Both Pākawau Inlet and Pūponga Inlet are listed in the Tasman Resource Management Plan as Areas with Nationally Important Ecosystem Values. Of importance are the estuarine areas and the presence of relatively intact saltmarsh. The saltmarsh at Pākawau Inlet provides habitat for banded rail, spotless crake (*Porzana tabuensis*) and South Island fernbird (*Bowdleria punctata*). The saltmarsh at Pūponga Inlet provides breeding habitat for Australasian bittern and banded rail (Tasman District Council, 2014). Taupata Creek and Pākawau Inlet are also important shorebird roosting sites; Pākawau Inlet is considered a site of international importance for South Island pied oystercatcher. Despite its importance, the Pākawau Inlet roost site is subject to heavy disturbance, particularly over the Christmas and New Year period, from people, dogs and off-road vehicles (Schuckard & Melville, 2013).

The Puponga Coastal Terrestrial Area has high lizard diversity. There are records for six species of lizards including, Nelson green gecko (this Coastal Terrestrial Area is a hotspot for one morphological variant of this species), Raukawa gecko, forest gecko, northern grass skink, brown skink and speckled skink (*Oligosoma infrapunctatum*).

The Pūponga Coastal Terrestrial Area includes the lower extents and mouths of a number of waterways. Water quality is expected to be good due to the upper catchment being forested, but the lower reaches are generally within farmland cleared of native vegetation. Some nutrient input is likely in the lower catchment and Coastal Terrestrial Area given that land use is predominantly agriculture. Waterways can have low flows and poor water quality, with extremely low dissolved oxygen levels and high cover of filamentous algae in the summer months (James & Kroos, 2011). Within the Coastal Terrestrial Area riparian trees are limited. The waterways support At Risk freshwater fish species, including longfin eel, kōaro, inanga and giant bully. Other species (Not Threatened) include banded kōkopu and common and redfin bully. Waterways such as Taimatea, Pākawau and Onetaua Creek are known to provide important inanga spawning habitat.


Giant Bully. Boffa Miskell.

Experiential

The Pūponga Coastal Terrestrial Area is easily accessible from Collingwood Pūponga Main Road. The road extends the length of this Coastal Terrestrial Area passing features such as the Pākawau Inlet and connecting travellers to Cape Farewell and the Whanganui Inlet.

Within this Coastal Terrestrial Area there are two small settlements which are situated near the Pākawau and Pūponga inlets including Pākawau, and the largest, Pūponga. Both are located on the coastal edge and overlook Tasman Bay.

Pūponga retains large areas of agricultural land and acts as a gateway to attractions further north. Access to the beach at Pūponga is possible, however this is not commonly used by swimmers due to the muddy intertidal flats which extend at least 1 kilometre offshore.

Level 3 Rating: Coastal Terrestrial Area 5: Puponga

DEGREE OF NATURAL CHARACTER	NATURAL CHARACTER ATTRIBUTES		
	ABIOTIC	BIOTIC	EXPERIENTIAL
VERY HIGH			
HIGH			
MODERATE TO HIGH			✓
MODERATE	✓	✓	
MODERATE TO LOW			
LOW			
VERY LOW			
OVERALL NATURAL CHARACTER RATING	MODERATE		

Right: Coastal dunes near Tomatea Point. Boffa Miskell, 2019.

Pūponga Inlet

Port Pūponga

Taupata Stream

Te Rae Foothills

Buklowski covenant

Legend

Character Rating

- High Natural Character
- Very High Natural Character
- Coastal Terrestrial Areas
- Adjacent Coastal Marine\Terrestrial Areas
- Marine Reserves
- Regional Council Boundary

0 1.2 km

1:50,000 @ A3

Data Sources:
Topo maps sourced from LINZ topo 50 and 250 map series
Projection: NZGD 2000 New Zealand Transverse Mercator

Figure 22: Areas of High and Very High Natural Character within the Pūponga Coastal Terrestrial Area. (Level 4)

Coastal Terrestrial Area 5: Pūponga

SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 22

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
PORT PŪPONGA	H	H	H	H	• Underlying geology (sandstone and gravel) remains largely unmodified • Intact area containing both primary and secondary indigenous forest • Sheltered experiences and vViews of and Golden Bay	• Some houses and roads are included
PŪPONGA INLET	VH	VH	VH	H	• Underlying geology remains largely unmodified • Intact and contiguous broadleaved – hardwood forest dominated by kānuka (*Kunzea ericoides*) near the coast. • High level of intactness and sense of naturalness	• Overlooks the township of Pūponga
TAUPATA STREAM	H	H	H	MH	• Underlying geology remains largely unmodified • Intact sequence of mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea ericoides*) • High naturalness values	• Neighbouring land use includes pastoral land
TE RAE FOOTHILLS	VH	VH	VH	H	• Unmodified underlying geology formed from Paleogene sandstone • Upper reaches part of the Kahurangi National Park • Intact area containing both primary and secondary indigenous forest • Extensive views of Golden Bay	• Overlooks pastoral land below
BUKLOWSKI COVENANT	VH	VH	VH	H	• Unmodified underlying geology of Late Pleistocene gravels • Intact area of primary lowland alluvial forest • QEII Covenanted • High naturalness values	• Unmodified but surrounded by farmland

Label: VH=Very High; H=High; MH=Moderate High; M=Moderate; ML=Moderate Low; L=Low; VL=Very Low.

Above: Parapara Inlet and the southern area of Milnthorpe Scenic Reserve. Boffa Miskell, 2019.

5.11. Coastal Terrestrial Area 6: Collingwood

The Collingwood Coastal Terrestrial Area extends from Tamatea Point in the north to just west of Rangihaeata Head in the south. This section of the Tasman coastline is characterised by long sweeping sandy beaches, flat open areas of pasture, and numerous lagoons and tidal inlets.

Key coastal characteristics include: The Ruataniwha, Parapara, and Rangihaeata Inlets, and geopreservation sites such as Rangihaeata fossil forest, and the Aorere River Delta. This section of the Tasman Coastal Environment is settled with a range of small towns such as Collingwood, Parapara and Patons Rock and extensive areas of farmland.

The inland extent of the Coastal Environment has been defined using the Ridgeline Principle, Vegetation and Land Use Principle, and Coastal Hazard Principle. This includes the coastal hills which overlook the Collingwood Coastal Terrestrial Area and areas within the coastal hazard inundation zone such as the Aorere River, Glen Gyle Creek, Ōtere River and Ōnehau River. This zone demonstrates the potential extent of inundation during storm tide events using today's predictions.

The Coastal Context for this Coastal Terrestrial Area includes the Kahurangi National Park and the Aorere River Valley. The Aorere River Valley is largely developed with exotic pasture and farmland however closer to the river and its tributaries, patches of mānuka (*Leptospermum scoparium*), kānuka, and broadleaf species are present. The valley is nestled below the Kahurangi National Park which forms the majority of the Coastal Context. The Heaphy Track, one of New Zealand's Great Walks also ends at the top of the Aorere Valley.

