubbly limestone escarpment with smooth colluvial slopes. Abundance and diversity of fossils; type location for some fossils; rare whale and dolphin fossils. Regional importance. Table-top surface appears to be in low producing dryland pasture interspersed through short tussock and scattered shrubland?? Likely to be specialised limestone flora remaining in dryland pasture, on the bluffs and bare or bony areas, a naturally uncommon ecosystem. Nationally, regionally significant fossil sites.	Very High classic overall forms of the mesa and escarpments very clear to see as a whole and in detail under the fine textured low stature grassland cover.	Very High Visually prominent large spectacular mesa form with a sharp upper edge and remarkably flat top, highly distinctive and memorable. Overall intactness of landform and composite features with high legibility and distinctive sculptural quality conferring high aesthetic value.	Very High Effects of light and shadow in clear conditions can be striking	None known	High Very familiar landmark for local community; classic escarpment forms very characteristic of the area, a unique mesa form. Strong contribution to sense of place and distinctive character. Recognised values – part of Vanished World Trail.	None known	Biophysical Perceptual Transient Shared and Recognised
Rakis Table	Limestone mesa	Very High A smaller unusual mesa form created by harder erosion resistant Otekaieke limestone as a distinctive flat table-top cap with small escarpments. Type locality for some fossils. Some remnant indigenous vegetation. Includes SNA #??	Very High classic overall mesa form and escarpments very clear to see as a whole and in detail under the low stature cover	Very High Visually prominent; striking, distinctive and memorable feature. Overall intactness, legibility and naturalness of landform accords high aesthetic value.	High Effects of light and shadow in clear conditions	None known	High Familiar landmark for local community; classic mesa/escarpment form very characteristic of the area, contribution to sense of place and distinctive character.	Moderate Site of rain-making attempt via cloud seeding late 19 th century.	Biophysical Legibility Aesthetic
Devils Bridge Karst and Wetland	Limestone landforms and Wetland	High Rare example of a diversity of karst features comprising a basin containing a small lake bordered by wetland vegetation. Subterranean outlet to the lake at the south end under an unusual natural bridge	High Landforms generally intact but within a highly modified setting; artificial lake	Very High Expanse of water and associated wetlands and rocky limestone cliffs create a striking, distinctive and memorable scene. High level of intactness, legibility and naturalness of landform accords high aesthetic value.	Moderate Wildlife presence Changing water conditions	None known	Very High Very familiar landmark for local community; strong contribution to sense of place and distinctive character. Regionally Significant Wetland and QEII Open	None known	Biophysical Perceptual Shared and Recognised

		of limestone, with a small deep canyon immediately south. Also caves forming under solution processes. Important habitat for a variety of wetland avifauna, not common in the district. Fossil site. Sinkholes present further to the west. Cuestas to the north Hillslopes northwest above the lake has a remnant cover of native broadleaved forest, shrubland and grassland, and native species persist amongst limestone rock outcrops and on bonier drier land, a naturally uncommon ecosystem covered by SNAs 105, 112/113, 104.					Space Covenant with partial public access. Geosite #2847 and feature of the UNESCO Waitaki Whitestone Geopark.		
