PART B
OUTSTANDING NATURAL FEATURES AND LANDSCAPES (ONFL)

OUTSTANDING NATURAL FEATURES AND LANDSCAPES

Ruahine Range (ONL)

Wakarara Range

Mangamauku Stream & Upokororo Stream

Mangaoho Stream

Mākāroro Gorge

Three Sisters & Te Whata Kokako

Silver Range

Kairakau

Pourerere, Aramoana & Blackhead Coastline

Parimahu Basin

Pōrangahau Foredunes

Whangaehu Coastal Cliffs

Twelve outstanding natural features and landscapes have been identified throughout Central Hawke's Bay District. The only outstanding landscape is the Ruahine Range, with the identified area generally relating to the DOC forest park, but extending beyond this in places where the vegetation and landform maintains a similar character to that within the park.

Of the eleven outstanding natural features, one is the southern portion of a range, three relate to rivers that run off the Ruahine Range, two relate to landforms in the central area of the district and the remaining five relate to areas along the coast.

Of the first five (Ruahine Range, Wakarara Range and three rivers), indigenous vegetation is one of the key characteristics contributing to the outstanding assessment. Maintaining this vegetation and preventing grazing or the introduction of exotic species are important methods in maintaining this characteristic, with these being highlighted as items at least to be discouraged in a planning sense.

The two central area features (The Three Sisters and Silver Range) are recognised for their landform and associative values. Maintaining clear visibility is important for recognition of these key characteristics, with earthworks and pine plantations seen as the possible threats to this. Both factors are to be discouraged in a planning sense.

The coastal areas are mainly recognised for their geomorphology and cultural associational values, but with ecology being an important factor for the Parimahu wetland. Earthworks could adversely affect the key characteristic of the landform and impact on cultural sites, so both are to be discouraged in a planning sense.

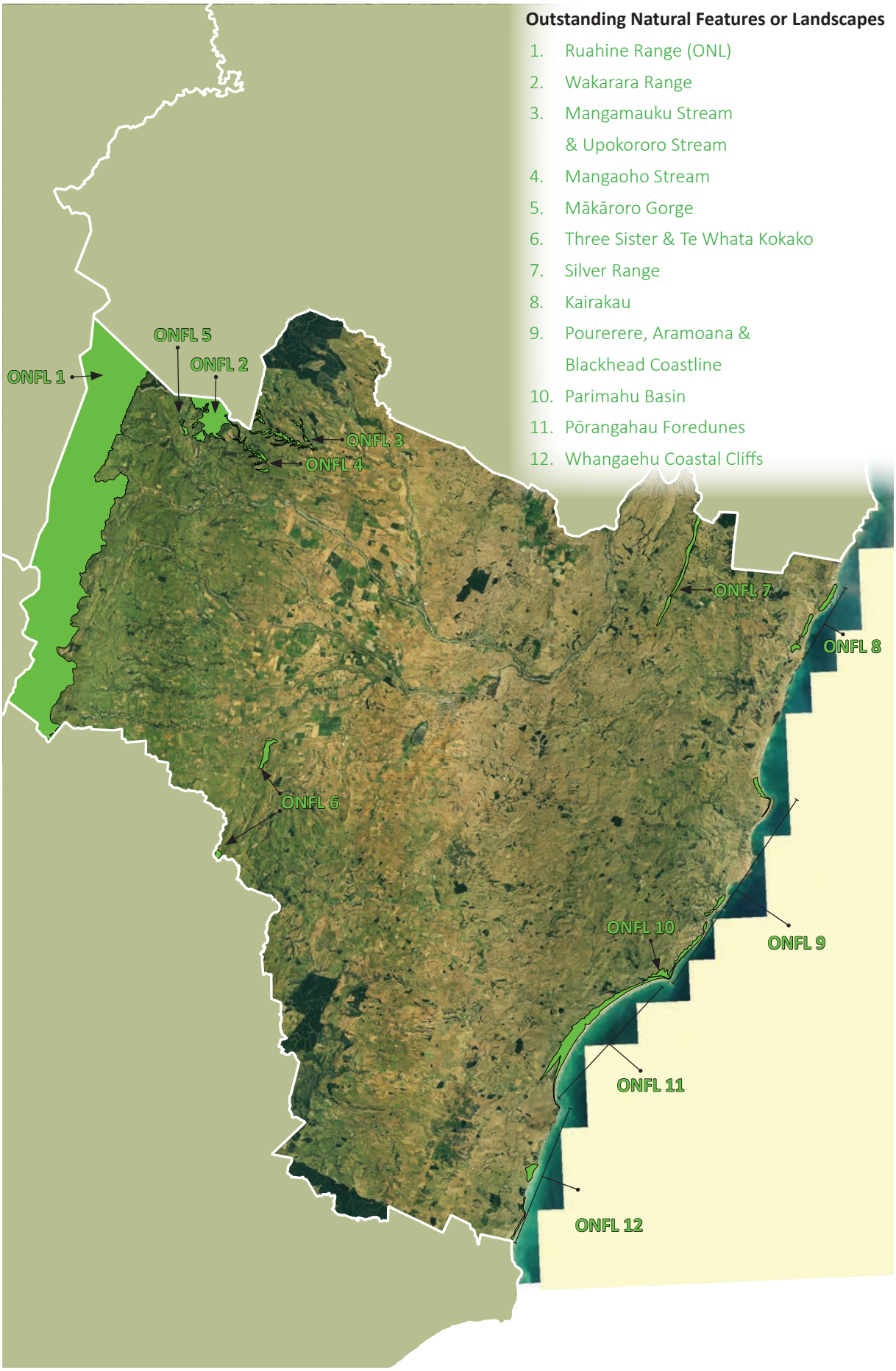


Figure 13: Outstanding Natural Features and Landscapes (green)

Ruahine Range

Identification:
Outstanding Natural Landscape

Location:
NZ Topo 50- BK36, BK37, BL36

Description
The Ruahine Range contains a significant area of unmodified indigenous vegetation and is comprised primarily of the Ruahine Forest Park. The ONL includes the upper reaches of the district's major watercourses, such as the Tukituki and Waipawa Rivers. The CHB District boundary runs along the ridgeline separating the eastern side of the range and Manawatū District on the western side. It stretches 35km from the Makāretu River in the south to Mākāroro River in the north. Much of the skyline lies with the Manawatū District, and much within the CHB District.

Natural Science
Geological/Geomorphological
The Ruahine Range consists mainly of Triassic-Jurassic argillites and sandstones that have been complexly folded and faulted and as a consequence are very shattered. This dissection has caused steep gorges and eroded valleys. Greywacke is a variety of argillaceous sandstone that is highly indurated* and forms the basement rock of the Ruahine Ranges, creating a folded landscape with a patchwork of deeply incised drainage catchments that form the upper reaches of the numerous water courses that flow from the hills.

The Ruahine Ranges form part of the sequence of axial ranges that are a significant geological feature of the North Island, running from Wellington to East Cape. They form the oldest geological elements in the district, with geology to the east being erosion from the greywacke hills and uplifted sedimentary depositional landform.

* Induration: hardening of rocks by heat or baking; also the hardening of sediments through cementation or compaction, or both, without the introduction of heat.

Ecological
Significant stretches of indigenous flora and fauna habitat, including podocarp, alpine beech forest, and subalpine tussock. Podocarps, including Rimu, Matai Kahikatea and Miro are present in pockets, with Mountain and Red Beech and Totara on the higher slopes. Important kiwi habitat. Includes small fingers of indigenous vegetation in gullies running off the eastern side of the ranges and beyond the forest park boundary.

The Forest Park is recognised as an Area of Significant Nature Conservation Value (ASNCV) in the operative District Plan.

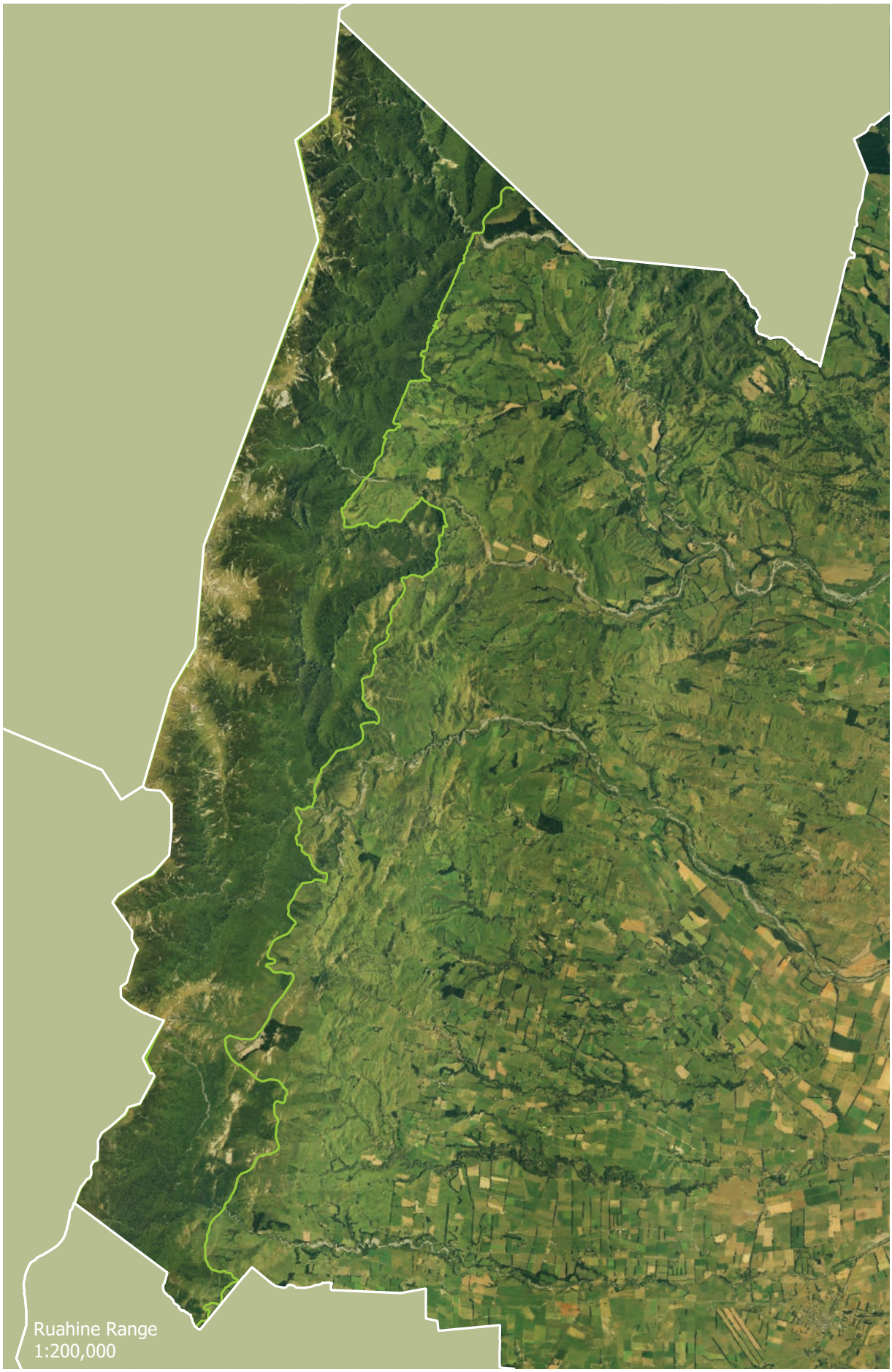
Hydrological
Water in the rivers and from stream tributaries has significant quality and quantity values, with recognition of the benefits that the indigenous land cover has on the rivers water quality. Water storage from outflow of the Mākāroro River at the northern end of the district could be used to fill the dam for the Ruataniwha Water Storage Scheme (RWSS), located in a deep river gorge just east of the ranges.

Perceptual
Memorability
Highly memorable landscape due to the scale and extent of the landform covering the entire western length of the district. Rising from the flats of the Ruataniwha Plains and the lowland rolling hills up to 1600m or more. Memorable in the winter for its snow covered slopes and in the summer for its bush covered hills. More dramatic than surrounding folded landforms due to its size and the presence of significant native vegetation. Memorable for its sense of wilderness and isolation for those within the landscape, and its sense of magnitude and naturalness for those looking in.

Legibility/Expressiveness
A highly expressive landform resulting from the greywacke geology that were uplifted through tectonic induration, forming part of the major landform backbone of the country and lower North Island. Shattered rock that becomes incised through erosion as rivers cut into the slopes, yielding vast amounts of gravel that has washed down over millennia to form the plains below.

Transient
The river valleys have their own microclimates, with the sheltered gorges characterised by heat in the summer, cold in the winter and heavy rains at any time of year. Mists frequently gather over the rivers and wider hills, while snow and ice are common in the winter months. Once home of the majestic Huia, which is now extinct. Hunting grounds for Māori for tītī (muttonbird) and home of the Kiwi, along with many other bird species.

Aesthetic
High aesthetic value within the scale and presence of the mountain range, the bold dark covering of native bush, and the steep leading ridges and river gorges that descend towards the plains to the east. Emphasised by winter snow, mist covered tops and layered folds as the


Ruahine Range
1:200,000

sun moves from the east to the west, highlighting the valleys and ridges, bush and tussocks, and folds of the hills. The extensive hills that form the western boundary of the district have a maturity, continuity and intactness of the landscape, with the natural landscape expressing the underlying geology across large tracts of primary lowland forest.