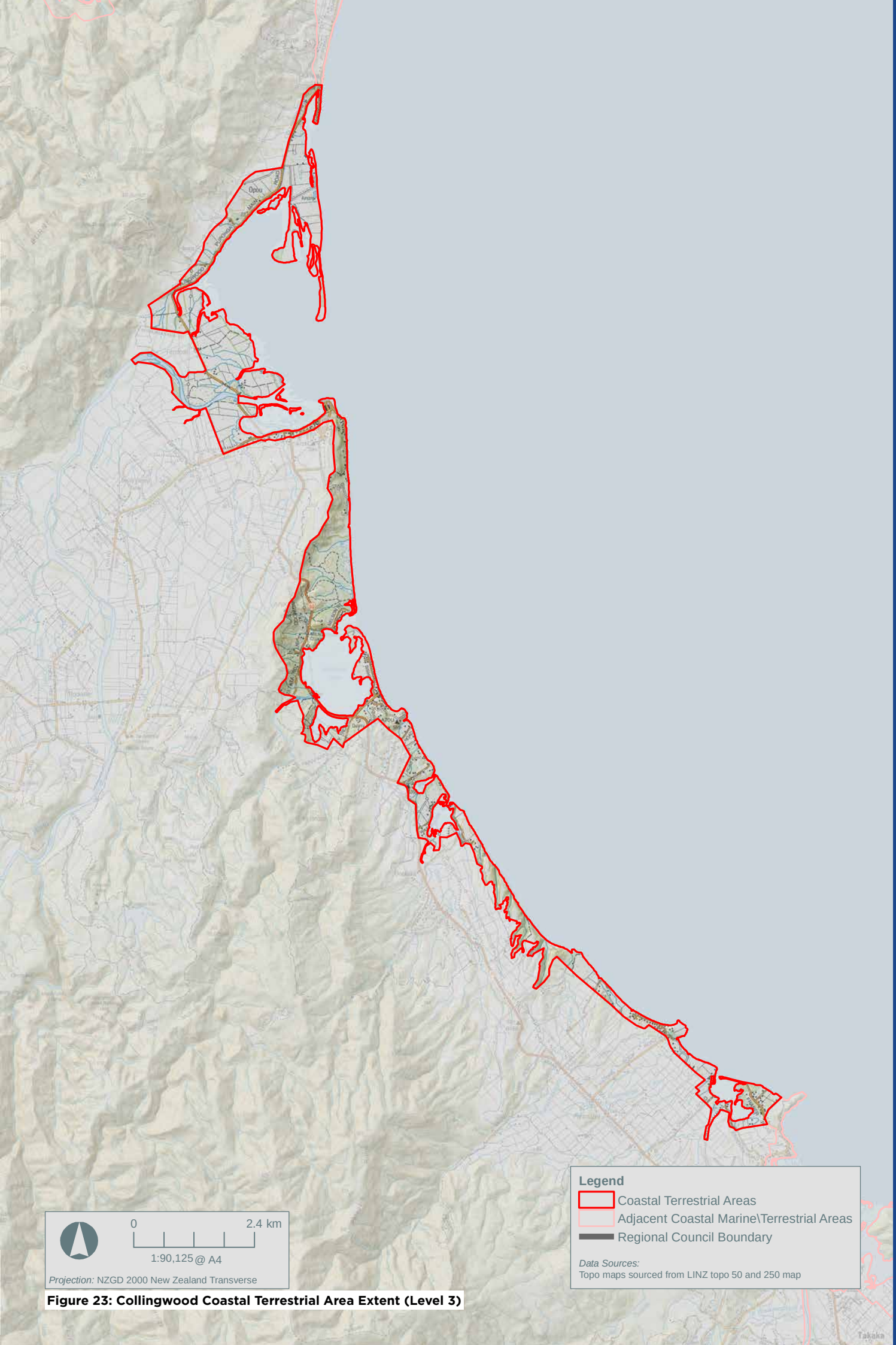


Figure 23: Collingwood Coastal Terrestrial Area Extent (Level 3)

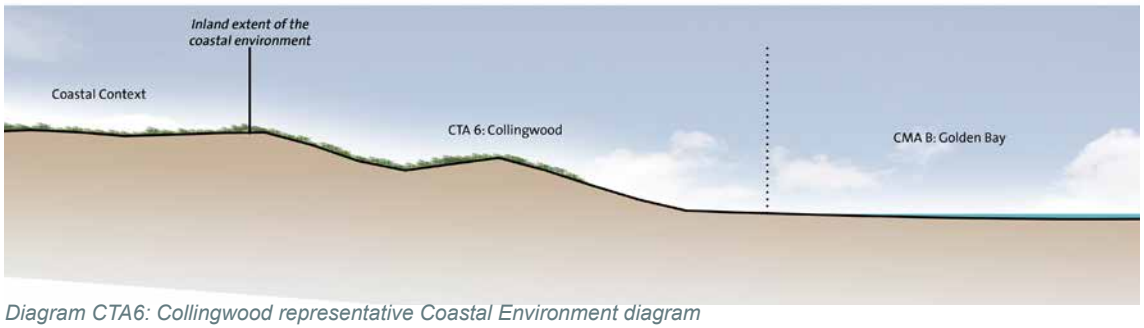


Diagram CTA6: Collingwood representative Coastal Environment diagram

Abiotic

The underlying geology of this Collingwood Coastal Terrestrial Area is formed from siltstone, sand, and gravels and is characterised by the Aorere River Valley and the Golden Bay coastal edge. There are two Geopreservation Sites within this Coastal Terrestrial Area including the nationally significant Parapara Quarry tourmaline, and regionally significant Aorere River Delta. The Parapara Foothills also consist of a limestone karst field from hillslope to shoreline with outcrops, caverns and sinkholes.

Being sheltered by Burnett Range and eastern Kahurangi National Park the Collingwood Coastal Terrestrial Area contains narrow sweeping sandy beaches which stretch the length of the coastline. Much of this coastline is characterised by estuarine environments, with Ruataniwha Inlet being the largest followed by the Parapara Inlet further south. These environments have been largely developed around the edges of the inlets for farming or residential settlement, causing increased levels of sediment.

Accretion has resulted in the creation of a large coastal estuary and tidal flats at the mouth of the Aorere River mouth. Sandbanks have also naturally built up in front of Totara Avenue adjacent to the rock revetment (Schuckard & Melville, 2019).

The main waterway in the Collingwood Coastal Terrestrial Area is the Aorere River, which discharges into Ruataniwha Inlet in Golden Bay Coastal Marine Area. Other larger waterways include Parapara, Onekaka, Otere and Pariwhakaoho Rivers. There are also a number of small waterways within the Coastal Terrestrial Area. The waterways are variously modified through bridges and culverted road crossings, however, are thought to remain largely intact (James & Kroos, 2011). The lower reaches can have moderate levels of fine sediment in the beds. Coastal protection measures are common along the Totara Avenue sandspit, the Ruataniwha sandspit, at Collingwood and Gibbstown, and in discrete areas along the coastal road network north of Collingwood (continuous or intermittent rock revetment is present) (Tasman District Council, 2019). There is also a causeway across Parapara Inlet (Stevens & Robertson, 2015).

The Collingwood Coastal Terrestrial Area is one of the wetter areas within the Tasman District being within the vicinity of the Kahurangi National Park. Average yearly rainfall is 3,000 mm, while annual sunshine hours are 2,000. The average annual temperature in summer is 22°C while in winter this drops to 4°C.

Biotic

The total land area within the Collingwood Coastal Terrestrial area is 1,652 ha, of which 47.8% is pasture, 15.6% is native forest, 15.3% is native shrubland, 7.7% is exotic forest, 5.4% is native wetland, 2.8% is water bodies, 2.8% is artificial surfaces, 1.2% is bare or lightly-vegetated surfaces, 0.6% is cropland or horticulture, 0.6% is exotic scrub, and 0.2% is flaxland.

Only 2% of this Coastal Terrestrial Area is formally protected. The Collingwood Scenic Reserve and a 5.4 ha QEII Open Space Covenant protects coastal vegetation, including rare coastal forest remnants, on the Aorere River delta. There are several other QEII Open Space Covenants within the Coastal Terrestrial Area along the coast south of Collingwood.

The vegetation of the Ecological District and Coastal Terrestrial Area was originally dominated by podocarp forest, with totara (*Podocarpus totara*) dominant on drier alluvium, sometimes with black beech, and kahikatea (*Dacrycarpus dacrydioides*) swamp forest in wetter areas, associated with pukatea. Northern rata occupied coastal and lower limestone areas. Towards the coast open flax and cabbage tree swamp was common. Wetter terraces with podsolized soil supported pakihi shrubland and forest with rimu and silver pine. Red, hard and black beech with rimu occurred over the lower slopes of the drier hills (G. Walls & Simpson, 2004).

Almost the entire Coastal Terrestrial Area has been cleared of its original vegetation and most alluvial surfaces have been cleared and converted to exotic pasture for farming. Few alluvial wetlands remain but there are extensive estuaries. Coastal forest is now very rare, although there are small areas of remnant rata remaining on coastal

limestone. The original pakihi forest has been burnt but has replaced by extensive mānuka (*Leptospermum scoparium*) -dominant shrubland and scrub (G. Walls & Simpson, 2004). There are some areas of regenerating secondary forest. One of the most notable areas of regenerating coastal forest is associated with the Onekaka Gullies, a series of finger gullies along a mudstone scarp on the coast south of Onekaka. This forest provides an important ecological function for the small waterways that flow through these gullies.

The largest estuary in the Coastal Terrestrial Area is the Ruataniwha Inlet. The remaining indigenous vegetation on the margins of the inlet buffer the estuary from the adjacent land-use. Where the Aorere River flows into the inlet it has formed a river delta. This delta is of high conservation value and has a range of representative estuarine vegetation sequences including several small, but rare, examples of remnant coastal forest. A QEII Open Space Covenant and the Aorere River Mouth scenic reserve protects some of this forest and shrubland on the Aorere River Delta. The delta is the only known location of the native orchid *Bulbophyllum tuberculatum* in the South Island.