Te Ana Raki Escarpment	Limestone escarpment	High Visible escarpments mark the upthrust western edge of a large tilted limestone block. The margin has been separated into three lobes by alluvial erosion. This is one of the bigger more prominent ones presented as a prominent broadly curving escarpment on the northern lobe. Includes SNA 115.	Very High Landform is intact and clear to see.	Very High Visually prominent/dominant distinctive and memorable skyline feature. Intactness and naturalness of landform accords high aesthetic value.	High Transient effects of light and shadow highlight overhangs and crevices	None known	High Familiar landmarks for local community; classic escarpment forms very characteristic of the area, contribution to sense of place and distinctive character.	None known	Legibility Aesthetic
Te Ana Raki Cliff	Limestone bluff	High Visible escarpments mark the upthrust western edge of a large tilted limestone block. The margin has been separated into three lobes by alluvial erosion. This is one of the bigger more prominent ones presented as a prominent 60-80m high bluff at the southwest end of the southern lobe. Includes SNAs 110/111.	Very High Landform is intact and clear to see.	Very High Visually prominent/dominant distinctive and memorable skyline feature. Intactness and naturalness of landform accords high aesthetic value.	High Transient effects of light and shadow highlight overhangs and crevices	None known	High Familiar landmarks for local community; classic escarpment forms very characteristic of the area, contribution to sense of place and distinctive character.	None known	Legibility Aesthetic
Waiareka Escarpment	Limestone escarpment	Very High Large prominent escarpment marking the upthrust southwestern edge of a large tilted limestone block. Sections of escarpment have slumped on the west end. Smooth colluvial slopes spread out below the cliffs elsewhere. Contains important fossil sites. Remnant short tussock and shrubland.	Very High Landform is intact and clear to see.	Very High Visually prominent/dominant distinctive and memorable skyline feature. Escarpment very impressive in scale and form as a whole including the fossil sites, distinctive and memorable skyline feature. Intactness and naturalness of landform accords high aesthetic value enhanced by native vegetation	High Transient effects of light and shadow highlight overhangs and crevices	None known	Very High Escarpment a very familiar landmark for local community; classic escarpment forms characteristic of the area, strong contribution to sense of place and distinctive character. Part of Vanished World Trail. Contains Geosite #311.	None known	Biophysical Legibility Aesthetic Shared and Recognised
Trotters Gorge	Deeply dissected sedimentary rock hill country with	High Deeply eroded fault-angle ancient sedimentary rock	Moderate-High Some forms and their vegetation are intact;	Very High Outside of forestry areas this is an area of spectacular bluffs,	High Weather effects such as fog and mist;	None known	Very High Scenic appeal recognised in Scenic Reserve status.	None known	Aesthetic Shared and Recognised

	gorges, bluffs, caves, outcrops	(conglomerate, breccia sand and mudstone of the Horse Range Formation) forming deep gullies with high bluffs and sculpted rock outcrops, caves, overhangs, etc. Rocks rest unconformably over schist basement rock. Modest-sized remnants of native kanuka and broadleaved woodland and shrubland within plantation forestry environment.	others compromised by forestry activity.	overhangs, caves and often strangely sculpted rocks set within native woodland with high scenic appeal. Also, appealing association with water. Distinctive, impressive and memorable area.	light and shadow on rock formations. Wildlife presence.		Strong contribution to sense of place and local landscape character. Popular camping and hiking destination. Feature of the UNESCO Waitaki Whitestone Geopark		
Nenthorn Goldfields and Reserves	Semi-schist Eroded Penepplain	Very High Large area of elevated eroded semi-schist penepplain; distinctive rectilinear drainage pattern. Much rock outcrop, tors. Contains some gold-rich rock that supported a brief flurry of gold-mining. Area of now uncommon low altitude tall tussocklands and a variety of wetland vegetation. Contains a Nenthorn Wetland Management Area and ASIV – “High diversity of indigenous wetland flora and fauna. A very diverse range of wetland vegetation, a distinctive insect fauna and a diverse and relatively abundant waterfowl fauna “. Also habitat to 7 lizard species.	High Largely intact, some cultural elements, vegetation communities modified by pastoral practices with sparse remnants of indigenous vegetation.	