Naturalness

Highly natural landscape with extensive areas of unmodified indigenous podocarp forest. Naturalness within the river valleys contributed to by the incised valleys, scale of the erosion and the expressiveness of the rivers erosive courses over time as shown by the deep gorges and vegetated cliffs. Naturalness of the extensive hills is manifested by the endemic vegetation.

Associational

Shared/Recognised

With an overall length of approximately 35 km within the district, the Ruahine Range is the district's largest outstanding natural landscape. Dominant due to its magnitude and native vegetation cover, the ranges form part of the backbone of the lower North Island and the western spine of CHB District. The source of all major rivers, a key factor in the district's weather patterns and the distinctive visual backdrop to the Ruataniwha Plains, the Ruahine Ranges are the landform that defines the district's western extent and are clearly evident as an outstanding natural landscape in terms of physical, aesthetic and associational factors.

Recreational

High level of recreational use, including hunting, tramping and fishing. Many huts located throughout the ranges used for walking and tramping.

Historical

The Ruahine Forest Park was gazetted in 1976 and its primary functions became recreation, conservation and watershed protection. Red deer were released in the northern Ruahine in 1883 for game hunting and appeared in the southern ranges in the mid 1920s. Their numbers peaked in the 1930's and 50's, causing extensive forest destruction and government culling began. Many of the area's huts and tracks were built for deer cullers by the former New Zealand Forest Service and are used today by recreational hunters and trampers. Deer numbers were considerably reduced by commercial venison recovery operations in the 1980s but numbers are recovering, causing damage to the native vegetation of the park.

William Colenso used the Mākāroro River as a route to cross the Ruahine Ranges. He followed a track known as Te Atua-o-Mahuru, which followed the upper reaches of the Mākāroro River on the eastern side of the Ruahine Range. This route is marked on NZ Topographical maps as Colenso Spur and Colenso Spur Track. A memorial to Colenso is located within the Forest Park on Colenso (Sparrow Hawk) Spur above the Mākāroro River.

Figure 14: Colenso memorial on track known as Te Atua-o-Mahuru which he was shown by Māori and used for crossing Ruahine Range

Following settlement in the area by Europeans, several mills were established in the area including Yoeman's (1926-1956), Gardner's and Wakarara in the north and others further south.

Tangata Whenua

The Ruahine Forest Park, which includes the Ruahine Range, is significant to many hapū of Heretaunga Tamatea. The connection of Heretaunga Tamatea hapū to the Ruahine Range dates back to a journey made by Tamatea-Pōkai-Whenua, the father of Kahungunu, from Tūranga into Mōkai Pātea. Tamatea-Pokai-Whenua was the son of Rongokako and a descendant of the legendary Maui. He came to New Zealand in the Takitimu canoe but left it at Turanga (Gisborne) and travelled overland, keeping close to the coast, until he reached Ahuriri. There, according to the legend, his lizzard-like pet, Tapu-Te-Ranga, escaped.

From Ahuriri he continued towards the Ruahines, but his son, Kahungunu, was unwilling to cross them and returned to settle on the Heretaunga Plains. Tamatea continued his journey until he reached a high mountain where another of his reptillian-like pets, Pohokura (or Pukeokahu), escaped. When he reached the Moawhango River Tamatea plunged the brands from his fire into the waters, where they became taniwhas and may be seen to this day.

A number of tracks were utilised by the people of Heretaunga Tamatea in times of peace and war to cross from one side of the Ruahine Range to the other. One was known as Te Atua-o-Mahuru. From the western side it ran from Te Awarua and came out on the eastern side at the headwaters of the Mākaroro Stream and followed the stream down to the Ruataniwha Plains.

Figure 15: Te Atau-o-Mahuru which used by Māori for crossing te Ruahine Range from Mākāroro River via Te Atau-o-Mahuru to Te Awarua on the Rangitikei River

The Ruahine Ranges, with an area of 100,000 acres, was sold by Māori to the crown in 1857 for 3,000 pounds. The entire Ruahine State Forest Park within CHB has been included in the Heretaunga Tamatea Deed of Settlement as part of the Statutory Acknowledgement and Deed of Recognition.

Purposes of statutory acknowledgement
The only purposes of the statutory acknowledgement are—

(a) to require relevant consent authorities, the Environment Court, and Heritage Hew Zealand Pouhere Taonga to have regard to the statutory acknowledgement, in accordance with sections 24 to 26; and

(b) to require relevant consent authorities to record the statutory acknowledgement on statutory plans that relate to the statutory areas and to provide summaries of resource consent applications or copies of notices of applications to the trustees, in accordance with sections 27 and 28; and

(c) to enable the trustees and any member of Heretaunga Tamatea to cite the statutory acknowledgement as evidence of the association of Heretaunga Tamatea with a statutory area, in accordance with section 29.

Summary of Key Values

Very high landscape and visual values and naturalness derived from the endemic vegetation and expressiveness of the formative processes of the ranges which form part of the backbone of the lower North Island's geology. The dynamic qualities demonstrated by the legibility of the hills, the dramatic appearance of the defining landform and the natural simplicity of the extensive unbuilt character and endemic vegetation cover result in a highly memorable landscape.

Potential Issues

Clearance or degradation of native vegetation throughout any part of the area. Damage to flora and fauna by pests or grazing animal. Establishment or spread of exotic plants within the areas and along stream margins. Large scale earthworks or structures.

Potential Response

- Maintain and enhance indigenous vegetation throughout the ONF.
- Discourage earthworks
- Discourage establishment or spread of exotic plants
- Restrict built development
- The river systems have great significance to iwi for the mauri they bring. See details on the Deed of Settlement for associated responsibilities and cultural significance.

Figure 16: Ruahine Range

Wakarara Range

Identification:
Outstanding Natural Feature

Location:
NZ Topo 50 – BL36

Description
Southern extension of the Wakarara Range and south of the Gwavas Conservation Area, most of which lies in Hastings District to the north. Rolling to steep hills with regenerating native vegetation.

Natural Science
Geological/Geomorphological
Underlying geology of well bedded sandstone and mudstone and thick bedded sandstone and rare conglomerate, basalt and limestone. This relatively hard conglomerate has some similarities to the Ruahine Ranges base rock, which has characteristics of greater fragmentation.

Ecological
Originally home to large podocarp, felled for timber during the 1900's. A study of felled stumps in 1992 by PJ Grant revealed trees that had been 350-450 years old with large diameters such as totara 140cm and matai 100cm. Species included Rimu, Kahikatea, Miro at even more than 450 years old. Black Beech was also common on some slopes, while the main species on the upper slopes were Totara, Matai, Rimu, and Kahikatea.

Regenerating indigenous podocarp forest covers the folds of the land, with species such as Titoki, Mahoe, Pigeonwood, Hinau and Supplejack enhancing the ecological value of these areas and creating improved habitat for indigenous and exotic birdlife. Regeneration appears approximately 50-80 years old and more, with older parts in some areas and younger growth on the southern slopes towards the Mākāroro River where grazing is intertwined with the regrowth. Manuka and emergent podocarp species are beginning to dominate, particularly on moister south-facing slopes, and having reached the tops of most ridges and spurs. Ecological values will continue to improve as the process continues over time, although rogue pines may hinder this.

Research undertaken for the Ruataniwha Water Storage Scheme (RWSS), which is located on the adjacent Mākāroro River, identified over 60 weed species within 10km radius of the scheme area, terrestrial gastropods, invertebrates, 50 bird species (observed at the site or discussed in the research report), bats and over 30 native vegetation types.

The entire ONF area is also identified as an ASNCV in the district plan. A 76ha QEII covenanted area is included within the proposed ONF.

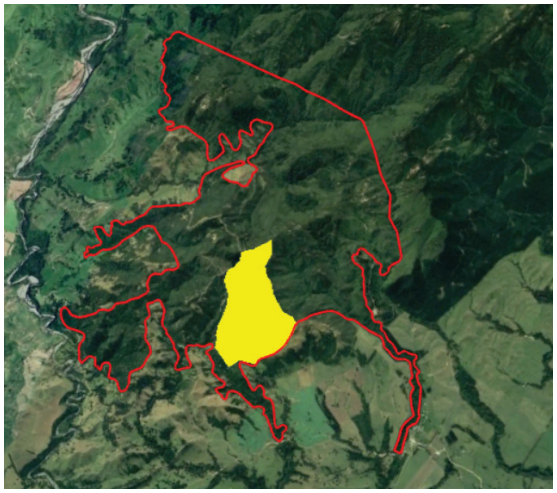


Figure 17: 76ha QEII Covenant Area within the Wakarara ONF

Hydrological
Water in stream tributaries has quality and quantity values as tributary to the Mākāroro River, with recognition of the benefits that the indigenous land cover has on the river's water quality.

The Mangamauku and Mangaoho Streams and the Mākāroro River are all recognised as Outstanding Natural Features of Significant Amenity Features in the landscape assessment and all are fed from the Wakarara ONL.

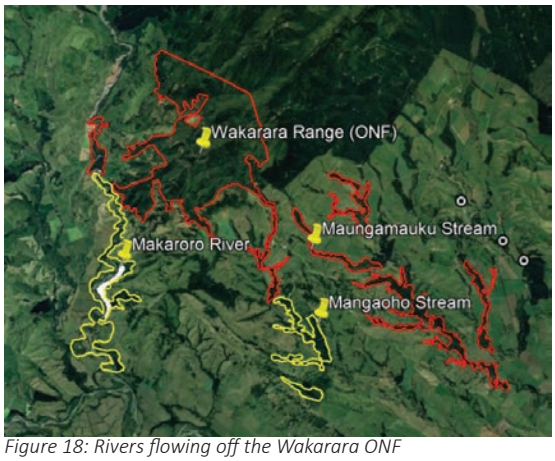
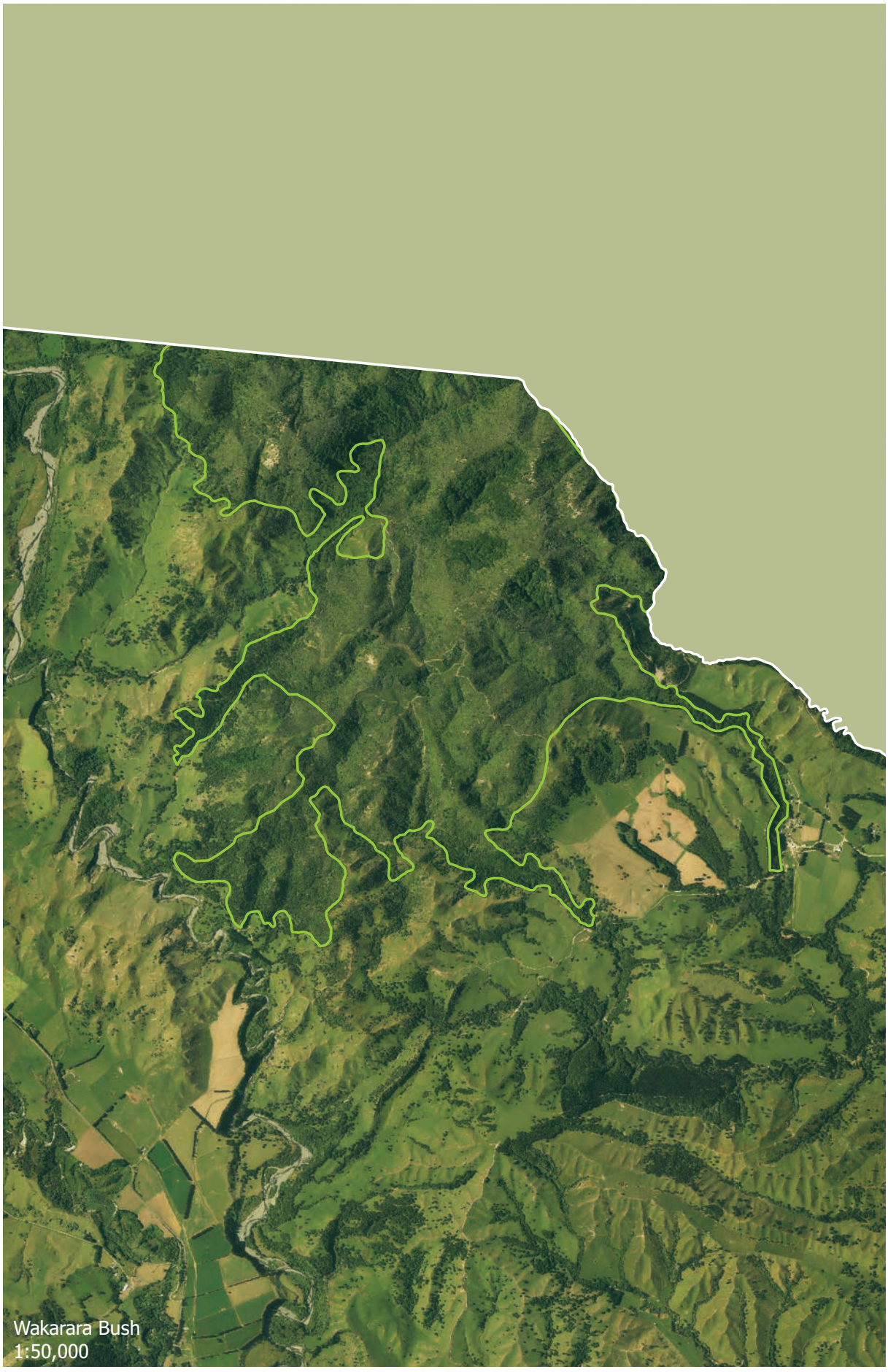


Figure 18: Rivers flowing off the Wakarara ONF

Perceptual
Memorability
Memorable landscape due to the land-cover (regenerating indigenous forest) and land-form (a series of ridges, side-spurs and steep narrow-floored valleys), providing a visual contrast with surrounding pasture and more gentle landform. The areas stand out visually as undeveloped and with a high degree of naturalness. There is a sense of isolation, wildness and being separate from the more modified land to the east, adding to memorability.