Further south, the Parapara Inlet is almost entirely surrounded by indigenous scrub and forest. Although this scrub and forest is largely modified secondary vegetation it is an important ecological buffer to the Parapara Inlet and is contiguous with the extensive forest in the Aorere Goldfields Conservation Area and Kahurangi National Park to the south. Within the estuarine environment of the inlet, there are relatively intact estuarine vegetation sequences, including turfland and rushland.

On the northern side of Parapara Inlet at Milnthorpe Park scenic reserve an Incorporated Society has undertaken a forest regeneration project, managed under an agreement with the Department of Conservation. A variety of hardy non-native trees, including *Eucalyptus* and *acacia* species, have been planted on very poor soils. The project's objective is to restore the area's natural forest cover faster than would be possible using only indigenous species. The project began in 1974 and now much of the area is covered in tall exotic trees and has an understorey with a range of indigenous plant species. On the edge of the reserve, where the forest meets the estuary, there are diverse wetland vegetation communities including raupō reedland and harakeke flaxland.

Continuing along the coastline, the Kaituna Stream margins comprise of an estuarine zone, where wetland vegetation communities transition from brackish to freshwater-tolerant species further upstream. Upstream, there are areas of regenerating native forest.

Rocky outcrops and forested areas of the Collingwood Coastal Terrestrial Area provide habitat for lizard species; there are records of Raukawa gecko, northern grass skink, brown skink, speckled skink and Nelson green gecko (this is the other morphological variant of this species and differs to the variant found in the Whanganui, Cape Farewell and Pūponga Coastal Terrestrial Areas). A population of the threatened indigenous bush snail *Powelliphanta gilliesi* falax has been recorded in the forested areas of the Parapara Inlet foothills.

The Totara Avenue Collingwood area of offshore sandbanks is one of eight areas of international importance along the Tasman District coast as a roost site for resident and/or migratory shorebirds; it is of particular importance for South Island pied oystercatcher. Other important roosting sites in the Collingwood Coastal Terrestrial Area include Parapara, Onekaka and Paton's Rock. Sandy Island, which is situated in front of Collingwood, also often hosts roosting shorebirds. Some roosting habitat has been lost as result of coastal dynamics causing significant erosion of sediments (Schuckard & Melville, 2013). Wetland vegetation, particularly that present in the estuarine areas of the Collingwood Coastal Terrestrial Area, is of importance for cryptic wetland species including marsh crake and Australasian bittern. Remnant forest and shrublands throughout the area also provide important habitat for threatened indigenous birds, including South Island fernbird and banded rail.

The main waterway in the Collingwood Coastal Terrestrial Area is the Aorere River which drains into the Ruataniwha Inlet. Other larger waterways include Parapara, Onekaka, Otere and Parawhakioho Rivers. There are also a number of small waterways. The wider catchments of these waterways are largely vegetated in native forest, however, land use in the lower extents and mouths within the Coastal Terrestrial Area is largely agricultural. Water quality is generally good but there is some nutrient and fine sediment inputs from land use practises (James & McCallum, 2015). Within the Coastal Terrestrial Area there are few riparian trees. The waterways provide habitat for native freshwater fish species and the Aorere, Otere, Onekaka and Puremahia Rivers provide inanga spawning habitat (Tasman District Council & Tasman Bay Guardians, 2020).

Experiential

The Collingwood Coastal Terrestrial Area is easily accessed by State Highway 60 from the south and Collingwood Pūponga Main Road from the north. There are three main townships within this Coastal Terrestrial Area including Collingwood, Parapara and Patons Rock, each overlooking Golden Bay.

Due to the topography of this Coastal Terrestrial Area expansive views of Golden Bay are available throughout the coastline. Milnthorpe Park is a popular recreational attraction. The park was an experiment to regenerate native forest using exotic tree species, allowing native vegetation to establish faster (Department of Conservation, n.d.-b). The project, managed by the Department of Conservation, is now forty years old and has a variety of walking tracks throughout the forest. Swimming and picnicking are also popular activities for not only at Milnthorpe Park but at the numerous beaches throughout the Coastal Terrestrial Area. Access to the beach can be found in most parts of this Coastal Terrestrial Area due to the road closely following the coastline and estuaries. Popular beaches include those near Totara Ave, Collingwood, Parapara and Patons Rock. Experiential aspects are however tempered by surrounding land use modifications.

Level 3 Rating: Coastal Terrestrial Area 6: Collingwood

DEGREE OF NATURAL CHARACTER	NATURAL CHARACTER ATTRIBUTES		
	ABIOTIC	BIOTIC	EXPERIENTIAL
VERY HIGH			
HIGH			
MODERATE TO HIGH			✓
MODERATE	✓	✓	
MODERATE TO LOW			
LOW			
VERY LOW			
OVERALL NATURAL CHARACTER RATING	MODERATE		

Coastal Terrestrial Area 6: Collingwood

SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 24

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
RUATANIWHA INLET MARGINS	H	H	M	H	• Largely unmodified underlying geology formed from sand and gravels • Rare remnant coastal forest from hillslopes to estuary edge • Provides good habitat for threatened indigenous birds • Expansive views of the Ruataniwha Inlet and Golden Bay	• Surrounded by a pastoral landscape
MILNTHORPE	H	H	M	H	• Largely unmodified underlying geology formed from Late Pleistocene gravels and Neogene siltstone. • Mosaic of indigenous and exotic trees / forest • Habitat for large numbers of birds • Freshwater and brackish wetland communities, including raupō reedland and harakeke flaxland • Scenic reserve with walking tracks	• Milthorpe contains Milnthorpe Park scenic reserve

Table continues on page 106

Coastal Terrestrial Area 6: Collingwood

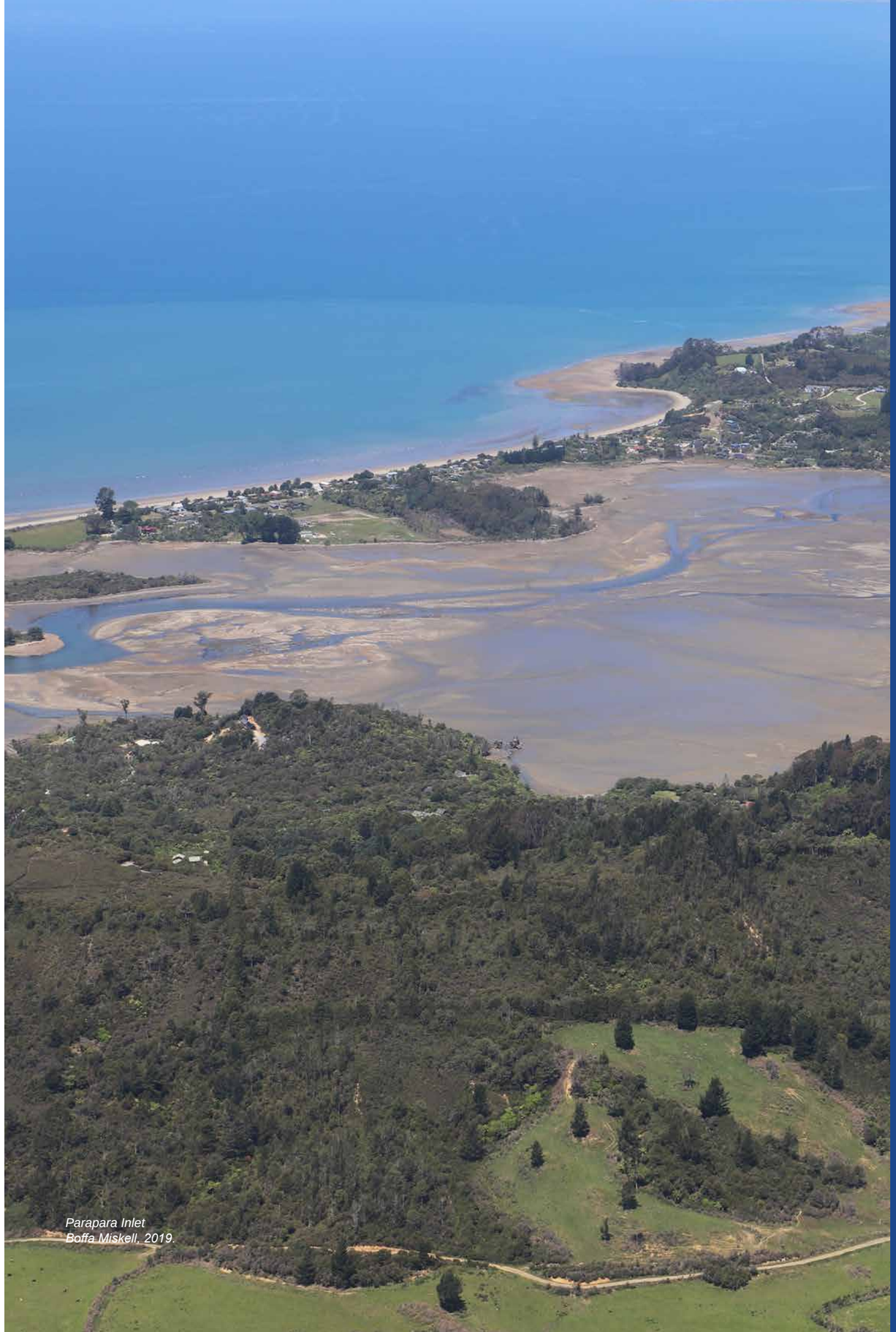
SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 24