Very High Rolling and deeply dissected plateau with tall tussockland cover have high scenic and aesthetic value albeit austere and can be bleak and expose; diversity of small scale features such as wetlands and rock outcrop and tors. High degree of natural character, visual coherence and legibility.	High Transient effects may include mist and snow, wind movement in grassland, wildlife; strong light and shadow.	None known	Very High Distinctive and highly memorable, strong sense of place. Public conservation area – Deighton Creek Nature Reserve and Red Bank Scenic Reserve. Goldfield features a popular scenic drive destination. Significant heritage value (goldfields history).	Very High Significant heritage value (goldfields history).	Biophysical Aesthetic Shared and Recognised Historic
Pakihiwitahi (Mt Mackenzie)	Volcanic peak	Very High Eroded basalt/basanite volcanic cone forming a prominent isolated skyline peak of well-defined form sitting on a dissected rolling plateau of non-marine sedimentary rock overlying schist bedrock. One of several small volcanos and lava flows that erupted on a shallow continental shelf. Minor scree and rock outcrop. Vegetation cover appears to include patchy open remnant snow tussock within a low producing browntop pasture, small patches of wet seeps (most likely rushes and sedges) and minor native shrub presence.	Very High Intact landform, indigenous vegetation remains, modified by pastoral practices.	Very High Visually prominent, distinctive memorable skyline feature, part of a distinct group of 5 peaks. Interesting scree and vegetation patterns. Notable for its high level of intactness, visual coherence and natural character including native vegetation. Readily perceived as a distinct entity	High Transient effects may include mist and snow, strong light and shadow; skyline silhouette in moonlight; wind effects in snow tussock	Very High Part of the Maori traditional story of the capsizing of the ancestral waka Arai-te-uru, being one of the many features representing the waka’s passengers who disembarked, missed their curfew, and were transformed into the various peaks in the Palmerston area.	Very High Part of a group of distinctive widely visible landmarks, way marker, important for sense of place	None known	Biophysical Aesthetic Tangata Whenua Shared and Recognised

Mt Trotter	Volcanic Peak	Very High bulky eroded basalt/basanite volcanic cone forming a prominent isolated skyline peak, of classic and well-defined form sitting on a plateau of marine sedimentary rock including Ototara limestone, extensively slumped around its edges. One of several small volcanos and lava flows that erupted on a shallow continental shelf. Extensive boulder fields and scree deposits on northwest, west and south face. Vegetation cover appears to include open snow tussock and patches of native shrubs and trees (kowhai??). Scree and shrubby tussock vegetation very likely supports bird (passerine) insect and lizard species.	Very High Intact landform and surface patterns, indigenous vegetation remains, modified by pastoral practices.	Very High Visually prominent, distinctive memorable skyline feature, part of a distinct close group of 5 peaks, with interesting scree and vegetation patterns. Notable for its high level of intactness, visual coherence and natural character. Readily perceived as a distinct entity	High Transient effects may include mist and snow, strong light and shadow; skyline silhouette in moonlight; wind effects in snow tussock	Very High Part of the Maori traditional story of the capsizing of the ancestral waka Arai-te-uru, being one of the many features representing the waka's passengers who disembarked, missed their curfew, and were transformed into the various peaks in the Palmerston area.	Very High Part of a group of distinctive widely visible landmarks, way marker, important for sense of place	None known	Biophysical Legibility Aesthetic Tangata Whenua Shared and Recognised