Wakarara Bush
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Legibility/Expressiveness

Landform is expressive of the natural geomorphic forces which shaped it, showing a rhythmic pattern of ridges and steep-sided, narrow-floored valleys. Landform reflects natural drainage patterns, and is also expressed through the patterns of regenerating vegetative cover. Steep v-shaped valleys and dense vegetative cover present here as untamed land, with the underlying eroded landform clearly expressive through the regenerating podocarp forest which in turn is clearly legible as remnant land cover distinct from their adjacent rural land-use. Vegetation patterns are expressive of slope aspect, with the moister southern slopes showing greater diversity and maturity in the regeneration process.

Figure 19: Wakarara ONF landform reflects the erosion patterns

Transient

The bush environment is secluded, enclosed and quiet, with native bird-life and the sound of waterways and streams. Research undertaken for the RWSS identified terrestrial gastropods, invertebrates, 50 bird species (observed at the site or discussed in the research report) and bats in the area.

Aesthetic

High aesthetic value due to the quality of the regenerating indigenous vegetation, the pattern of the hills and valleys, and the quality of the experience from within these areas – isolated, quiet and natural. A contrast to the eastern productive rural land-use and northeastern pine plantation, further emphasising the perception of naturalness of the defined areas when seen in conjunction with the DoC Wakarara Range to the north.

Naturalness

Natural landscape with unmodified landform and dense indigenous vegetative cover with extensive areas of regenerating podocarp forest, some of which is well advanced. Natural value is contributed to by the quality and stage of the forest regeneration, some of which is primary but other parts are secondary and well established.

Associational

Shared/Recognised

The CHB boundary crosses the Wakarara Range (shown in blue in Figure 9 below), with the majority of the Range lying within the Hastings District Council jurisdiction. Similar vegetation and landscape characteristics as adjacent areas within the Hastings District are recognised by HDC as an Outstanding Natural Landscape and as reserves or are part of the DOC estate.

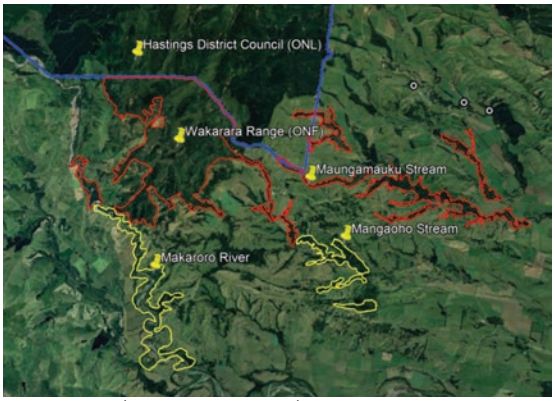


Figure 20: Wakarara ONF in CHB abuts ONL in HDC
Red line - ONF's identified in CHB landscape assessment
Yellow lines - SAF's identified in CHB landscape assessment
Blue Line - Boundary line CHB/HDC

Recreational

A common access is past the old mill site at Wakarara Road end then travel along the valley to the north to reach Leatherwood Road that climbs to Poutaki Hut, being the only DoC hut in the area. Hunting potential for pigs and limited number of red deer. May be used for mountain biking along with tramping activities.

Historical

Areas of regenerating forest originally felled for milling, as was much of the land now used for rural purposes throughout the district. Regeneration of the native forest has occurred to varying degrees, with the defined areas demonstrating more advanced regeneration and generally moving through primary and into secondary growth and in places emergence of tertiary species. Forest would have supplied the old mill at Wakarara, long since closed.

Tangata Whenua

A walking route used by Māori followed the valley west of Wakarara Range (alternatively named Ngawhakarara) which is now generally aligned with Mangleton and Mākāroro Roads. Another route was around the eastern side from Ngaroro. The western route would traverse along the southern edge of the Wakarara ONF to the Motu o Puka Pā site on the Mākāroro River, where it met the eastern route .

Key Characteristics

High landscape and visual values derived from the regenerating indigenous vegetation cover over the eroded landform pattern. Contrast with the surrounding areas of pasture and pine forest increases the value of such remnant areas of regeneration.

Potential Issues

Clearance or degradation of native vegetation throughout any part of the area. Damage to flora and fauna by pests or grazing animal. Establishment or spread of exotic plants within the areas and along stream margins. Large scale earthworks and built development.

Potential Response

- Maintain and enhance indigenous vegetation throughout the ONF.
- Restrict earthworks
- Discourage establishment or spread of exotic plants
- Restrict built development
- The rivers that rise in the Wakarara Range are tributaries to the Tukituki River which has great significance to iwi, particularly for the mauri it brings. See details on the Deed of Settlement for associated responsibilities and cultural significance.

Figure 21: Photo of Wakarara ONF

Overview of Three Incised River Valleys off the Ruahine Range

Identification:
Outstanding Natural Features

The density and extent of indigenous vegetation that clothes the incised river valleys influences their assessment as a Outstanding Natural Feature versus a Significant Amenity Feature, with the greater maturity and extent of indigenous vegetation and more clearly incised geology contributing to the outstanding assessment.

All have distinctive incised landforms with generally full cover of indigenous vegetation within the incised topography. Farming activities occur on the flatter ground beyond the incised edges, with this being clearly defined by the distinctive change in topography and vegetation.

Location:
NZ Topo 50 – BL36, BL37

Description
Sections of four separate streams flowing off the Ruahine Ranges. Three of the four streams join before ultimately joining the Waipawa River. Distinctive valley systems incised into the alluvial greywacke and softer sandstone/mudstone of the terrace landform. Filled with regenerating indigenous podocarp forest in the incised valley systems. Three of the streams all join to become the Mangamauku Stream, which then joins the Waipawa River. The fourth stream (Mākāroro Gorge which flows on as the Mākāroro River) joins the Waipawa River directly.

The streams are identified as:

- Upokororo Stream
- Mangamauku Stream
- Mangaoho Stream
- Mākāroro Gorge

Each is assessed in more detail in the following sections, in order from north to south.

Natural Science
Geological/Geomorphological
A pattern of clearly defined steep sided valleys descending gently from the sandstone of the Ruahine Ranges. Incised into the softer terraces that are formed of gravel, sand, silt and mud through alluvial processes. Distinctive meandering pattern carved into the valley through erosion, with old oxbow patterns and escarpments apparent within the vegetation.

Ecological
Before milling and fires after European settlement, the land south was covered in a mixture of forest types, which appear to have established 350-450 years ago. this is indicated by old log or stump dimensions. Specific species within the podocarp family varied from location to location, with one area being matai, rimu and miro as the dominants; in another it was red beech, matai, rimu and kahikatea and elsewhere matai and totara were the main species. Lower growing species included kotukutuku, titoki, maire, pokaka, rangiora, hangehange and mahoe.

Podocarp canopy cover remains today in these gullies, with regenerating indigenous podocarp vegetation at various stages of maturity. Secondary canopy cover is prevalent and some tertiary is apparent. Verification of ecological qualities would be dependent on expert ecological assessment, however most of the areas identified as an ONF in the Mangaoho and Mangamauku Streams have been mapped as ASNCV in the Operative District Plan. The indigenous vegetation creates improved habitat for indigenous and exotic birdlife. Aspects of the existing native vegetation may be original from the Matawhero Period, while some may be more recent. There is the possibility that some may be older due to the difficulty in gaining access when milling was active in the area. Dense stands and possible regeneration of Totara apparent in some areas.

Hydrological
Water in stream tributaries has quality and quantity values as tributary to the Tukituki or Waipawa Rivers, with recognition of the benefits that the indigenous land cover has on the rivers water quality.

Perceptual
Memorability
Memorable landscape due to the land-cover, which is substantial indigenous vegetation, and land-form, being a series of valleys eroded into the flat surrounding terraces. The valleys provide a visual contrast with surrounding pastoral terraces. The incised valleys stand out visually as heavily vegetated and undeveloped and with a high degree of perceived naturalness, contrasting with adjacent flat or rolling pasture covered terraces. This distinguishes them from their immediate more modified surroundings, adding considerably to memorability. The presence of dense native vegetation reinforces this memorability.

Legibility/Expressiveness
Landform is expressive of the natural geomorphic forces which shaped it, showing a rhythmic pattern of valleys and steep-sided, eroded meandering river courses. Landform reflects natural erosion patterns, and is also expressed through the patterns of regenerating vegetative cover such as on the steeper sided escarpments.

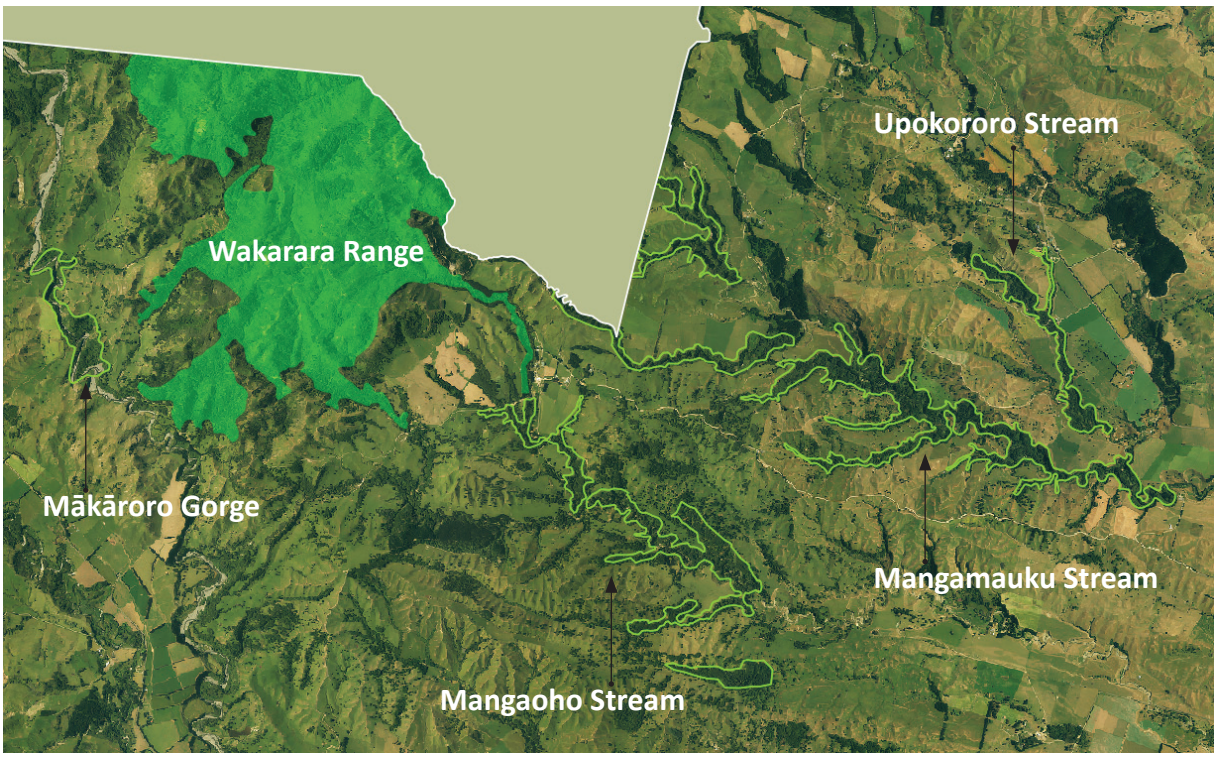


Figure 22: Rivers running off the Ruahine and Wakarara Ranges that have been identified as ONF (Red)

The underlying eroded landform is clearly expressive through the incised terraces and remnant oxbows overlain with regenerating podocarp forest which in turn is clearly legible as remnant land cover distinct from their adjacent productive land-use.

Vegetation patterns are expressive of incised valley systems, with the moister and more sheltered valleys showing maturity in the regeneration process. The historic meander patterns are imprinted into the valley footprints, although generally screened by the remnant vegetation.

Transient

The bush environment is sheltered and enclosed, with habitat for fauna and the sound of birds, rivers and streams.

Aesthetic

High aesthetic value due to the quality of the regenerating indigenous vegetation, the pattern of the incised valleys, and the evidence of the geomorphic processes within these areas – isolated and with a high degree of perceived naturalness. A contrast to the surrounding terrace landform and productive rural land-use, further emphasising the perception of naturalness of the defined areas.

Naturalness

High perceived naturalness with unmodified landform and indigenous vegetative cover particularly in the incised valleys. Natural value is significantly contributed to by the quality and stage of the forest regeneration in combination with the landform. This is emphasised by its contrast with the valleys where indigenous vegetation has been partially or fully removed.

Associational

Shared/Recognised

Recognised as an ASNCV in the District Plan. Selected areas have QEII Covenants which will provide lasting protection for these areas.

Historical

Areas of regenerating forest on the flatter terraces originally felled for milling, as was much of the land now used for rural purposes throughout the district. Regeneration of the native forest has occurred to varying degrees, with the defined areas demonstrating areas of regeneration and generally moving into or through secondary growth and in places there is an emergence of tertiary species.

Tangata Whenua

Reference to the Tukituki River Catchment Cultural Values and Uses (HBRC report June 2012) clarifies and defines key Māori environmental cultural values and their application within the Tukituki River catchment, as follows: (such values would also apply to the catchments referred to below in the Deed of Settlement).