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
PARAPARA INLET FOOTHILLS	H	H	MH	H	• Largely unmodified underlying geology formed from Neogene siltstone. • Limestone karst field from hillslope to shoreline with outcrops, caverns and sinkholes • Mostly regenerating secondary native forest with a small area of remnant forest • Provides habitat for indigenous birds • Provides habitat for threatened indigenous snail • Elevated views of the Parapara inlet and Golden Bay	• Some houses are present in this area
PARAPARA INLET MARGINS	H	H	MH	H	• Relatively intact shoreline and inlet margin • Kānuka forest and regenerating native understory • Provides significantgood habitat for wading and coastal birds • Relatively intact estuarine vegetation sequences including turfland and rushland • High recreational values	• Historic reserve – archaeological and spiritual value on sandspit • State Highway 60 passes through this area and has been excluded
KAITUNA STREAM MARGINS	H	H	H	H	• Largely unmodified underlying geology • Regenerating area of indigenous forest • Transitional wetland-dryland vegetation community from brackish areas to freshwater • Provides habitat for threatened indigenous birds • Retains high naturalness values	• Residential houses to the north, and farmland upstream (to the south-west)
ONEKAKA GULLIES	H	H	H	MH	• Intact mudstone scarp including cliffs and arched caves • Areas of remnant and regenerating secondary forest • Diverse moss and liverwort communities on rock faces • Ecologically significant gullies and streams • Immersive and remote experiences	• Surrounded by pasture
AORERE RIVER DELTA	H	H	H	H	• QEII Covenanted land and scenic reserve • Rare remnant coastal forest • Diverse wetland vegetation including freshwater and estuarine communities • Only known location of the native orchid Bulbophyllum tuberculatum in the South Island • Important habitat for threatened indigenous bird species • Whitebait fishery	• Surrounded by farmland and houses

Label: VH=Very High; H=High; MH=Moderate High; M=Moderate; ML=Moderate Low; L=Low; VL=Very Low.



Parapara Inlet
Boffa Miskell, 2019.

Golden Bay / Mohua

Ruataniwha Inlet Margins

Aorere River Delta Covenant

Milnthorpe

Parapara Inlet Foothills

Parapara Inlet Margins

Kaituna Stream Margins

Onekaka Gullies

Legend

Character Rating

- High Natural Character
- Very High Natural Character
- Coastal Terrestrial Areas
- Adjacent Coastal Marine\Terrestrial Areas
- Marine Reserves
- Regional Council Boundary

0 1.8 km

1:80,000 @ A3

Data Sources:
Topo maps sourced from LINZ topo 50 and 250 map series

Projection: NZGD 2000 New Zealand Transverse Mercator

Figure 24: Areas of High and Very High Natural Character within the Collingwood Coastal Terrestrial Area. (Level 4)

Ruataniwha Inlet and Aorere River Mouth. Boffa Miskell, 2019.

Above: Settlement of Pohara and the Pohara Golf Course. Boffa Miskell, 2019.

5.12. Coastal Terrestrial Area 7: Takaka

The Takaka Coastal Terrestrial Area extends from the Rangihaeata Head near the Takaka River mouth in the west to the Abel Tasman Monument in the east. This part of the Tasman coastline is defined by large tidal lagoons, areas of exotic pasture, wetlands and the township of Pohara. Settled at the northern end of the Abel Tasman National Park, this Coastal Terrestrial Area is a gateway to the Abel Tasman Track, one of New Zealand's Great Walks.

Key coastal characteristics include: The Takaka and Motupipi Rivers along with their associated tidal lagoons, flat areas of pasture, the settled foreshore of Pohara and Takakohe, and the Rangihaeta Head geopreservation site. Long views across Golden Bay are also available.

The inland extent of the Coastal Environment has been defined using the Ridgeline Principle, Vegetation and Land Use Principle, and Coastal Hazard Principle. This included the use of the coastal hazard zone which is the potential extent of inundation during storm tide events using today's predictions. In other areas, the first ridge method has been applied to the patches of indigenous and exotic forest near the Takaka and Motupipi rivers and the hills overlooking the Takaka River.

The Coastal Context is largely comprised of Takaka River Valley, and Kahurangi National Park to the north. The Takaka River Valley is a largely developed area of exotic grassland used for pastoral farming and orchards. To the south-east is the wider area of Abel Tasman National Park.

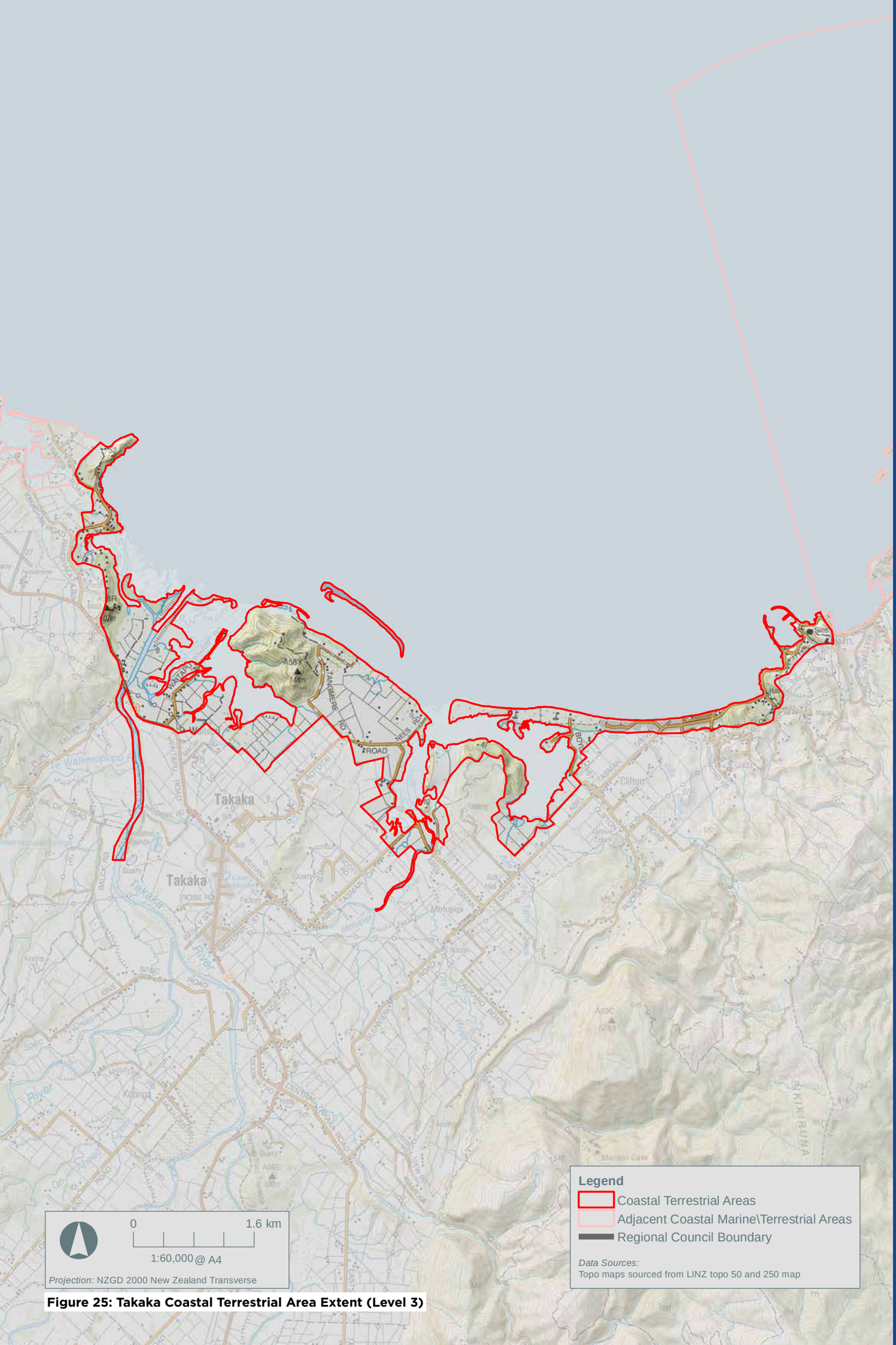


Figure 25: Takaka Coastal Terrestrial Area Extent (Level 3)