Puketapu	Erosion Feature, Peak	High Roughly conical eroded hill with a small erosion-resistant cap of basalt/basanite volcanic rock protecting a spreading base of sedimentary rock including limestone and carbonaceous mudstone; forming a prominent isolated skyline peak, of well-defined form. One of several remains of small volcanos and lava flows in the area that erupted on a shallow continental shelf, forming distinctive prominent isolated landforms. Park-like remnant kowhai-broadleaf treeland on south side covered by SNA 282. Some short tussock and grey shrubland on summit.	High Clear largely intact form; vegetation heavily modified; obvious cultural elements	Very High Distinctive memorable skyline feature, one of several distinct peaks in the area. High level of intactness and some areas of higher natural character including native species confer high aesthetic value. Readily perceived as a distinct entity.	High Weather effects such as snow capping, mist shrouds, clarity against blue sky in bright light, moon lighting, etc. Kowhai flowering.	Very High Means "sacred hill", origin narrative of the capsizing of the ancestral waka Arai-te-uru, being one of the many features representing the waka's passengers who disembarked, missed their curfew, and were transformed into the various peaks in the Palmerston area. Area a kainga nohoanga and mahinga kai.	Very High Significant widely visible local landmark, way marker, strong contribution sense of place. Reserve on east side. Promoted as local walking destination. Geosite #3313 and feature of the UNESCO Waitaki Whitestone Geopark.	High Monument to past resident Sir John Mackenzie champion for pastoral smallholdings; also narrative of war-time Constable who regularly ran to the summit for surveillance, commemorated by an annual foot race.	Biophysical Aesthetic Tangata Whenua Shared and Recognised
Makotukutuku/Cape Wanbrow	Volcanic cliffs, wave cut platforms	Very High High rock cliffs mainly comprised of various volcanic rocks thought to be associated with 6 different volcanic eruptions over time on a shallow continental shelf marine environment. They included basaltic tuff, agglomerate and pillow lava, of various ages with discordant	Very High cliffs and wave cut platforms and beaches are all in their natural state with maximum legibility. The pillow lava is spectacular in its legibility.	Very High the cliffs and wave cut platforms/raised beaches are dramatic and rugged, with rich contrasts in form, texture and colour. The pillow lava exposure is visually spectacular. Visual character and high natural character impart very high scenic value.	Very High Transient effects are significant: daily tides and changing character of the sea with weather and current patterns, presence and activity of wildlife, effect of light and weather conditions	High Significance to Tangata whenua – Makotukutuku was one of the ancestral beings that turned to stone whilst ashore from an overturned waka.	Very High The coastal environment is regularly visited and highly valued by the local community, in this case including the urban community of Oamaru. Features on Vanished World Trail, Bushy Beach Scenic Reserve and	None known	Biophysical Legibility Aesthetic Transient Shared and Recognised

		surfaces in places separated by biogenic or other slow-formed processes. The cliffs provide excellent exposures. Boatmans Harbour is a spectacular exposure of pillow lava intruding into limestone, of international significance being one of the best examples in the world. spectacular example of a 2m high wave-cut notch, also a raised beach and fossil site. Rifle Butts site is an exposure of marine sedimentary rock containing various fossils overlain with Pleistocene deposits containing bird and Tuatara fossils. Type locality for massive bryozoan Ototara limestone. Rare remnant of native coastal vegetation and penguins at Bushy Beach.			on the visual appearance and mood of the coastal environment		penguin site, promoted visitor destination.		
Kakanui Breccia	Low cliffs and tidal platforms, estuary	High Low headland cliffs with deep loess overlying volcanic pyroclastic deposits containing distinctive minerals exposed in an inter-tidal platform. It is considered to be of International Importance, for the diversity of inclusions and the well-exposed and well-preserved state, rare in NZ. Wildlife is present –fur seal, penguin, various other bird species, rock pool life. Part of SNA 94 for naturally uncommon indigenous coastal herbfield and cliff vegetation.	High Shore features intact but inland setting and estuary is highly modified	High Rocky outcrops are visually dramatic in many places with slabs and sills of rock and at low tide a broad tidal platform with rock pools. The breccia is interesting in detail. Intriguing pattern of shrimp burrows. Wildlife adds to the visual interest. High scenic quality generally but not remarkable with urban reserve and farmland immediately adjacent and a dominance of exotic species including woody weeds.	High Presence of wildlife; changing sea and weather conditions	High The river mouth area is significant to tangata whenua for mahinga kai and a camping place along the Otago coastal trail.	Very High The coastal environment is regularly visited and highly valued by the local community. Part of the Vanished World Trail. The sites around Kakanui are immediately adjacent to local roads and public reserves. Geosite #1407 and feature of the UNESCO Waitaki Whitestone Geopark.	None known	Shared and Recognised