"Mauri is the life essence of nature itself on this planet" Hodges (1992). When mauri is extinguished within a species, the result is extinction because the natural restorative and regenerative powers are lost. Of absolute importance to Ngāti Kahungunu is the preservation and protection of mauri. Ensuring the preservation and protection of mauri is to provide for conservation of bio-diversity. The outcome will ensure the restoration and regeneration of ecosystems. Mana whenua as kaitiaki seek to sustainably manage all taonga species within the Tukituki River catchment. This is expressed through the cultural value of mauri that seeks to enhance the life force principle included in people, fish, animals, birds, forests, land, seas, rivers, biodiversity and ecosystems.

The Tukituki river flows ki uta ki tai – from the mountains to the sea – from its headwaters in the Ruahine Ranges, downstream through the Ruataniwha plains and lowland mouth and coastline at Haumoana. From the headwaters of the upper Tukituki tributaries which cross the Ruataniwha Plains are: the Mākāroro, Waipawa, Mangaroa Stream, Kahahakuri Stream, Mangataura Stream, Mangaonuku Stream, Tukipo River, Maharakeke Stream, Ngahape Stream, Pōrangahau Stream, Mangatewai River, Mangapohio Stream, and Makāretu River.

All the Tukituki tributaries, rivers and streams will have an influence on the overall ecological health of the catchment. Therefore, these tributaries are considered in terms of their relationship to cultural values, their mauri and the cumulative effects on the whole ecosystems and ecological health state of the Tukituki River catchment.

This underpinning philosophy is enshrined in the recent Heretaunga Tamatea Deed of Settlement, where the Pōrangahau/Tāurekaitai River, Waipawa River, Tukipo River and Tukituki River and its tributaries were given Statutory Acknowledgement and Crown acknowledged that—

(a) the lakes, rivers, springs, and wetlands of Heretaunga Tamatea, such as Whatuma, Runanga and Poukawa, the Tutaekuri, Ngaruroro, Maraetotara, Tukituki, Waipawa, Makāretu, and Pōrangahau / Taurekaitai Rivers, and the Pekapeka swamplands are mahinga kai that are central to the well-being of the hapū of Heretaunga Tamatea; and

(b) the loss of traditional lands has limited the ability of the hapū of Heretaunga Tamatea to access these waterways, to gather traditional foods, and to provide the manaakitanga that is intrinsic to Heretaunga Tamatea; and

(c) the modification and degradation of the Heretaunga Tamatea environment due largely to the introduction of weeds and pests, farm run-off, industrial pollution, and drainage works has severely damaged traditional food resources and mahinga kai.
The Act provides for cultural redress, including:
Cultural redress that does not involve the vesting of land, namely,—

(i) a statutory acknowledgement by the Crown of the statements made by Heretaunga Tamatea of their cultural, historical, spiritual, and traditional association with certain statutory areas and the effect of that acknowledgement, together with deeds of recognition for the specified areas; and statutory acknowledgement provides for;

The only purposes of the statutory acknowledgement are—

(a) to require relevant consent authorities, the Environment Court, and Heritage New Zealand Pouhere Taonga to have regard to the statutory acknowledgement, in accordance with sections 24 to 26; and

(b) to require relevant consent authorities to record the statutory acknowledgement on statutory plans that relate to the statutory areas and to provide summaries of resource consent applications or copies of notices of applications to the trustees, in accordance with sections 27 and 28; and

(c) to enable the trustees and any member of Heretaunga Tamatea to cite the statutory acknowledgement as evidence of the association of Heretaunga Tamatea with a statutory area, in accordance with section 29.

Summary of Key Values

Very high landscape values derived from the remnant and regenerating indigenous vegetation cover in combination with the eroded valley landform pattern. Contrast with the surrounding areas of pastoral land increases the memorability and aesthetic value of such remnant areas of vegetation and meandering valleys.

These rivers are discussed individually in the following three sections.

Figure 23: Rivers running off the Ruahine Range assessed as ONF

Mangamauku Stream & Upokororo Stream

Identification:
Outstanding Natural Feature (ONF)

Location:
NZ Topo 50 – BL37,

Description
The Mangamauku Stream flows through a pastoral setting in a small valley system parallel to and north of Smedley Road and south of Matheson Road. It rises in the Wakarara Range, with many smaller tributaries feeding into larger streams that in turn combine to form the main channel of the Mangamauku Stream.

A significant tributary is Upokororo Stream, which runs along the southern side of Matheson Road before joining the Mangamauku Stream 4.5km west of SH50.

A 7km long section of the Mangamauku Steam itself, plus the Upokororo Stream and several unnamed tributaries, are identified as forming the Outstanding Natural Feature.

Figure 24: Aerial oblique photo looking west up Upokororo Stream

Natural Science
Geological/Geomorphological
A series of incised river channels carved into the lowland hills abutting the Wakarara Range. Incised into the pumiceous sandstone, sandy mudstone conglomerate, which lies within the Kidnappers Group and forms the Wakarara Range, and alluvial terraces that run east from the range.

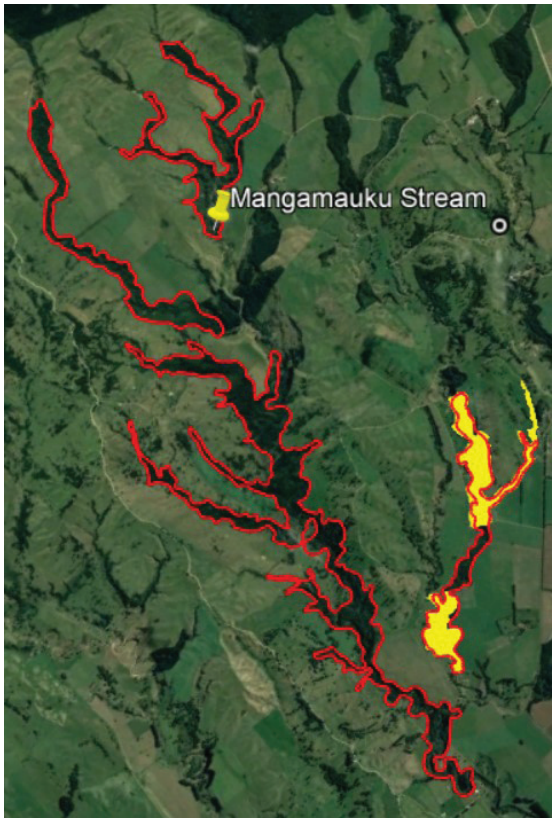


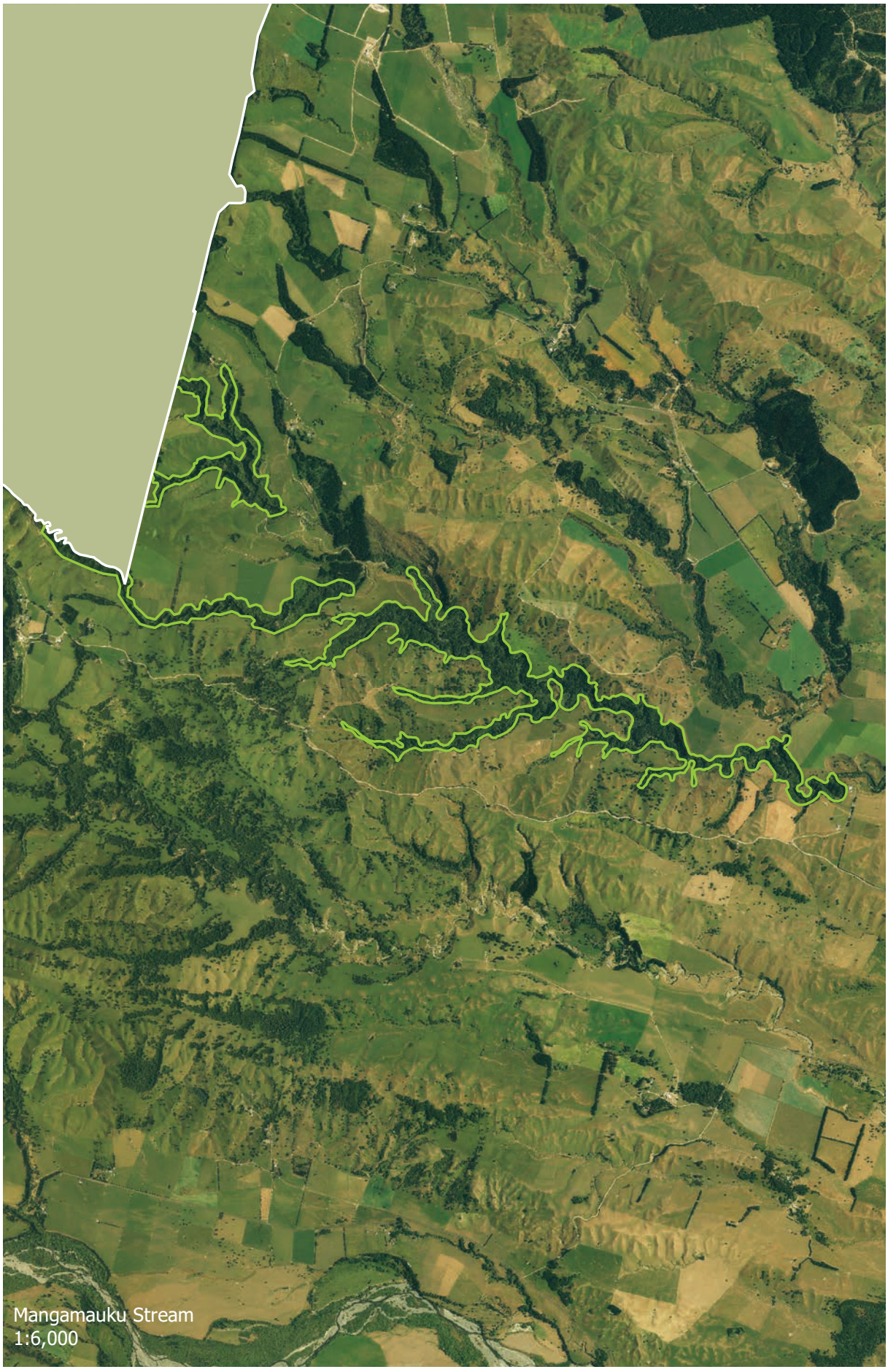
Figure 25: Areas of QEII covenant in Mangamauku Stream and tributaries

Hydrological
The Mangamauku Stream flows from the Wakarara Range, with the upper part of the Mangamauku channel only 500m from the Wakarara ONF. Many smaller tributaries feed into larger streams that in turn combine to form the main channel of the Mangamauku Stream. The Stream joins the Mangaonuku east of Tikokino which then joins the Waipawa River 5km west of the township.

Ecological
The northern most channel of the Upokororo Stream is covered by a 7ha QEII Open Space Covenant, while the Middle Upokororo Stream has a 16ha QEII covenant over the river channel. These contain remnant and regenerating podocarp vegetation. The QEII Open Space Covenant requires the area to be fenced from grazing and protects the native forest. Another covenanted area of 4.5ha lies at the confluence of these two arms of the Upokororo Stream while a forth covenant of 12ha lies a little further downstream near the confluence with the Mangamauku Stream

The majority of the Mangamauku Stream ONF is recognised as an ASNCV (Area of Significant Nature Conservation Value) in the District Plan. This identifies plant and animal communities and habitats that are


Upokororo Stream
1:20,000


Mangamauku Stream
1:6,000

rare or unique, or which provide good representation of the plant communities that existed more widely in the District before vegetation clearance (CHB District Plan 2.2 Definitions).

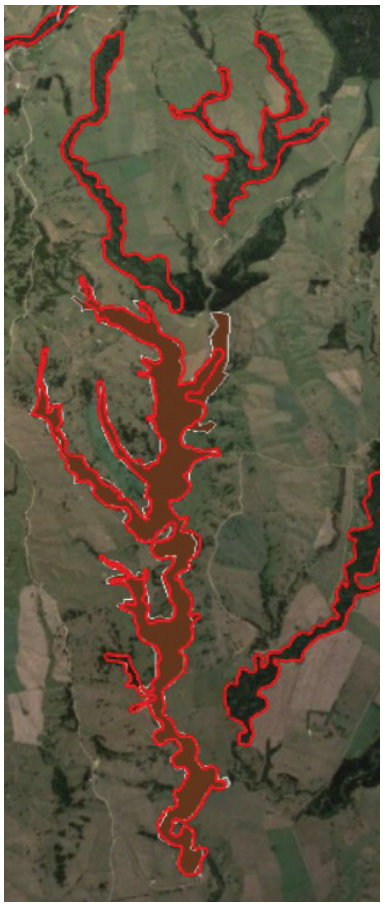


Figure 26: Stream mapped as ASNCV in the District Plan

Perceptual

Memorability

The Mangamauku Stream and tributaries of the ONF are memorable for their combination of incised channel form emphasised by remnant and regenerating native vegetation. The river channel and the tributaries are made more apparent by their contrast in terms of colour, vegetation and form with the adjacent rolling pastoral land. They invoke memories of what the land cover once was across the wider area.

Figure 27: Aerial oblique photo looking west up Mangamauku Stream with Smedley Road on the left. Area of Mangamauku

Legibility/Expressiveness

An expressive meandering pattern resulting from the stream's erosive action through the sandy mudstone conglomerate and alluvial runoff from the Wakarara Range. Clear evidence of the erosion process of the river eating into the surface material and forming depressions and incised patterns.