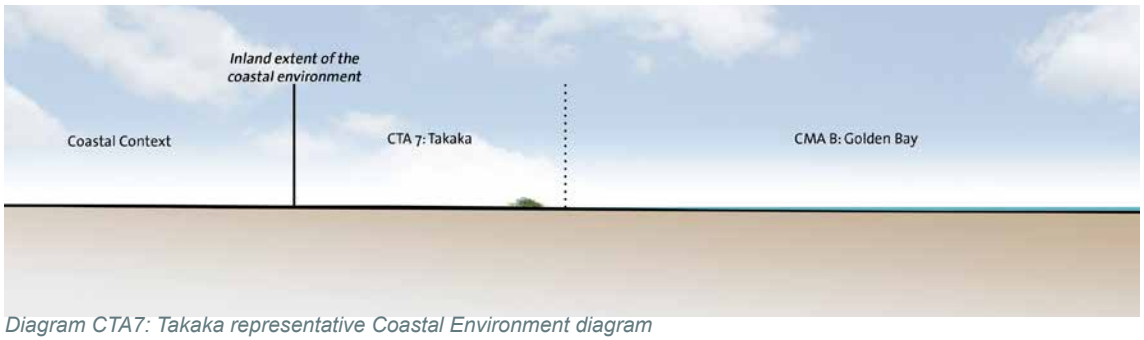


Diagram CTA7: Takaka representative Coastal Environment diagram

Abiotic

The Takaka Coastal Terrestrial Area sits at the mouth of the Takaka River and is characterised by the Takaka River valley. The underlying geology of this Coastal Terrestrial Area is comprised of gravel river deposits, limestone foothills and isolated hills of schist.

Within this Coastal Terrestrial Area there are four geopreservation sites including the regionally significant Rangihaeata Head coal measures, Motupipi lime kiln, Tarakohe cement works fossils, and Tarakohe coastal karst and limestone natural tunnel.

The Takaka Coastal Terrestrial Area sits within the Takaka River catchment, with the mouth of the Takaka River situated near Rangihaeata. The Motupipi River is also a major waterway within this Coastal Terrestrial Area, which forms an estuary to the west of Pōhara Beach. There are several other waterways with headwaters in the Clifton Hills to the south-east and flowing to Pōhara or into Motupipi Estuary. These waterways are part of the Takaka Water Management Area. Water levels are altered through use for irrigation (the lower catchment is largely agricultural). Due to higher nitrate levels and land development the Motupipi River is in poor health, however, the Takaka river is still in good condition (Thomas & Harvey, 2013). Didymo is present in Takaka River and accretion has resulted in the creation of a large coastal estuary at the mouth of the river (Schuckard & Melville, 2019).

The coastal settlement of Pōhara contains areas of land reclamation forming the Pōhara Boat Club and Port Tarakohe, coastal protection measures along Pōhara Beach, Rototai and Rangihaeata, and a limestone quarry which overlooks the Port below. Coastal protection measures have also been constructed along the mouth of the Takaka River to mitigate the impacts of storm surges, and land clearance.

The Takaka Coastal Terrestrial Area is more exposed to the westerly wind which travels down the Takaka valley to the coast. The average yearly rainfall is 1,750 mm, while annual sunshine hours are 2,350. The average annual temperature in summer is 22°C while in winter this drops to 4°C.

Biotic

The total land area within the Takaka Coastal Terrestrial area is 929 ha, of which 49.7% is pasture, 10.3% is native forest, 10.1% is artificial surfaces, 8.4% is native shrubland, 6.9% is exotic scrub, 5.5% is exotic forest, 4.2% is native wetland, 3.4% is water bodies, 1.1% is cropland or horticulture, 0.5% bare or lightly-vegetated surfaces.

Only 6.3% of the Coastal Terrestrial Area is formally protected within public conservation land (13.4 ha) and covenants (45.0 ha). Important areas of public conservation land include the Hanson Winter Scenic Reserve and a small area surrounding the Abel Tasman Monument that is within the Abel Tasman National Park (partly within the Coastal Terrestrial Area and partly within the Abel Tasman Coastal Terrestrial Area). There are two QEII Open Space covenants within the Coastal Terrestrial Area. They are on the southern side of the Takaka Headland (40.8 ha) and on the eastern side of the Hanson Winter Scenic Reserve (6.6. ha).

The vegetation of the Coastal Terrestrial Area was originally dominated by podocarp forest, with totara (*Podocarpus totara*) dominant on drier alluvium, sometimes with black beech, and kahikatea (*Dacrycarpus dacrydioides*) swamp forest in wetter areas, associated with pukatea. Northern rata occupied coastal and lower limestone areas. Towards the coast open flax and cabbage tree swamp was common. Wetter terraces with podsolized soil supported pakihi shrubland and forest with rimu and silver pine. Red, hard and black beech with rimu occurred over the lower slopes of the drier hills (G. Walls & Simpson, 2004).

Almost the entire Coastal Terrestrial Area has been cleared of its original vegetation and most alluvial surfaces have been cleared and converted to exotic pasture for farming. There is very little indigenous coastal scrub and forest in

the Coastal Terrestrial Area, although there are small areas of remnant rata remaining on coastal limestone (G. Walls & Simpson, 2004) and some areas of regenerating secondary mānuka (*Leptospermum scoparium*) and kānuka scrub and broad-leaved forest.

There is remnant and regenerating coastal forest on the limestone and sea cliff / bluff system at Rangihaeata Head. This site is also an important refuge for fur seals in the winter months, and a nesting area for little blue penguins (as is Port Tarakohe).

The delta at the mouth of the Takaka River supports rare coastal forest and relatively intact vegetation sequences that include estuarine turfland, shrubland and rushland, though incusion of weed species poses a threat. This area also provides good habitat for indigenous birds. Takaka Headland (west of Tangmere Road) supports the largest area of indigenous forest in the Coastal Terrestrial Area. Although the forest is largely secondary, it is relatively intact and important in that it grows right to the water's edge. The forest also supports diverse fern, climber and orchid species. Forty-one ha of this forest on the southern side of the headland is protected within a QEII Open Space Covenant.

The 11.3 ha Hanson Winter Scenic Reserve at the eastern end of Pōhara Beach is a remarkable, but small, area of coastal northern rata / titioki – mahoe forest growing on an 85 m high limestone outcrop. The reserve supports a number of rare and interesting indigenous herbs and ground ferns. Parts of the reserve are highly representative, but exotic weeds are an issue, particularly around the reserve's margins (Kelly, 1990). There is a separate limestone outcrop on the eastern side of the Scenic Reserve that is protected within a QEII Open Space Covenant that has similar northern rata / titioki – mahoe forest, with both areas supporting a number of rare indigenous herbs, shrubs and ground ferns.

The Rototai area in the Takaka Coastal Terrestrial Area is one of eight areas of international importance on the Tasman District coast as a roosting site for resident and/or migratory shorebirds. This roosting site is of international importance for South Island pied oystercatcher; large numbers of black-billed gulls and white-fronted tern have been recorded at this site. The Rototai area is also an important breeding site for Caspian tern (Schuckard & Melville, 2019). Despite the importance of this site, it is heavily disturbed by people. The margins of the Takaka River provide good habitat for a diverse range of indigenous shore, wading and forest birds, including threatened species such as banded rail, marsh crake and fernbird.

The Takaka Coastal Terrestrial Area provides habitat for, and has records of, Raukawa gecko, northern grass skink, brown skink and speckled skink.

The main waterways within the Takaka Coastal Terrestrial Area are the Takaka and Motupipi Rivers as well as smaller waterways that feed into Motupipi Estuary and Pōhara Beach. These waterways provide habitat for a diversity of native freshwater fish species, including longfin and shortfin eels, torrentfish, giant kokopu, banded kokopu, kōaro, inanga, lamprey, and bullies. Introduced brown trout are also present. The quality of this habitat is somewhat compromised by the lack of riparian trees within the agriculturally-dominated land within the Coastal Terrestrial Area and Motupipi River, in particular, has very low minimum dissolved oxygen levels and frequent algal blooms (McCallum & James, 2018; Thomas & Harvey, 2013). The invasive algae Didymo is present in Takaka River, which is a biosecurity concern for the region. Takaka River and tributaries of the Motupipi River catchment provide important inanga spawning habitat (Tasman District Council & Tasman Bay Guardians, 2020).