Campbells Beach Limestone	Low cliff and shore platform/rock ribs	High An excellent well-exposed example of preserved shrimp burrowing limestone hardground; type locality for two regionally significant Neogene unconformities. Part of SNA 94 for naturally uncommon indigenous coastal herbfield and cliff vegetation. Wildlife is present –fur seal, penguin, various other bird species.	High Shore features intact but inland setting and estuary is highly modified	High Rocky outcrops are visually dramatic with ribs and sills of rock pointing out into the sea. Intriguing pattern of shrimp burrows. Wildlife adds to the visual interest. High scenic quality generally but not remarkable with urban reserve and farmland immediately adjacent and a dominance of exotic species including woody weeds.	High Presence of wildlife; changing sea and weather conditions. Effects of light and shadow on the intricate rock formation.	High Kakanui headland was a camping and mahinga kai place along the Otago coastal trail.	Very High The coastal environment is regularly visited and highly valued by the local community. Part of the Vanished World Trail. The sites around Kakanui are immediately adjacent to local roads and public reserves. Geosite #136 and feature of the UNESCO Waitaki Whitestone Geopark.	None known	Shared and Recognised

<p>Te Kaihinaki, Moeraki Boulders</p>	<p>Sedimentation and Erosion feature</p>	<p>Very High A collection of rounded boulders left on the sandy beach by landward erosion of matrix material of mudstone. These are spherical concretions which can reach large proportions (1m diameter). These have formed over a very long time under the sea floor within the mudstone around a pebble or shell. They are now exposed through uplift and erosion. These phenomena are rare and of national and international importance. Best known examples in NZ. The backdrop to the boulders on the sandy beach is a slumped area with native bush, partly restored through planting.</p>	<p>High Shoreline features intact, inland setting modified; high level of human intrusion being major visitor destination</p>	<p>High the boulders as a collective feature have very high scenic value and are striking and memorable. Highly distinctive, iconic status. Backdrop of native broadleaf woodland augments scenic quality. Heavy visitor intrusion and impact, and visitor infrastructure detracts from natural quality to some degree.</p>	<p>High Presence of wildlife; changing sea and weather conditions</p>	<p>High Part of Arai-te-ura narrative, Te Kaihinaki means round food basket.</p>	<p>Very High Feature is regularly visited and highly valued by the local community. The site is an iconic visitor site regionally and arguably nationally, with well-developed visitor facilities associated with it (public and private). On Vanished World Trail and Scenic Reserve status.</p>	<p>None known</p>	<p>Biophysical Shared and Recognised</p>
<p>Moeraki Headland and Kaitiki Point</p>	<p>Coastal Headland Environment</p>	<p>Very High The headland between and including Moeraki and Kaitiki Points is complex and rugged with high cliffs some rocky, some planar and vegetated, various promontories and points, tiny islands, intimate coves with beaches of golden sand, broad intertidal platforms with volcanic dyke features including a classic example of a differentiated dolerite sill, and on the south side a broad curving beach of grey sand/gravel facing south down the coast. Habitat for various seabirds including penguin, titi and shags; also fur seals; and Hector's dolphin and other marine mammals</p>	<p>Very High Intact coastline features and as a whole. Inland setting mostly highly modified with little indigenous vegetation.</p>	<p>Very High The cliffs and wave cut platforms/raised beaches are dramatic and rugged, with rich contrasts in form, texture and colour. Dolerite sills interesting features. Complex visual character and high natural character imparts very high scenic value. Lack of indigenous vegetation reduces scenic quality, especially where weed vegetation is present.</p>	<p>Very High Transient effects are significant: daily tides and changing character of the sea with weather and current patterns, presence and activity of wildlife, effect of light and weather conditions on the visual appearance and mood of the coastal environment</p>	<p>Very High Significance to Tangata whenua – historic 18th C pa site on Kaitiki Point, important for mahinga kai and rock source for tools, many artefacts, moa hunters site nearby.</p>	<p>Very High The coastal environment is regularly visited and highly valued by the local community, in this case including the urban community of Moeraki and Hampden. Features on Vanished World Trail. Moeraki Point Recreation Reserve with Lookout, walking trails, Kaitiki Point Historic Reserve, coastal strip of Wildlife Management Area. Promoted visitor destination. Geosite #1478 and feature of the UNESCO Waitaki Whitestone Geopark.</p>	<p>High Kaitiki Lighthouse a striking focal feature. In historic reserve.</p>	<p>Biophysical Legibility Aesthetic Transient Tangata Whenua Shared and Recognised</p>