Transient

The river valley has its own microclimates, with the sheltered valley characterised by heat in the summer, cold in the winter, and high waters during heavy rain periods throughout the year. Home for birdlife and song and the sound of flowing water are all characteristics of these sections of the river.

Aesthetic

Extensive indigenous vegetation throughout the valley system has a high degree of coherence and reinforces its vividness both as a feature and in harmony with the natural meanders of the river. The river follows an incised valley that follows the grain of the land and contrasts with the intactness of the terraces it crosses, being clearly expressive of the softness of their underlying alluvial geology. These combine to give the valleys high aesthetic value.

Naturalness

A high degree of perceived naturalness in the incised river valleys where the greatest presence of native vegetation prevails. The density and extent of indigenous vegetation that clothes the incised river valleys influences its assessment as an Outstanding Natural Feature.

Associational

Shared/Recognised

Streams and their spiritual and ecological health are valued by Māori for their Mauri. The value of the clean flowing river waters are recognised, with its attributes reflecting environmental well being. Valued for their clean water and the associated values this brings. These rivers feed the aquifers, which flow under the Ruataniwha Plains, so have long terms values associated with that.

Placement of QEII covenants over parts of main channel and tributaries to the Upokororo Stream illustrate the willingness of the owners to preserve the values of the natural environment in perpetuity, which ensures they are shared with future generations. Identification as ASNCV in the District Plan confirm the wider recognition of the ecological value of the stream and tributaries.

Historical

Research by PJ Grant (Hawke's Bay Forests of Yesteryear) found that alluvial deposits up to 3m deep had been formed in the adjacent Mangaoho Stream valley from Matawhero Alluvium released by flooding some 400 years ago. Tree stumps in that area indicate the stream valley had once been vegetated by large podocarp forest at least 200 years old, with kahikatea, matai and totara.

Of particular interest was the fact that under the alluvial debris, and growing directly beneath the stump of a mature kahikatea, were other podocarps. Once such log was a charred matai, supporting PJ Grant's theory that gales, floods and fire had swept through the area in the Matawhero Period about 450 years ago, so the buried matai was a mature tree before that time and felled by the fire and wind then buried by the alluvial runoff.

Trees growing on top of that alluvium were established since that flooding and have formed that vast forests that covered the valleys, plains and rolling hills, including remnant podocarp forest in the neighbouring Mangaoho Stream channel and other river valleys of the area.

Mapping of old forests by PJ Grant indicate that the proposed ONF would have been along the northern edge of the extensive podocarp forest that grew across the Ruataniwha terraces. His mapping shows a wide finger of forest extending from the Wakarara Ranges out to Tikokino, including the Mangamauku Stream valley. This would suggest the possibility that trees within the stream valley may be several hundred years old if they survived milling and burning since the Matawhero Period.

Tangata Whenua

A possible pā site is located on a point upper Mangamauku Stream, shown below. This is yet to be confirmed (source P Parsons).

The river systems have great significance to iwi, particularly the rivers themselves for the mauri they bring. See Four Incised Rivers ONF Introduction for details on the Deed of Settlement, associated responsibilities and cultural significance.

Figure 28: Possible pā site Mangamauku Stream (to be confirmed)

Key Characteristics

The distinguishing characteristics of the named streams and unnamed tributaries that cause them to form the ONF are the density of podocarp and Beech forest, which potentially includes original trees that survived the burning and clearance over the last hundred years, plus its undeveloped character and containment within a defined landscape setting.

The presence of such dense native vegetation contributes to fulfilment of the 'ecological' and 'naturalness' factors in the landscape assessment process, while the containment within the incised main valley system and more rolling lower tributaries contributes to the 'expressiveness' and 'coherence' of the aesthetic factors. Rarity and associational cultural values are also contributing factors.

Potential Issues

Clearance or degradation of native vegetation throughout any part of the area. Damage to flora and fauna by pests or grazing animal. Establishment or spread of exotic plants within the areas and along stream margins. Earthworks and structures that remove native vegetation or reduce perceived naturalness.

Potential Response

- Maintain and enhance indigenous vegetation throughout the ONF.
- Discourage establishment or spread of exotic plants
- Discourage grazing, particularly by cattle or large animals
- Restrict earthworks
- Limit built development
- The river system has great significance to iwi, particularly the river itself for the mauri it brings. See details on the Deed of Settlement for associated responsibilities and cultural significance.

Figure 29: Aerial oblique photo looking west up Mangamauku Stream, Upokororo Stream visible on the right.

Mangaoho Stream (& tributaries)

Identification:
Outstanding Natural Feature (ONF)

Location:
NZ Topo 50 – BL37,

Description
The Mangaoho Stream flows through a pastoral setting in a small valley system parallel to and north of Mākāroro Road. It rises in the Wakarara Range, with many smaller tributaries feeding into larger streams that in turn combine to form the main channel of the Mangaoho Stream.

Bounded by west-east running ridgelines to the north and south, these separate the Mangaoho Stream valley from Mākāroro Road to the south and Smedley Road to the north. Both of these ridgelines run parallel to the stream and contain the catchment.

A section of the Mangaoho Steam itself, plus two named and two unnamed tributaries, are identified as forming the Outstanding Natural Feature (ONF).

Natural Science
Geological/Geomorphological
A series of incised river channels carved into the lowland hills abutting the Wakarara Range. Incised into the pumiceous sandstone, sandy mudstone conglomerate, which lies within the Kidnappers Group and forms the Wakarara Range, and alluvial terraces that run east from the range.

Hydrological
The Mangaoho Stream flows from the Wakarara Range, with the northern part of the Mangaoho channel being included within the Wakarara ONF. Many smaller tributaries feed into larger streams that in turn combine to form the main channel of the Mangaoho Stream. The Stream joins the Mangaonuku east of Tikokino which then joins the Waipawa River 5km west of the township.

Ecological
The northern most channel and unnamed tributaries contain remnant and regenerating podocarp vegetation dominated by totara. This section is covered by a 17ha QEII Open Space Covenant that requires the area to be fenced from grazing and protects the native forest. Another covenanted tributary of 13ha lies in a shallow valley that links directly with the Mangaoho Stream about 500m above its confluence with one of the named tributaries, being the Forty Acre Stream.

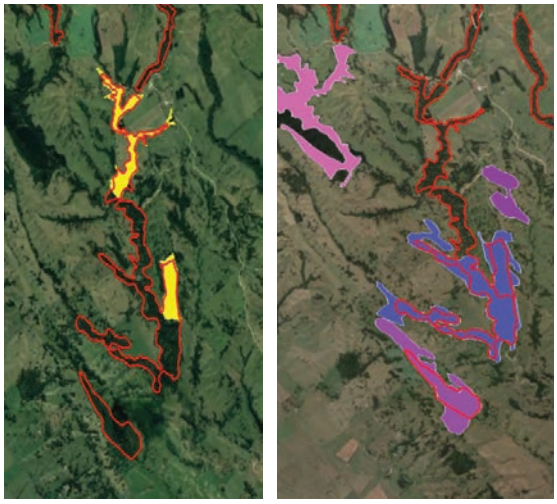


Figure 30: Areas of QEII covenant and ASNCV in Mangaoho Stream and tributaries

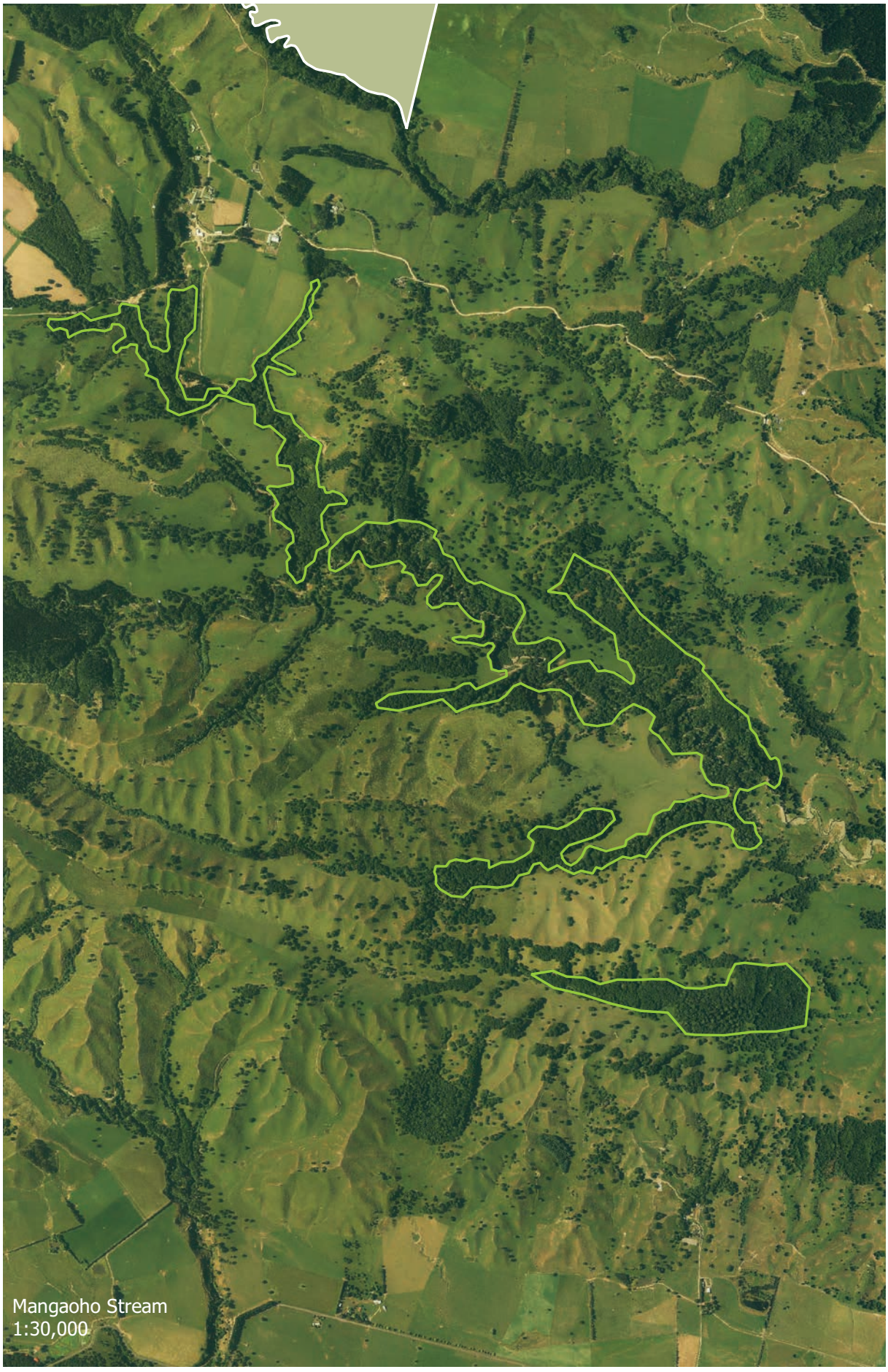
The Forty Acre Stream flows into the Mangaoho Stream from the south and gathers water from a small catchment that is generally pastoral except for the vegetation in the incised valley. Vegetation is remnant and regenerating podocarp forming a thick cover within the less accessible steeper sided valley system.

Parallel to the Forty Acre Stream and in a separate catchment slightly to the south lies the other unnamed tributary included in the area assessed as an ONF. The watercourse in this tributary runs parallel to the Mangaoho Stream until joining it east of SH50 and Tikokino. Downstream of the ONF, the stream flows through open pasture, making the area of ONF the only sizable piece of native vegetation within this small catchment.

This unnamed tributary and ONF lie just north of the ridge from Evertree Bush, a 7ha block of podocarp forest preserved by the foresight of John Holden and Patrick Boyle. It contains totara, rimu, kahikatea, matai and miro up to 29m tall and ranging from 330-450 years old.

The vegetation within the unnamed tributaries of the ONF appears to contain a diverse range of podocarp species, with a greater concentration of totara, but a site visit and ecological advice would assist in determining this.

The same limitation applies to the other ONF sections of the Mangaoho River and the other identified tributaries, with ecological advice confirming the landscape assessment regarding naturalness.


Mangaoho Stream
1:30,000

The majority of the ONF is recognised as an ASNCV (Area of Significant Nature Conservation Value) in the District Plan. This identifies plant and animal communities and habitats that are rare or unique, or which provide good representation of the plant communities that existed more widely in the District before vegetation clearance (CHB District Plan 2.2 Definitions).

Perceptual

Memorability

The Mangaoho Stream and tributaries of the ONF are memorable for their combination of incised channel form emphasised by remnant and regenerating native vegetation. The river channel and the tributaries are made more apparent by their contrast in terms of colour, vegetation and form with the adjacent rolling pastoral land. They invoke memories of what the land cover once was across the wider area.

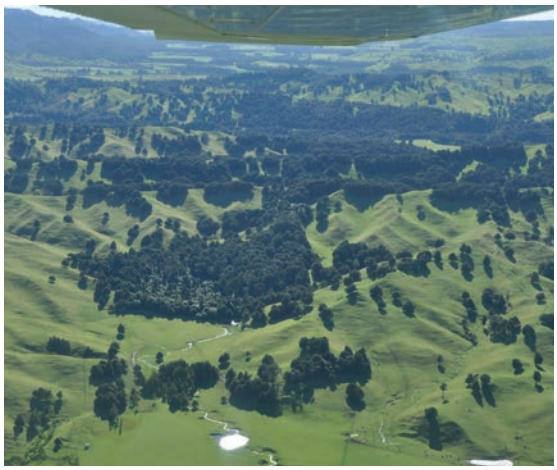


Figure 31: Aerial oblique photo looking north over Evertree Bush in foreground, Forty Acre and Mangaoho Streams running east-west beyond.