Experiential

The Takaka Coastal Terrestrial Area is the gateway to Abel Tasman National Park and Golden Bay. Much of this Coastal Terrestrial Area has been developed to form the township of Pohara and areas of farmland. It is easily accessible from State Highway 60, Abel Tasman Drive, and Rangihaeata Road.

Popular recreational hotspots within this Coastal Terrestrial Area include Pohara Beach which is overlooked by the Pohara campground and the Pohara Boat Club which has three-hundred members. Further west is the Takaka golf course which allows competitors to play on coastal sand dunes and experience views across Golden Bay.
While this Coastal Terrestrial Area has been subjected to substantial modification, it still contains scenic attributes remaining a popular holiday spot.

Level 3 Rating: Coastal Terrestrial Area 7: Takaka

DEGREE OF NATURAL CHARACTER	NATURAL CHARACTER ATTRIBUTES		
	ABIOTIC	BIOTIC	EXPERIENTIAL
VERY HIGH			
HIGH			
MODERATE TO HIGH			✓
MODERATE	✓		
MODERATE TO LOW		✓	
LOW			
VERY LOW			
OVERALL NATURAL CHARACTER RATING	MODERATE		

Coastal Terrestrial Area 7: Takaka

SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 26

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
RANGIHAEATA HEAD	H	H	H	MH	• Regionally significant geopreservation site • Remnant and regenerating coastal forest present on limestone • Important nesting area for little blue penguins • Important winter refuge habitat for fur seals • Expansive views of Golden Bay	• Houses and pasture nearby
TAKAKA RIER MARGINS	H	H	H	MH	• Underlying geology remains largely unmodified • Rare coastal forest present and relatively intact estuarine vegetation sequences including turfland, shrubland and rushland • Provides good habitat for indigenous wading, shore and forest birds • Open views of Golden Bay	• Surrounded by pasture

Table continues on page 114

Coastal Terrestrial Area 7: Takaka

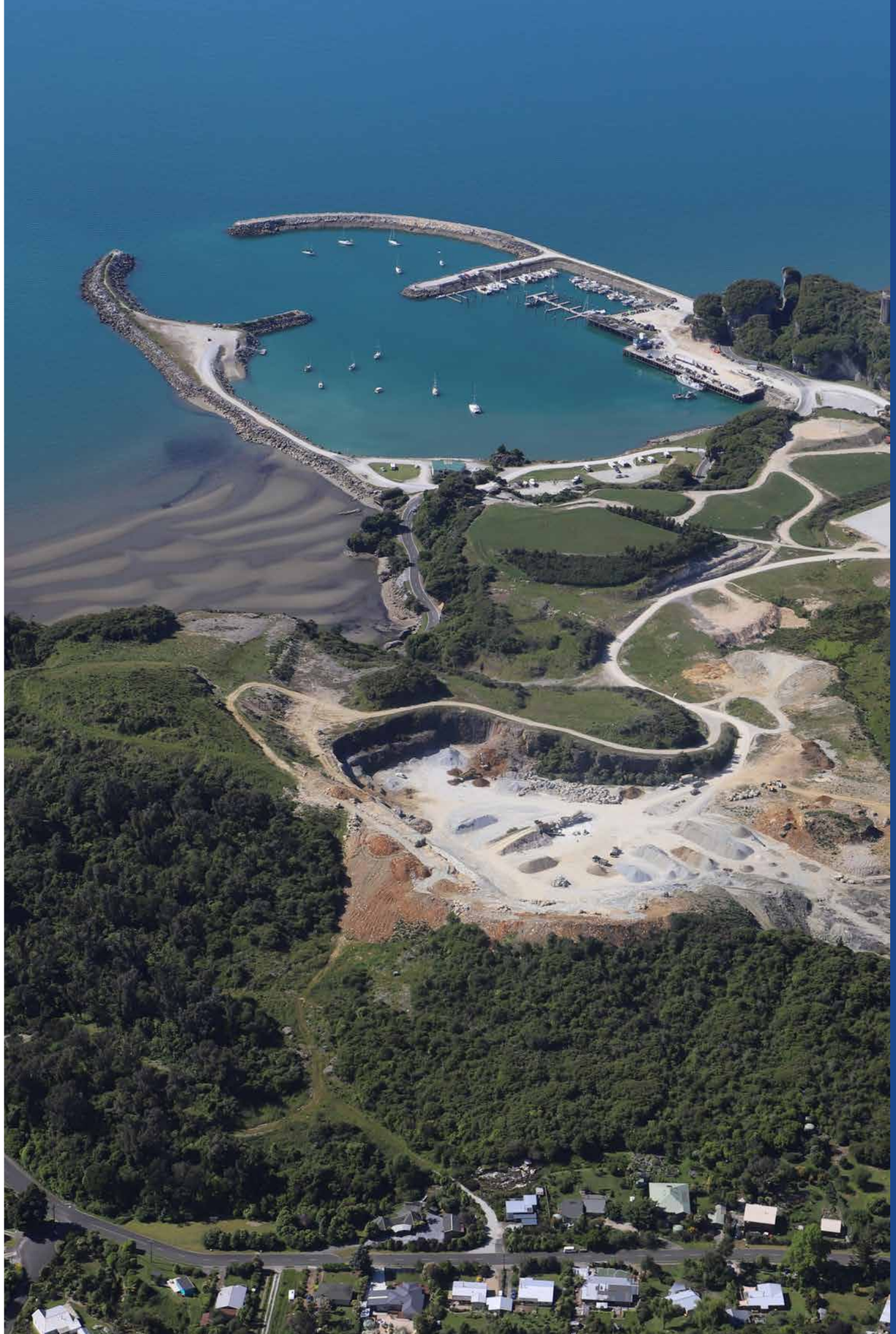
SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 26

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
TANGAMERE ROAD HILL	H	H	H	MH	• Underlying geology of the hill remains largely intact • Supports a largely secondary indigenous forest with an intact sequence to the water's edge • Supports a diverse range of ferns, climbers and orchids • Forty-one ha of this forest is protected within a QEII Open Space Covenant. • Open views of the Takaka River mouth and Golden Bay	• Presence of some houses, low producing exotic grassland and exotic forest.
TAKAKA RIVER SANDSPIT	VH	VH	VH	H	• Dynamic and unmodified natural processes associated with sediment deposits from the Takaka River • Probably provides habitat / refuge for wading and shore birds • Expansive views of Golden Bay	• Constantly changing with the amount of sediment deposited and marine influence from Golden Bay
HANSON WINTER SCENIC RESERVE	H	H	H	MH	• Intact limestone outcrop • Rare coastal northern rata / titioki – mahoe forest • Supports a number of rare indigenous herbs, shrubs and ground ferns • Limestone outcrop to the east is protected within a QEII Open Space Covenant • Expansive views of Golden Bay and Pohara	• Surrounded by residential development.

Label: VH=Very High; H=High; MH=Moderate High; M=Moderate; ML=Moderate Low; L=Low; VL=Very Low.



Right: Tarakohe Limestone Quarry and Pohara Boat Club. Boffa Miskell, 2019.

Rangihaeata Head

Takaka River Margins

Takaka River Sandspit

Tangamere Road Hill

Hanson Winter Scenic Reserve

Legend

Character Rating

- High Natural Character
- Very High Natural Character
- Coastal Terrestrial Areas
- Adjacent Coastal Marine\Terrestrial Areas
- Marine Reserves
- Regional Council Boundary

0 0.6 km

1:30,000 @ A3

Data Sources:
Topo maps sourced from LINZ topo 50 and 250 map series

Projection: NZGD 2000 New Zealand Transverse Mercator

Figure 26: Areas of High and Very High Natural Character within the Takaka Coastal Terrestrial Area. (Level 4)

Settlement of Pohara.
Boffa Miskell, 2019.

Above: Awaroa Bay and Abel Tasman National Park. Boffa Miskell, 2019.

5.13. Coastal Terrestrial Area 8: Abel Tasman

The Abel Tasman Coastal Terrestrial Area extends from the Abel Tasman monument near Ligar Bay on the northern coast to Tapu Bay in the south. The Coastal Terrestrial Area is characterised by the undulating landform, numerous indented sandy and rocky bays, indigenous forest and exceptional naturalness and breath-taking views. Opportunities to access this area are by the Abel Tasman Track, one of New Zealand's Great Walks. Towards the southern part of this Coastal Terrestrial Area is perhaps one of the most popular holiday spots in the Tasman District, Kaiteriteri. Here a series of holidays houses overlook Tasman Bay, making the most of the golden beaches and expansive views.