<p>Matakaea Shag Point Plesiosaur Fossil Site</p>	<p>Coastal Headland Environment</p>	<p>Fossil site is on the northeast side of Shag Point/Matakaea, an intertidal platform and low sea cliffs of marine mud- and sandstone, marl and impure limestone. A 6.5m complete plesiosaur fossil was found here, the only one found so far in NZ and of a new genus, of international importance. Spherical concretions can be found on the exposed rocky platforms along the coast.</p>	<p>High Shore elements intact but within a highly modified setting. Weed invasion of indigenous vegetation. Plantation forestry and residential backdrop.</p>	<p>High Complex visual character, unusual features and high natural character imparts high scenic value. Indigenous vegetation adds to scenic quality – rank grass and weeds detract somewhat as does proximity of housing.</p>	<p>High Transient effects are significant: daily tides and changing character of the sea with weather and current patterns, presence and activity of wildlife, effect of light and weather conditions on the visual appearance and</p>	<p>Very High Part of Shag Point Matakaea, a historic 18th summer food gathering site adjunct to moa hunter processing site nearby on Shag River mouth. Part of Arai-te-Uru legend.</p>	<p>Very High The coastal environment is regularly visited and highly valued by the local community. Features on Vanished World Trail. Promoted visitor destination. Geosite #474 and feature of the UNESCO Waitaki Whitestone Geopark. Part of Matakaea Fixed Marginal Strip (DOC).</p>	<p>none</p>	<p>Biophysical Legibility Aesthetic Transient Tangata Whenua Shared and Recognised</p>

		Narrow band of native coastal vegetation some of which may have been planted, amongst rank grass and woody weeds. Habitat for fur seals, and various seabird species. Shag Point is a major seal haulout, yellow eyed penguin habitat, shag roost.			mood of the coastal environment.				
Matakeae Shag Point	Coastal Headland Environment	Very High A complex and intricate coastal landscape of small rocky points and coves formed in non-marine quartzose conglomerate, sand- and mudstone and lignite. Upper Cretaceous plant macro-fossils have been found here, one of only a few sites in NZ. Indigenous vegetation present above the shore and on the lower hills behind mixed with rank exotic grass and pasture/woody weed species. This includes, unusually, snow tussock (easternmost occurrence), celmisia and manuka; and rare lily <i>Iphigenia novae-zealandiae</i> . The rocky platforms and intimate coves are ideal habitat for fur seals, and there are various sea bird species.	High Shore elements intact but within a highly modified setting. Weed invasion of indigenous vegetation. Plantation forestry backdrop.	High The intricate arrangement of the coastal features are dramatic and rugged albeit on a smaller more intimate scale. There is much of visual interest at a detail scale. Complex visual character, unusual features and high natural character imparts very high scenic value. Indigenous vegetation adds to scenic quality – rank grass and weeds detract somewhat.	High Transient effects are significant: daily tides and changing character of the sea with weather and current patterns, presence and activity of wildlife, effect of light and weather conditions on the visual appearance and mood of the coastal environment.	Very High historic 18 th summer food gathering site on Matakeae adjunct to moa hunter processing site nearby on Shag River mouth. Part of Arai-te-Uru legend.	Very High The coastal environment is regularly visited and highly valued by the local community. Features on Vanished World Trail. Shag Point Recreation Reserve with signage. Promoted visitor destination. Geosites #2464 and #1624 and feature of the UNESCO Waitaki Whitestone Geopark	High Coal was discovered in the 1830s by whalers, and the coal mine was the first in NZ and tunnelled under the sea. Mining of coal seams continued for 110 years 1862-1972. There are remnants of the mining infrastructure, as cultural elements.	Biophysical Tangata Whenua Shared and Recognised