Legibility/Expressiveness

An expressive meandering pattern resulting from the stream's erosive action through the sandy mudstone conglomerate and alluvial runoff from the Wakarara Range. Clear evidence of the erosion process of the river eating into the surface material and forming depressions and incised patterns.

Transient

The river valley has its own microclimates, with the sheltered valley characterised by heat in the summer, cold in the winter, and high waters during heavy rain periods throughout the year. Home for birdlife and song and the sound of flowing water are all characteristics of these sections of the river.

Aesthetic

Extensive indigenous vegetation throughout the valley system has a high degree of coherence and reinforces its vividness both as a feature and in harmony with the natural meanders of the river. The river follows an incised valley that follows the grain of the land and contrasts with the intactness of the terraces it crosses, being clearly expressive of the softness of their underlying alluvial geology. These combine to give the valleys high aesthetic value.

Naturalness

A high degree of perceived naturalness in the incised river valleys where the greatest presence of native vegetation prevails. The density and extent of indigenous vegetation that clothes the incised river valleys influences its assessment as a Significant Amenity Feature, reduced from a outstanding rating by the presence of pastoral activity in the channels.

Associational

Shared/Recognised

Streams and their spiritual and ecological health are valued by Māori for their Mauri. The value of the clean flowing river waters are recognised, with its attributes reflecting environmental well being. Valued for their clean water and the associated values this brings. These rivers feed the aquifers, which flow under the Ruataniwha Plains, so have long terms values associated with that.

Placement of QEII covenants over parts of main channel and tributaries to the Mangaoho Stream illustrate the willingness of the owners to preserve the values of the natural environment in perpetuity, which ensures they are shared with future generations. Identification as ASNCV in the District Plan confirm the wider recognition of the ecological value of the stream and tributaries.

Historical

Research by PJ Grant (Hawke's Bay Forests of Yesteryear) found that alluvial deposits up to 3m deep had been formed from Matawhero Alluvium released by flooding some 400 years ago.

Figure 32: Totara & Matai stumps from trees 380-490 years old 2km NW of Tikokino between Mangamauku and Mangaoho Stream valleys (PJ Grant 1996)

Tree stumps in this area and just downstream of the ONF indicate the Mangaoho Stream valley had once been vegetated by large podocarp forest at least 200 years old, with kahikatea, matai and totara on the flat near Springvale Station less than 3km downstream from the SAF.

Of particular interest was the fact that under the alluvial debris, and growing directly beneath the stump of a mature kahikatea, were other podocarps. Once such log was a charred matai, supporting PJ Grant's theory that gales, floods and fire had swept through the area in the Matawhero Period about 450 years ago, so the buried matai was a mature tree before that time and felled by the fire and wind then buried by the alluvial runoff.

Trees growing on top of that alluvium were established since that flooding and have formed that vast forests that covered the valleys, plains and rolling hills, including remnant podocarp forest in the Mangaoho Stream channel and other river valleys of the area.

Tangata Whenua

The river systems have great significance to iwi, particularly the rivers themselves for the mauri they bring. See ONF Introduction for details on the Deed of Settlement, associated responsibilities and cultural significance.

Key Characteristics

The distinguishing characteristics of the named and unnamed streams that cause them to form the ONF are the undeveloped character and density of podocarp forest, which possibly includes original trees that survived the burning and clearance over the last hundred years, plus its containment within a defined landscape setting.

The presence of such dense native vegetation contributes to fulfilment of the 'ecological' and 'naturalness' factors in the landscape assessment process, while the containment within the incised main valley system and more rolling lower tributaries contributes to the 'expressiveness' and 'coherence' aesthetic factors. Rarity and associational cultural values are also contributing factors.

Potential Issues

Clearance or degradation of native vegetation throughout any part of the area. Damage to flora and fauna by pests or grazing animals, particularly cattle. Establishment or spread of exotic plants within the areas and along stream margins. Earthworks and structures that remove native vegetation or reduce perceived naturalness.

Potential Response

- Maintain and enhance indigenous vegetation throughout the ONF.
- Discourage establishment or spread of exotic plants
- Discourage grazing, particularly by cattle or large animals
- Restrict earthworks
- Limit built development
- The river system has great significance to iwi, particularly the river itself for the mauri it brings. See details on the Deed of Settlement for associated responsibilities and cultural significance.

Figure 33: Aerial oblique photo looking west up Mangaoho Stream, Forty Acre Stream partially visible on left.

Mākāroro Gorge

Identification:
Outstanding Natural Feature

Location:
NZ Topo 50 – BL36

Description
Mākāroro River Gorge, from Wakarara downstream for approximately 1.5km (2.5km river length) through a deeply incised gorge generally enclosed by native vegetation. Site of the consented Ruataniwha Water Storage Scheme (RWSS) dam is approximately 1/3 of the way down the gorge. This assessment is undertaken on the basis of the dam does not forming part of the existing environment.

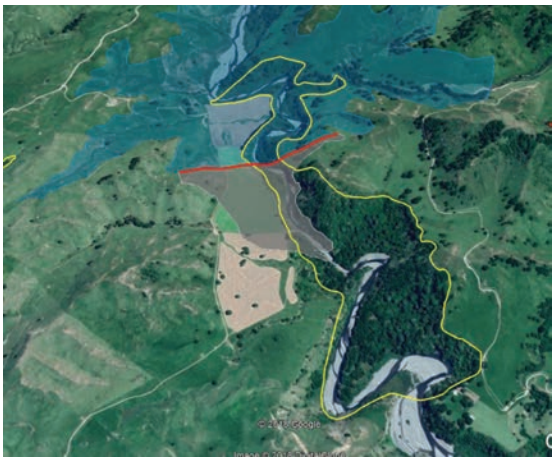


Figure 34: RWSS Dam location within Mākāroro Gorge.
Yellow = outline of ONF boundary
Blue = water storage area behind the dam
Red = dam location across the gorge,
Grey = dam area and spillways

Natural Science
Geological/Geomorphological
An incised river gorge, carrying shattered greywacke from the Ruahine Ranges and carved into the lowland hills abutting the ranges. Incised into a pumiceous sandstone, sandy mudstone conglomerate, which lies within the Kidnappers Group and forms the Wakarara Range to the north, and gravel alluvial terraces within the river valley. A fault line is recorded as passing across the river at the northern end of the ONF section.

Ecological
Indigenous forest clothes the steeply sloping riverside escarpments and peninsula's within the valley floor, particularly on the northern side of the river, while pasture extends down some of the escarpments on the southern side at the downstream end of the feature. The Mākāroro Gorge ONF is southwest of the Wakarara Range ONF, separated by slopes and hill sides covered in pasture and regenerating native vegetation. Much of the vegetation in the gorge is podocarp and beech forest and some is well developed other broadleaf native regeneration, all of which enhance the ecological values while also creating a habitat for indigenous and exotic birdlife.

Areas of pastoral land are located on the terraces above the gorge, with pasture extending down steep escarpments on the true right bank adjacent to the river at the lower end of the ONF. A small portion of pasture covers the last peninsula in the lower portion of the gorge. While lacking forest cover, the steep landform enclosing the lower right bank of the gorge contribute to its containment and definition as a feature.

Figure 35: Mākāroro Gorge


Makaroro Gorge
1:10,000

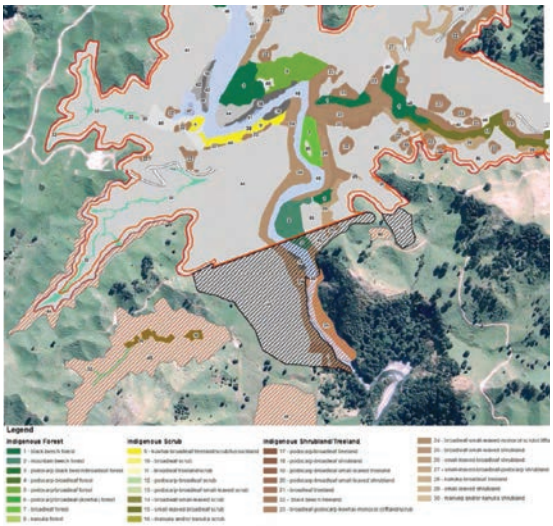


Figure 36: RWSS Ecological mapping at dam site. Beech, Podocarp and Kowhai groves in gorge.

Research undertaken for the RWSS found a range of indigenous vegetation types in the upper gorge, including Black Beech Forest, Mountain Beech Forest, Podocarp Broadleaf Forest, Broadleaf Forest, Kowhai-Broadleaf treelands scrub/tussockland and Broadleaf small leaved monocot scrub/cliffland. Aspects of these vegetation types are expected to occur through the gorge. An ecological assessment of the entire gorge length is expected to find it to be a Significant Natural Area that would warrant recognition under RMA s6(c).

The Protected Natural Area Programme (PNAP) undertaken by DoC in 1994 recognised the Smedley Bluffs (RAP 25), being bush covered escarpments on the northern side of the river just downstream from the gorge, noting the podocarp species and other native vegetation.

Hydrological

The river carries rainfall from the headwaters in the Ruahine Ranges and flows at approximately 1.23m^3/sec MALF. The site of the previously proposed and currently consented Ruataniwha Water Storage Scheme dam is at the upper end of the gorge. If built, it would lead to flooding of the upper 1/3 of the gorge and the valley beyond that, plus spillway earthworks for 500m downstream of the dam.

Perceptual

Memorability

Memorable landscape due to the scale and length of the incised river gorge. The Mākāroro Gorge is memorable for its depth and tall escarpments, with the incised landform with its meandering patterns and remnant oxbows etched into the eroded terrace surface, having a high degree of naturalness that distinguishes it from its immediate more modified surroundings, adding considerably to memorability. The presence of native vegetation reinforces this memorability. The sense of enclosure and intimacy plus a sense of grandeur combine to make this river section highly memorable.

Legibility/Expressiveness

An expressive meandering pattern resulting from the river's erosive action through the sandy mudstone conglomerate and alluvial terraces. Clear evidence of the erosion process of the river eating into the surface material and forming depressions and incised patterns.

Figure 37: Incised gorge with areas of beech and podocarp forest

Transient

The river valley has its own microclimates, with the gorge characterised by heat in the summer, cold in the winter, and high waters during heavy rain periods throughout the year. Home for birdlife and song and the sound of flowing water are all characteristics of this section of the river.

Aesthetic

Extensive indigenous vegetation throughout the valley system has a high degree of coherence and reinforces its vividness both as a feature and in harmony with the natural meanders of the river. The river follows a narrow incised valley that contrasts with the intactness of the terraces it crosses, being clearly expressive of the solidity of the underlying geology.

Figure 38: Incised gorge with broadleaf vegetation

Naturalness

A high degree of perceived naturalness in the gorge with presence of native vegetation. The density and extent of indigenous vegetation that clothes the incised river valley contributes to its assessment as an Outstanding Natural Feature, coupled with the deep gorge landform being two factors that contribute to the outstanding assessment.

Associational

Shared/Recognised

Tributaries and the spiritual and ecological health are valued by Māori for its Mauri. The source of water was valued for its irrigation potential as part of the RWSS and for the significant investment put in by the Regional Council and community. These rivers feed the aquifers, which flow under the Ruataniwha Plains, so have long term values associated with that.

Historical

In the 1920s, a milling operation was based at Mākāroro River approximately 3km upstream of the ONF area. The mill ran for 25 years, cutting podocarp from the local area. The Gardner and Yeoman's Mill was located at the present Mākāroro River carpark. A timber mill also operated from near the end of North Block road from 1930 for 12 years.

A number of tracks were utilised by the people of Heretaunga Tamatea in times of peace and war to cross from one side of the Ruahine Range to the other. One was known as Te Atua-o-Mahuru. From the western side it ran from Te Awarua and came out on the eastern side at the headwaters of the Mākaroro Stream and followed the stream down to the Ruataniwha Plains.

William Colenso used the river to access this crossing of the Ruahine Ranges. The route he followed is marked on NZ Topographical maps as Colenso Spur and Colenso Spur Track, both of which connect with the upper reaches of the Mākāroro River. A memorial to Colenso is located within the Forest Park on Colenso (Sparrow Hawk) Spur above the Mākāroro River.

Figure 39: Colenso Memorial on spur above Mākāroro River. Route shown to him by Māori to cross the Ruahines

Tangata Whenua

Motu o Puka Pā was located on the north bank of the river channel 2.2km (4.2km as the river flows) downstream of the ONF. This pā was under the leadership of chief Tuawāhia whose influence spread right down to Rakautatahi Marae just south of Takapau (on Snee Rd at the junction with SH2).

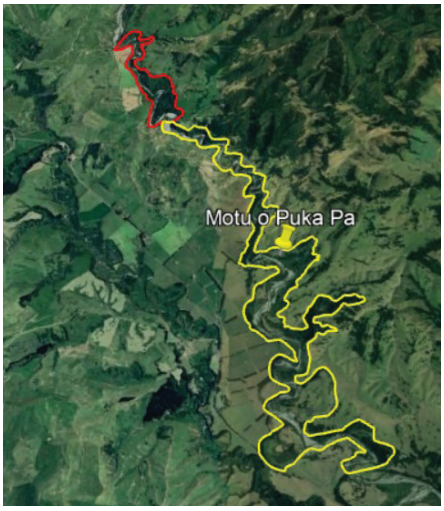


Figure 40: Motu 0 Puka Pā on Mākāroro River.
Red = ONF (Outstanding Natural Feature)
Yellow = SAF (Significant Amenity Feature)

Tamakiuru and Amiria lived at Rakautatahi. Amiria was take prisoner at Te Ruru in Manawatū by Ngāti Kahungunu and taken to Wairoa. Karena was born there. Te Rere lived at Motu o Puka (near the headwaters of Waipawa) and at Rakautatahi, as well as at Te Kehou where they had a burial ground. Their chief was Tuawāhia.