Key coastal characteristics include: exposed cliffs and headlands, offshore islands, sweeping sandy beaches and dense indigenous forest. Species found include kahikatea (*Dacrycarpus dacrydioides*), northern rata (*Metrosideros robusta*), mānuka (*Leptospermum scoparium*), kānuka (*Kunzea ericoides*), and beech species (Project Janzoon, n.d.). Abel Tasman also contains the geopreservation sites of Separation Point Headland, and the Bark Bay sand barrier and estuary, and roosting sites in Wainui Bay and Awaroa Bay.

The inland extent of the Coastal Environment has been determined using the Ridgeline Principle and Coastal Hazard Principle. Where appropriate, hilltops, mountains and ridgelines have been used to form the inland extent boundary.

The Coastal Context for this Coastal Terrestrial Area is the wider Abel Tasman National Park. Here, the elevation extends up to over 100m asl with Mount Evans sitting at 1156m asl. To the north and south of the Abel Tasman National Park are the settlements of Motueka and Takaka, each containing modified areas of pasture, orchards, and houses. State Highway 60 bypasses the Abel Tasman National Park connecting Riwaka and Kaiteriteri to the Upper Takaka Valley.

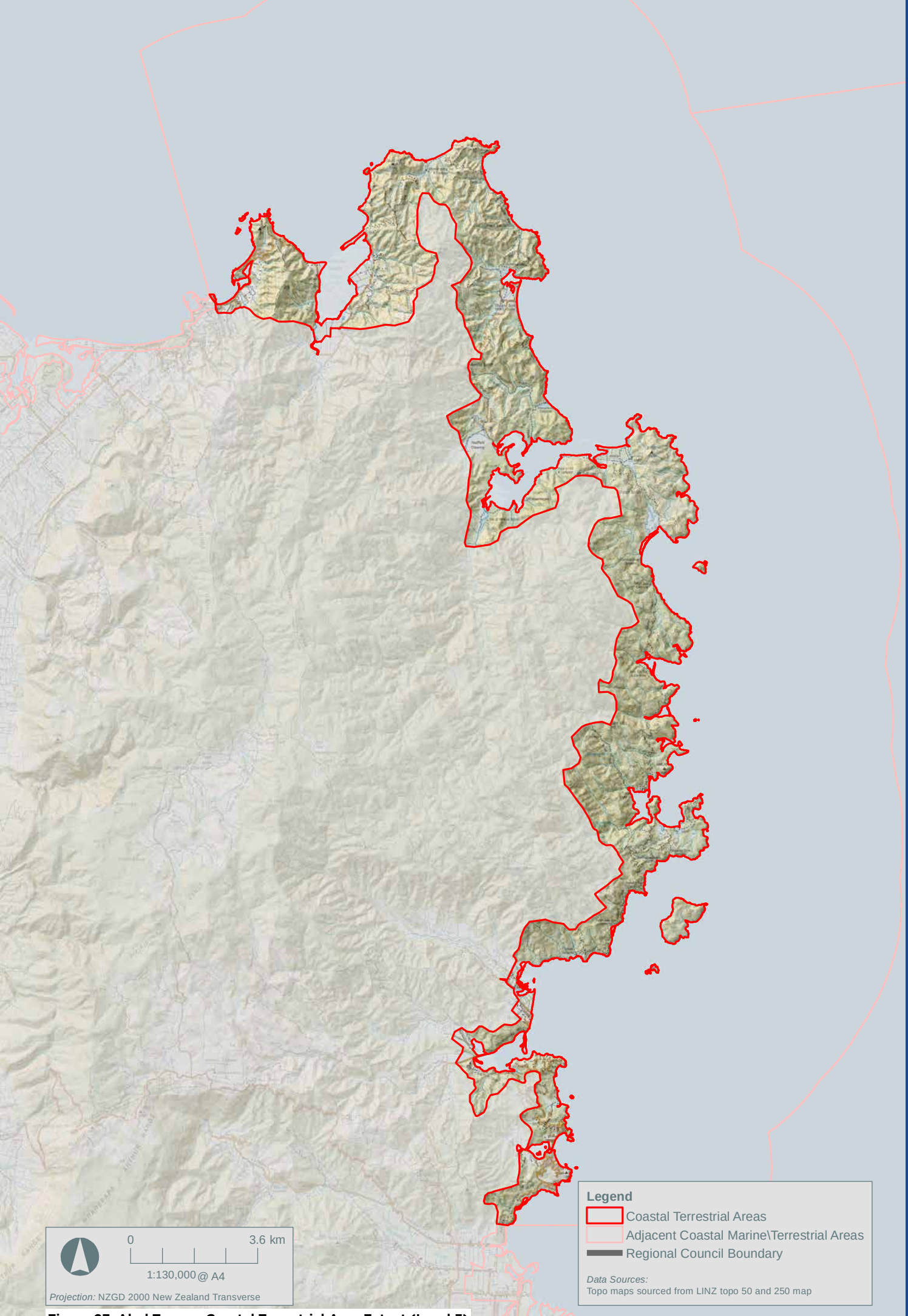


Figure 27: Abel Tasman Coastal Terrestrial Area Extent (Level 3)

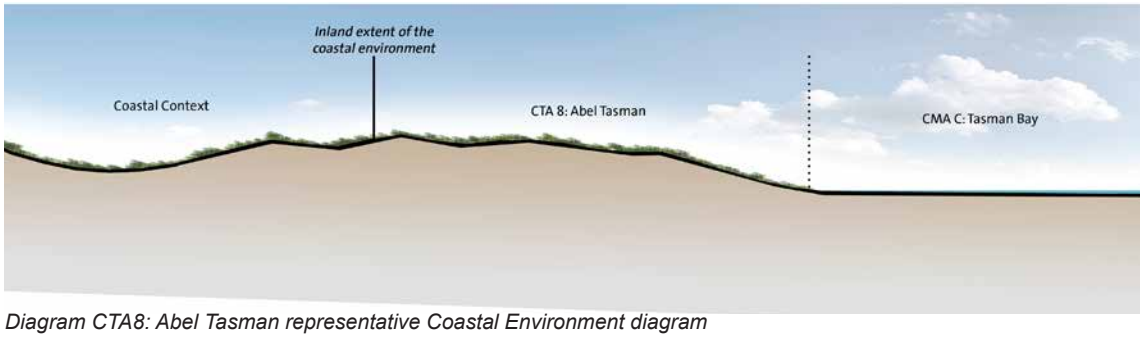


Diagram CTA8: Abel Tasman representative Coastal Environment diagram

Abiotic

The Abel Tasman Coastal Terrestrial Area is characterised by a distinctive granite coastline, isolated to the Abel Tasman National Park. The Coastal Terrestrial Area is deeply indented with drowned river valleys, golden beaches (a product of weathering granite), estuaries, rocky headlands and reefs largely untouched by human modification. Geopreservation Sites within this Coastal Terrestrial Area include the regionally significant Separation Point headland, Tata Islands coastal karst, Ligar Bay quartz diorite, Ligar Bay tourmaline, Tonga Bay granite quarry, Bark Bay sand barrier and estuary, Marahau salt marsh, and Split Apple Rock. This also includes the nationally significant Honeymoon Bay orbicular granite, and Breaker Bay orbicular granite. The only karst landscape found in the Abel Tasman National Park is also found here on the Tata Islands.

The estuarine environments within the Abel Tasman Coastal Terrestrial Area generally are not subjected to the same rate of sedimentation as other areas of the Tasman District. This is largely due to the intact forest and intertidal vegetation which lines the coastline. Increased levels of sediment and mud can be found in the Kaiteriteri and Otūwhero estuaries. This is due to land clearance and associated development within the settlements of Kaiteriteri and Mārahau.

There is a vast network of waterways within Abel Tasman Coastal Terrestrial Area, which generally have forested riparian margins and are of a high ecological condition. The major waterways within the Coastal Terrestrial Area include Wainui River, Awapoto River, Awaroa River, Falls River, Marahau River and Otuwhero River. With few road networks through the National Park, many of the waterways have very few modifications, however, undercut culverts where roads cross waterways create barriers to fish passage in some locations (James & Kroos, 2011). Restoration of fish passage barriers has made a big difference to the abundance and diversity of fish in several streams in the Wainui Bay catchment (James & Kroos, 2011). Occasionally, river mouths between Awaroa Head and Separation Head are realigned / relocated following storm events and subsequent erosion (Department of Conservation, 2008a). Besides this, abiotic processes occur naturally and unimpeded.