Ahuriri River	Large braided river system	Very High Braided rivers are a Naturally Rare ecosystem providing habitat for threatened flora and fauna species. They are also rare globally. Open braided riverbed with adjacent wetlands and streams covered by a National Water Conservation Order for its outstanding wildlife values. The entire braided river and associated wetlands is an SSWI. Mapped as Land of National Significance. One of only three systems in the district. Part of it is SNA122, 123 and 24 related to the extensive uncultivated areas of recent and active braidplain supporting special flora including wetlands, shrublands, cushion/herb/stone	High Braided character compromised in large stretches by exotic weed growth; riverbed margin development for pastoral farming has also intruded.	Very High Visually distinctive and memorable land/water-scape feature, unique as a large highly visible and highly legible landscape element. Rivers inherently have high aesthetic qualities especially when braided. The variety of vegetation cover, waterway patterns and juxtaposition with expanses of water and gravel riverbed provides visual interest with contrasts in colours and textures.	Very High Weather – mist, snow, reflections in water; varying flow conditions; presence of wildlife especially threatened species such as black stilt.	Very High Rūnanga Sensitive Areas: Kohunga Kai, Ara Pathway, Wāhi Tapu, Mahinga kai	Very High Large visually distinctive element observed and appreciated by all who pass by on SH83, SH8 and the Birchwood Road; frequent the river bed; and look down on it from within conservation areas overlooking the basin. Major contributor to local landscape character and sense of place. River is covered by a National Water Conservation Order. Outstanding fishery/angling river. Project River Recovery to control weeds.	None known	Biophysical Aesthetic Transient Tangata Whenua Shared and Recognised

<p>Waitaki River</p>	<p>Large braided river system</p>	<p>/mossfields and grasslands and the fauna they support. Moderate High One of the four major braided rivers of the South Island. Despite the degradation of this feature, it is a very good, large and classic example of a braided river. Braided rivers including their braidplain are a naturally uncommon ecosystem providing habitat for threatened flora and fauna species. They are also rare globally. Important habitat for aquatic and terrestrial fish, bird, lizard and insect species (despite modified state).</p>	<p>Moderate-High The braiding function is still actively present and is a very good example of it in some sections, however the integrity of the braided river feature as a natural ecosystem has been compromised to a significant degree. Water flow is controlled by the Waitaki hydro-scheme. The natural vegetation has largely succumbed to dense woody weed flora.</p>	<p>Moderate High to High The braiding and dynamism and scale of the river is impressive, intriguing in elevated views, very distinctive and memorable. The generally natural looking vegetation even through it almost entirely comprises weed species, has amenity value for its wildness and naturalness: to the informed viewer however it may also significantly detract and after a flood vegetative debris is a significant detracting element as does vehicle tracking.</p>	<p>High Transient effects are most significant with this element: changes in water flow, shifting braids, changes in vegetation through seasons, presence of aquatic and terrestrial wildlife.</p>	<p>Very High For tangata whenua, as tawhito (traditional pathway and transport corridor) with the use of the reed raft mokihi particularly associated with this river, and major source of mahinga kai with numerous kainga nohoanga (places of settlement) and mahinga kainga (food gathering places) along its length; narrative as the tears of Aoraki.</p>	<p>Very High A major district landscape feature and contributes strongly to the sense of place associated with the productive intensively farmed Waitaki River plains. It has played a major role in the cultural history of the district and region. The river has also provided a travel corridor as well as a barrier and dangerous crossing until bridges were built; source of irrigation water; hydro-power generation; popular for fishing and boating. Geosite#556 and a feature of the UNESCO Waitaki Whitestone Geopark.</p>	<p>None known specifically</p>	<p>Perceptual Transient Tangata Whenua Shared and Recognised</p>
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Proposed for DP