Motu o Puka was not a defensive pā but was located at the meeting point of two walking routes around the Wakarara Range (alternatively named Ngawhakarara). One was around the western side, which now is generally aligned with Mangleton and Mākāroro Roads, while the other was around the eastern side from Ngaroro. The western route would traverse along the edge of the Mākāroro ONF to the pā site.

Figure 41: Motu 0 Puka Pā on Mākāroro River.
Red = ONF, Yellow = SAF, Grey = Western walking route

The Heretaunga Tamatea Deed of Settlement identified matters discussed below as associated responsibilities and matters of cultural significance.

Reference to the Tukituki River Catchment Cultural Values and Uses (HBRC report June 2012) clarifies and defines key Māori environmental cultural values and their application within the Tukituki River catchment, as follows: (such values would also apply to the catchments referred to below in the Deed of Settlement).

"Mauri is the life essence of nature itself on this planet" Hodges (1992). When mauri is extinguished within a species, the result is extinction because the natural restorative and regenerative powers are lost. Of absolute importance to Ngāti Kahungunu is the preservation and protection of mauri. Ensuring the preservation and protection of mauri is to provide for conservation of bio-diversity. The outcome will ensure the restoration and regeneration of ecosystems. Mana whenua as kaitiaki seek to sustainably manage all taonga species within the Tukituki River catchment. This is expressed through the cultural value of mauri that seeks to enhance the life force principle included in people, fish, animals, birds, forests, land, seas, rivers, biodiversity and ecosystems.

The Tukituki river flows ki uta ki tai – from the mountains to the sea – from its headwaters in the Ruahine Ranges, downstream through the Ruataniwha Plains and lowland mouth and coastline at Haumoana. From the headwaters of the upper Tukituki tributaries which cross the Ruataniwha Plains are: the Mākāroro, Waipawa, Mangaroa stream, Kahahakuri stream, Mangataura stream, Mangaonuku stream, Tukipo, Maharakeke, Ngahape stream, Pōrangahau Stream, Mangatewai River, Mangapohio stream, and Makāretu River.

All the Tukituki tributaries, rivers and streams will have an influence on the overall ecological health of the catchment. Therefore, these tributaries are considered in terms of their relationship to cultural values, their mauri and the cumulative effects on the whole ecosystems and ecological health state of the Tukituki River catchment.

Reference to the Tukituki River Catchment Cultural Values and Uses (HBRC report June 2012) clarifies and defines key Māori environmental cultural values and their application within the Tukituki River catchment, as follows: (such values would also apply to all the catchments referred to above in the Deed of Settlement and others referred to in this landscape assessment).

This underpinning philosophy is enshrined in the recent Heretaunga Tamatea Deed of Settlement, where the Pōrangahau/Tāurekaitai River, Waipawa River, Tukipo River and Tukituki River and its tributaries were given Statutory Acknowledgement and Crown acknowledged that—

(a) the lakes, rivers, springs, and wetlands of Heretaunga Tamatea, such as Whatuma, Runanga and Poukawa, the Tutaekuri, Ngaruroro, Maraetotara, Tukituki, Waipawa, Makāretu, and Pōrangahau / Taurekaitai Rivers, and the Pekapeka swamplands are mahinga kai that are central to the well-being of the hapū of Heretaunga Tamatea; and

(b) the loss of traditional lands has limited the ability of the hapū of Heretaunga Tamatea to access these waterways, to gather traditional foods, and to provide the manaakitanga that is intrinsic to Heretaunga Tamatea; and

(c) the modification and degradation of the Heretaunga Tamatea environment due largely to the introduction of weeds and pests, farm run-off, industrial pollution, and drainage works has severely damaged traditional food resources and mahinga kai.

The Act provides for cultural redress, including:

Cultural redress that does not involve the vesting of land, namely,—

(i) a statutory acknowledgement by the Crown of the statements made by Heretaunga Tamatea of their cultural, historical, spiritual, and traditional association with certain statutory areas and the effect of that acknowledgement, together with deeds of recognition for the specified areas; and statutory acknowledgement provides for;

The only purposes of the statutory acknowledgement are—

(a) to require relevant consent authorities, the Environment Court, and Heritage New Zealand Pouhere Taonga to have regard to the statutory acknowledgement, in accordance with sections 24 to 26; and

(b) to require relevant consent authorities to record the statutory acknowledgement on statutory plans that relate to the statutory areas and to provide summaries of resource consent applications or copies of notices of applications to the trustees, in accordance with sections 27 and 28; and

(c) to enable the trustees and any member of Heretaunga Tamatea to cite the statutory acknowledgement as evidence of the association of Heretaunga Tamatea with a statutory area, in accordance with section 29.

Key Characteristics

Very high landscape values contributed to by the remnant and regenerating indigenous vegetation cover in combination with the eroded valley landform pattern. Contrast with the surrounding areas of pastoral land increases the value of such remnant areas of vegetation and meandering valleys. Historic and cultural values, with the Mākāroro River forming the walking route for Colenso and Māori travellers passing through Motu o Puka Pa. Cultural values of the river's Mauri and as a tributary to the Tukituki River and those associated Deed of Settlement responsibilities.

Potential Issues

Clearance or degradation of native vegetation throughout any part of the area. Damage to flora and fauna by pests or grazing animal. Establishment or spread of exotic plants within the areas and along stream margins. Large scale earthworks and built development.

Potential Response

- Maintain and enhance indigenous vegetation throughout the ONF.
- Restrict earthworks
- Discourage establishment or spread of exotic plants
- Limit built development
- The river system has great significance to iwi, particularly the river itself for the mauri it brings. See details on the Deed of Settlement for associated responsibilities and cultural significance.

Figure 42: Aerial photo looking northeast into Mākāroro Gorge

Three Sisters and Te Whata Kokako

Identification:
Outstanding Natural Feature (ONF)

Location:
NZ Topo 50 – BL37,

Description
Group of seven uplifted tilted limestone cuesta hills with classic exposed limestone crust

Natural Science
Geological/Geomorphological

The central area of CHB was formed from old seabed sediments overlaid with sandstone, mudstone and pebbly limestone conglomerate to the east, while the Nga-Kaihinaki-a-Whata Range itself appears to be Whetukura (yellow-grey) Limestone. This limestone layer appears throughout the central area in the form of cuesta ridges, being tilted limestone edges, exposed to the east and tilting more gradually to the west. The exposed limestone edge is prone to erosion, creating a steep eastern facing slope of rockfall and finer colluvium. These formations are a distinctive characteristic of the central area of CHB, contributing strongly to the landscape character and its associational values due to the pronounced landform and clearly discernible geology.

The Three Sisters at the northern of Nga-Kaihinaki-a-Whata Range and Whata Kokako at the southern end are the two most distinctive elements within this formation, warranting their recognition as Outstanding Natural Features.

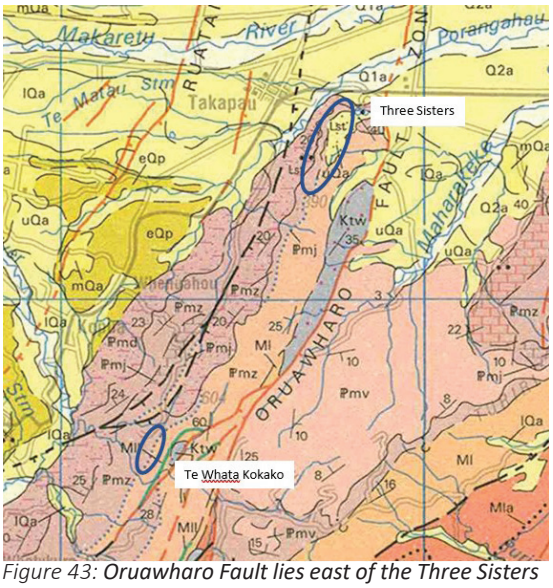


*Figure 43: **Oruawharo Fault lies east of the Three Sisters (northern blue oval) and Te Whata Kokako (southern blue oval) and a splinter fault lies to the west, potentially tilting and uplifting the landform. Nga-Kaihinaki-a-Whata Range links the two.***

The current formations were potentially caused by movement of the active Oruawharo Fault to the east, with downthrown movement, and the remnant splinter fault along the western edge of the feature also with downthrown movement along that edge.

Figure 44: Looking south along Pōrangahau Stream and the Three Sisters. Oruawharo Fault lies east of the sisters and a splinter fault lies to the west tilting and uplifting the landform.

Figure 45: Looking north along Nga-Kaihinaki-a-Whata Range and the Whata Kokako. The high point of Rangitoto lies just beyond and to the east. Oruawharo Fault lies east of Whata Kokako and a splinter fault lies of this (green on geology map figure x) to the west, tilting and uplifting the landform and creating the sharp valley east of prominent feature

These tectonic movements in close proximity appear to have uplifted and perhaps compressed the intervening terrain, causing the characteristic tilted limestone plates that rise towards the east, then erosive actions have created the seven individual features.

Colluvium has been deposited as smooth fans on the eastern face (frontslope) as erosion has eaten away at the high edge of the exposed tilt (backslope). Rockfall has also occurred, leaving the clearly seen boulder field across and below these colluvial fans. (Interpretation of GNS Geological Map 8, 1:250,000)


Three Sisters & Te Whata Kokako
1:20,000

Ecological

It appears that the land cover to the east of the Three Sisters was tussock grass and fern at the time of sale of the Waipukurau Block in 1851. A large bush block, known as Seventy Mile Bush, lay to the southwest, running right down to the Manawatū Gorge and Wairarapa. The northern edge of Seventy Mile Bush followed an east - west line that extended west from Takapau for a distance of approximately 7km, generally parallel to the present SH2. In his book Forests of Yesterday, PJ Grant states the following (p160):

'*Takapau Pā was located 1km southwest of present day Takapau, and along the eastern boundary of the Seventy Mile bush for a distance of 6km, there were 7 pā and about 10 settlement sites. It is interesting that there was an abundance of Māori sites along what we know to have been the boundary of the Seventy Mile Bush, and also in clearings within the bush proper. These boundaries had therefore been established before Māori arrived (c.1525 AD). They resulted from gales and fire.*'

This interpretation is supported by the research of Patrick Parsons in describing the land applications by run holders in the Hapūku (Waipukurau) Block. It appears that the area covered by the Three Sisters fell just outside the southwest corner of the Hapūku Block and lay in the 7,200 acre area known as the Aorangi Block. The western boundary of the Aorangi Block appears to have followed

Figure 46: Seventy Mile Bush extends south from Takapau and appears to lie just west of the Three Sisters

the eastern edge of Seventy Mile Bush, which would locate the 3 Sisters in more open country and beyond the density of the podocarp forest. However, remnant forest vegetation of totara and kahikatea are located on the flats east of Paulsen Road and totara is growing on the eastern face of Puketotara (site of Te Hore Hore Pa).

The Takapau area was settled by Whata (born 1500) whose son Whatonga named Seventy Mile Bush as Te-tapere-nui-o-Whatonga. This refers to the abundance of birds in the forest and the shelter from the winds.

Figure 47: Topo map showing Pōrangahau Stream to the west and Awanui Stream to the east of the Three Sisters, both of which flow into the Maharakeke Stream.

Figure 48: Remnant native bush by Paulsen Road west of the 3 Three Sisters, perhaps the eastern edge of what was once Seventy Mile Bush

Hydrological

Runoff from the eastern slopes generally feeds into the Awanui Stream, although two watercourses flow west between the hills. The Awanui Stream flows into the Maharakeke Stream. The Maharakeke formed the western boundary of the original Hapūku Block. Runoff from the western slopes are tributaries to the Pōrangahau Stream which also flows into the Maharakeke which then joins the Makāretu then Tukipo then Tukituki River. What appears to be a water storage dam is located to the northeast beyond the landform of the Three Sisters, plus several to the east.

Perceptual

Memorability

Memorable as a clearly defined geological feature representative of the limestone belt that runs north-south through Central Hawke's Bay. Limestone outcrops are a distinctive element of the District's landscape, with the Three Sisters being particularly memorable due to their repetitive linear rounded pattern and distinctive titled cuesta landform.

Legibility/Expressiveness

Recognisable for its distinctive form which is representative of the geological evolution of this part of the Ruataniwha Plains. Very clearly legible due to their classic cuesta form which is expressive of their uplifted formative process. Made more memorable by the cuesta's separation into a series of distinct hills, each with the classic tilted smooth western side slope then exposed limestone crust atop a steeper eroded eastern facing slope. Exposed rocks from the limestone crust that have fallen away and lie on the sides and eastern faces of the Three Sisters and Whata Kokako.

Figure 49: Exposed rocks from the limestone crust lie on the sides and eastern faces of the Three Sisters.

Figure 50: Exposed rocks from the limestone crust lie on the top and eastern face of Te Whata Kokako

Transient

Light and shade changes highlight the landform through the day, colour variations highlight their form and the rock fields through the seasons.

Aesthetic

High aesthetic value due to the legibility of the landform, the expressiveness of the formative processes, the clarity due to the pastoral land cover, and the simplicity due to the unmodified and repetitive form. Lack of trees, buildings and disturbance from earthworks significantly contributes to the high aesthetic values.

Naturalness

Natural in terms of grass land cover, which has predominated for the last hundred plus years, although what is now currently grazed would have been wilder in those times with grass and ferns likely to have been the main cover. Very high perceived naturalness in terms of landform. An absence of buildings and modifications to the landform by earthworks contributes to naturalness.

Associational

Shared/Recognised

Well known locally and often referred to as a landmark. Included within a Rotary organised event called Sea, Sky and Bush Walk, which attracted 200 walkers from around NZ and overseas. Known to have been used as a setting for celebration photography, such as weddings. Significant Māori values as old pā site.

Recreational

Located on private land so recreational opportunities are unknown.

Historical

Colloquially recognised as a local landmark, with reference to the seven hills commonly known as the Three Sisters. The second most northern hill has three parts, with this being known as the three sisters, but the collection of seven hills takes on the same name.

Tangata Whenua

One of the earliest pā sites in the Takapau district to be recorded was the Horehore Pā and was associated with the Ngāi Tahu people for many generations. The pā was located on a high ridge, on a peak of the limestone range called Ngā-Kaihinaki-a-Tarawhata (also referred to as Ngā-kaihinaki-a-Whata). The pā is located on Rangi-tapu-a-Whata, being a limestone peak in the middle of a row of seven peaks (but collectively referred to by Europeans today as the Three Sisters).

Figure 51: Ngā-Kaihinaki-a-Tarawhata Range, with Horehore Pā on middle hill.

Figure 52: Horehore Pā (Left), Puketotara (Right)

Ngāi-Tahu have been settled in the area since 1525, coming from Poverty Bay before the time of Taraia's (of Ngāti Kahungunu connection) migration into Heretaunga from the same area.

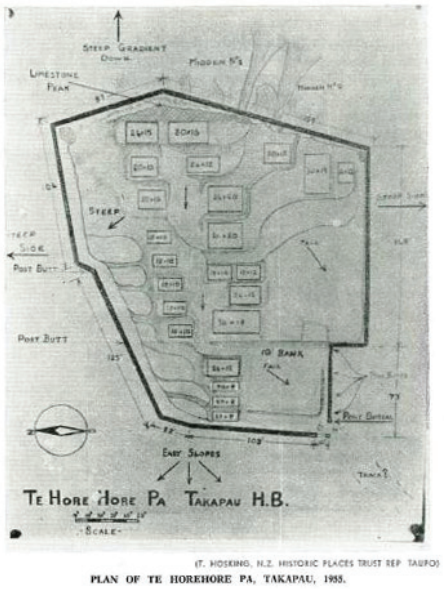
Whata was a renown chief who had settled in Takapau in the 1500s. The origin of Whata was Pou-heni, who was a son of Paikea from Poverty Bay. In the early 1500s, Whata and Tongo-whiti battled over the eels at Lake Whatuma, "...there grew up a quarrel between him and Tongo-whiti (of the Rangitāne tribe established in the area) about the Whatu-ma Lake." The mana of the hapū Te Aitanga-A-Whata was established when Whata won the battle and settled in Takapau and the hills east of Takapau were named Ngā-Kaihinaki-a-Tarawhata.

Whata's son, Whatonga was the great great grandfather of Rakai-maro, who married Hine-rau-te-kawa of Rangitāne tribe about 1675. This formed a junction between Rangitāne and Te-Aitanga-a-Whata, who were Whata's descendents. They were now all permanent residents and lived as one people. Horehore Pā (Te Horehorenga-a-Whata) was built about this time.

Horehore was cantral to the land gifting, skirmishes and marriages between hapū which determined the permanent occupation of this area down to the present day. The names of the tribes who lived permanently at Horehore were Ngāi Tahu Makakanui, Ngāi Toroiwhaho, Ngāi Kirikirioterangi who all identify as Ngāti Kahungunu.

Horehore Pā withstood several attacks, one in 1820 from tribes in the north (Ngāti-Paoa and Ngāti-Maru from Thames and Ngā-Puhi). Soon after, another war party of Tangi-te-ruru came. After attacking and several days of siege they set up on the hill just 200m to the south, Puena, but failed to take Horehore.

The layout of the pā was explored by two excavations in 1955 by TJ Hosking. This is shown below, siting on the upper reaches of Puketotara. Middens were located on the slopes of the eastern escarpment, while the entrance was at the soutwest corner on the downhill slope facing Takapau. A skeleton of woman and child were found near where the main base of the right hand gatepost, believed to have been sacrificial for protection of the pā as practiced by Māori of the Early Settlement Period.



(T. HOSKING, N.Z. HISTORIC PLACES TRUST REP. TAUPO)
PLAN OF TE HOREHORE PA, TAKAPAU, 1955.

Figure 53: Layout of Horehore Pa.

The right hand gate post of a pā is to the tribe what the Union Jack is to the British or the Stars and Stripes is to the Americans (Takapau- The Sovereign Years 1876-9176, Warren Bayliss p154).

Figure 54: Map of Horehore Pā overlaid on hillside

At the top of the pā lie a large group of limestone boulders called Te-toi-a-Uru, which is the titi or toi of the pā, where the old chiefs assembled to discuss questions of importance to the tribe. When visited in 1904, the journal of Polynesian Society (No 58, June 1906) records that a few remains of old totara palisades could also be seen, and that the people in the pā collected their water from streams passing between the hills now known as the sisters. These would possibly have been streams feeding the Pōrangahau Stream, which flows along the western edge of Pukutotara.

Figure 55: Te-toi-a-Uru, which is the titi or toi of the Pā where chiefs gathered to discuss important matters

Runoff from the eastern slopes feeds the Awanui Stream which then flows into the Maharekeke Stream. Runoff from the western slopes flows are tributaries to the Pōrangahau Stream which in turn joins the Makāretu then Tukipo then Tukituki River.

Both the Maharakeke Stream and its tributaries (OTS-110-26) and the Pōrangahau River (OTS-110-32) are 'Areas referred to in the Deed of Settlement between the Heretaunga Tamatea and the Crown.'

The responsibilities this entails are discussed under the Cultural section above, where the purpose of Statutory Acknowledgement is outlined and the responsibilities this imposes on consent authorities. According to Māori narratives and oral history, the plains were once covered by a large lake which was the lair of two enormous taniwha, hence the name Ruataniwha (the lair of the taniwha). These taniwha described as water dwelling creatures who regarded the Māori living around the lake as a source of food.

The kōrero goes on to say that one of those Taniwha was Te Awa o Porirua. Te Awarua o Porirua was being pursued up and down the country and was finally slayed by our eponymous ancestor Tara at Te Roto a Tara.

At the bottom of Pukeora Hill, going toward Tikokino over in the corner where the Makāretu, Manga-te-wai-iti, Tukipo and Tukituki meet. In periods of flood these waters contributed to Te Roto O Whatuma. The other taniwha left was Te Uma O Pua and so went into its abode (between the golf course and Takapau).

The original taniwha lair at Ruataniwha can still be seen from the eastern side of Speedy Road near Takapau and is considered highly tapu. Another tradition concerning the taniwha which survives to this day is a howling noise from the taniwha which rises in the Ruahine ranges beyond Rakautatahi. When this phenomenon is heard to the west, a strong wind usually arrives in Waipukurau within a short period of time and is likened to the surviving taniwha crying for its mate (Parsons, 1999)

Figure 56: Te Whata Kokako Pā site

At the southern end of the range known as Ngā-Kaihinaki-a-Tarawhata is the tilted rock face and rock field that rises up north of the Waikopiro Stream which lies on the CHB/Tararua District Boundary. On the top of the tilted rock face sits Te Whata Kokako Pā, high on the rock field and in a defensive position. (Pers Comm P Parsons 7-8-18).

Key Characteristics

High aesthetic values of legibility and naturalness with an unbuilt landform that is clearly expressive of its geological origins, with perception of this being greatly assisted by the pastoral cover, lack of trees or buildings or earthworks.

The extremely high cultural values related to Horehore Pā and association with this area for 500 years by Māori.

The highly legible tilted landforms and cuesta formations with their limestone edges and rockfield are clearly expressive of past uplift and geological processes.

Potential Issues

Screening or modifications to the land form. This may occur through activities such as planting of pine plantations or tree cover, buildings or earthworks. In this situation it is desirable that a pastoral land cover is maintained as it allows appreciation of the landform, historic elements and geology.

Activities that adversely affect the cultural values or wairua and mauri of the sites should be avoided.

Potential Response

- Maintain pastoral land use
- Discourage earthworks
- Discourage establishment or spread of exotic trees
- Discourage built development
- The hills have significance to iwi, particularly the pā site. See details on the Deed of Settlement for associated responsibilities and cultural significance.

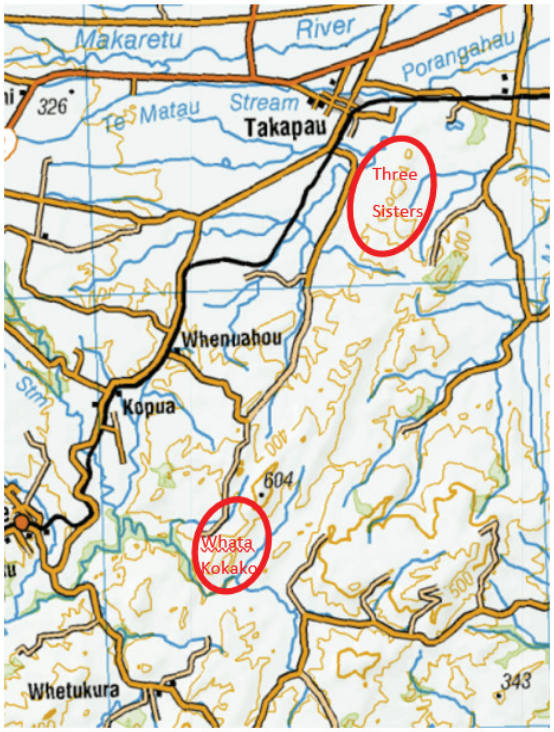


Figure 57: Three Sisters and Te Whata Kokako ONF topo

Figure 58: Aerial oblique photo of Te Whata Kokako ONF looking west

Figure 59: Aerial oblique photo of Te Whata Kokako ONF looking east

Figure 60: Aerial oblique photo of Te Whata Kokako ONF looking north

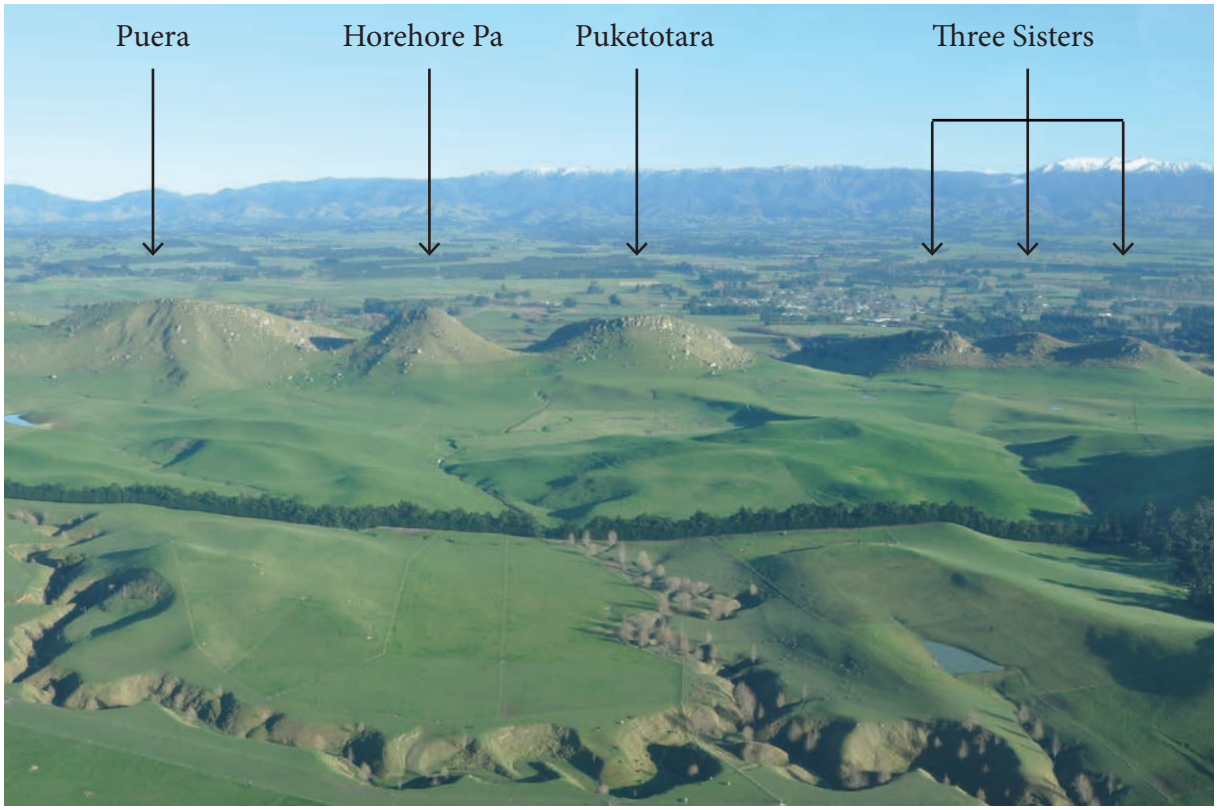


Figure 61: Aerial oblique photo looking west over Three Sisters ONF