Some natural coastal erosion is present within this Coastal Terrestrial Area due to climatic influences such as wind, rainfall, and waves. These have caused coastal hazards near Mosquito Bay, Bark Bay, Sandfly bay, Torrent Bay (settlement), and Apple Tree Bay. Coastal hazards likely to have been formed from human-induced change and development include those found in Wainui Bay, Wainui Inlet, Awaroa Bay, Sandy Bay, Kaiteriteri Inlet and Tapu Bay. Erosion structures have been implemented at Wainui Inlet, Awaroa Inlet, Otūwhero Inlet, Mārahau and Kaiteriteri. Periodically, mechanical beach replenishment is conducted at Kaiteriteri beach to help maintain shoreline stability and location. Historically, Adele Island was quarried for granite and the larger of the Tata Islands was quarried for limestone (Department of Conservation, 2008a). There are also some sections of causeway across some of the southern bays.

The Abel Tasman Coastal Terrestrial Area is characterised by a mild climate, sea breezes, summer droughts and occasional winter frosts. The average yearly rainfall is 1800 mm and sun shines for approximately 2200 hours per year. The average summer high temperature is 24°C and the average winter low temperature is 4°C. In late spring and summer the coastline is subject to strong westerly winds; winter and autumn is calmer.

Biotic

The total land area within the Abel Tasman Coastal Terrestrial Area is 7,328 ha, of which 43.5% is native shrubland, 42.7% is native forest, 5.3% is pasture, 4% is exotic forest, 2.2% is artificial surfaces, 1% is native wetland, 0.7% is exotic scrub, 0.5% is bare or lightly-vegetated surfaces, 0.1% is fernland, and 0.1% is water bodies.
Seventy three percent of the Coastal Terrestrial Area is formally protected. Much of this area is within the Abel Tasman National Park, although 133 ha is protected by QEII Open Space covenants.

Apart from flax swampland behind dunes at the mouths of some valleys the entire Coastal Terrestrial Area was originally forest covered. Forest was predominantly beech forest, with black beech dominant over much of the lower slopes, red beech in the gullies and hard beech (*Nothofagus truncata*) on the drier ridges. Gully beech forest was mixed with broadleaved species, northern rata and podocarps, especially rimu. In the lower valleys the range of broadleaved species increased, mixed with podocarps such as rimu and kahikatea (*Dacrycarpus dacrydioides*). Kahikatea swamp forest was present in the lower valleys (G. Walls & Simpson, 2004).

Following European settlement most of the coastal forest in the Coastal Terrestrial Area was cleared and burned for timber and farming. The vegetation is now undergoing progressive regeneration, through various seral stages back to mature forest, but regeneration is slow due mainly to the low fertility of the predominantly granite soils. Secondary forest dominated by tree ferns and kānuka (*Kunzea ericoides*) covers large areas, especially in the north and south (G. Walls & Simpson, 2004). In spite of the dominance of heavily modified vegetation, there are remnants of mixed podocarp / broadleaved forest in the valleys, including a significant tract of mature podocarp / broadleaved coastal forest at Totaranui. On the less fertile coastal sites, hard beech (*Nothofagus truncata*) and black beech are the dominant canopy trees, with a less diverse understorey that includes cutty grasses (Department of Conservation, 2008a). Coastal herb rocklands are present at Taupo Point, with a diverse range of species on the forest fringe. Estuarine saltmarsh vegetation is still present around the margins of the numerous inlets.

There are a number of nationally Threatened and At Risk plant species within the Coastal Terrestrial Area including coastal peppercress (*Lepidium banksii*), rorippa (*Rorippa divaricarta*) and swordleaf pühä (*Kirkianella "glauca"*). Over a third of the park's Threatened and At Risk plants are confined to the Coast (Department of Conservation, 2008a). Of note is the possum-free status of the Tata Islands, reducing the threat to palatable native plant species on the islands.

The Abel Tasman Coastal Terrestrial Area provides habitat for a diversity of bird species. Marsh crake and spotless crake, both cryptic marsh species, have been recorded at Marahau and Awaroa estuaries. Australasian bittern have been recorded at Otuwhero Inlet. These areas also provide habitat for banded rail and South Island fernbird. The coastal forest of Abel Tasman National Park provides habitat for native forest species and the coastal foreshore, islands (e.g. Adele Island and Tonga Island) and rocky cliffs provide habitat for species such as reef heron, black-backed gull, red-billed gulls, pied shag, little blue penguins and spotted shag. Records of king shag at Adele Island, Tonga Island and Kaiteriteri are the highest recorded outside of the usual Marlborough Sounds distribution of this species. Wainui Inlet, Awaroa, Marahau and Riwaka are also important roosting sites for wading birds (Schuckard & Melville, 2019).


Little Blue Penguin nest, Tonga Island. Simon Walls, Department of Conservation.

The Abel Tasman Coastal Terrestrial Area provides habitat for lizard species; there are records of Raukawa gecko, forest gecko, northern grass skink and brown skink. Raukawa gecko are also found on Adele Island.

Tonga Island has the second largest breeding colony of New Zealand fur seals in the top of the South Island. Seals also haul out on other islands, stacks and mainland sites in Abel Tasman National Park (Department of Conservation, 2008a).

The main waterways within Abel Tasman Coastal Terrestrial Area include Wainui River, Awapoto River, Awaroa River, Falls River, Marahau River and Otuwhero River. The waterways within Abel Tasman National Park are nationally significant because of their near pristine condition, high biodiversity values and almost complete absence of introduced fish. Freshwater invertebrate communities are diverse and contain taxa indicative of very high-water quality. Native freshwater fish communities are also diverse (14 species were reported in a survey) and include At Risk and Threatened fish species (James & Kroos, 2011). The catchments are forested in native vegetation and there are significant coastal wetland areas. The karst aquifers within Abel Tasman National Park are inhabited by subterranean aquatic invertebrates, some of which may be endemic to the Park (Department of Conservation, 2008a). Waterways flowing into Wainui Inlet and Tasman Bay also provide important inanga spawning habitat (Tasman District Council & Tasman Bay Guardians, 2020).

Experiential

Abel Tasman is a popular recreational and tourist hotspot, especially during the summer months. Surrounded by indigenous forest with sandy beaches below, the Abel Tasman Coastal Terrestrial Area provides a remote and isolated experiences, especially to the east of this Coastal Terrestrial Area.

Northern and southern parts of the Abel Tasman Coastal Terrestrial Area are easily accessible by Abel Tasman Drive, and Riwaka-Kaiteriteri Road. Totaranui and Awaroa Bay are accessible by a gravel road which intersects with the eastern end of Abel Tasman Drive. The rest of the Abel Tasman Coastal Terrestrial Area can be reached by the Abel Tasman track, one of New Zealand's popular Great Walks or by boat.

To the north of this Coastal Terrestrial Area there is less development. Wainui Bay has been developed to the south of the bay for farming, while Awaroa Bay and Totaranui Beach both contain visitor accommodation and baches. Development however is its greatest at Kaiteriteri and Mārahau being a popular holiday destination.

The offshore islands within the Abel Tasman Coastal Terrestrial Area are largely untouched. There are no facilities on the islands, and landing sites on the islands are poor due to the rocky cliffs and reefs along the shoreline. Nevertheless, the shoreward beaches of Adele Island are popular picnic spots.

Level 3 Rating: Coastal Terrestrial Area 8: Abel Tasman

DEGREE OF NATURAL CHARACTER	NATURAL CHARACTER ATTRIBUTES		
	ABIOTIC	BIOTIC	EXPERIENTIAL
VERY HIGH	✓	✓	✓
HIGH			
MODERATE TO HIGH			
MODERATE			
MODERATE TO LOW			
LOW			
VERY LOW			
OVERALL NATURAL CHARACTER RATING	VERY HIGH		

Coastal Terrestrial Area 8: Abel Tasman

SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 28

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
ABEL TASMAN POINT	H	H	H	H	• Distinctive and highly legible granite headland • Intact area of regenerating broadleaved indigenous forest • Extensive views of Golden Bay and Wainui Bay	• Some houses located within this area
ABEL TASMAN ISLANDS	VH	VH	VH	VH	• Granite islands unique to this part of the Tasman coastline • The Raukawa gecko is found on Adele Island and there are records of king shags being present • Provides important habitat for little blue penguins and fur seals. Tonga Island has the second largest New Zealand fur seal breeding colony at the top of the South Island. • Reefs and rocky shores provide habitat for species such as reef heron, black-backed gull, red-billed gulls, pied shag, and spotted shag • Very high remote naturalness values	• Scattered through the Abel Tasman Coastal Terrestrial Area

Table continues on page 121

Coastal Terrestrial Area 8: Abel Tasman

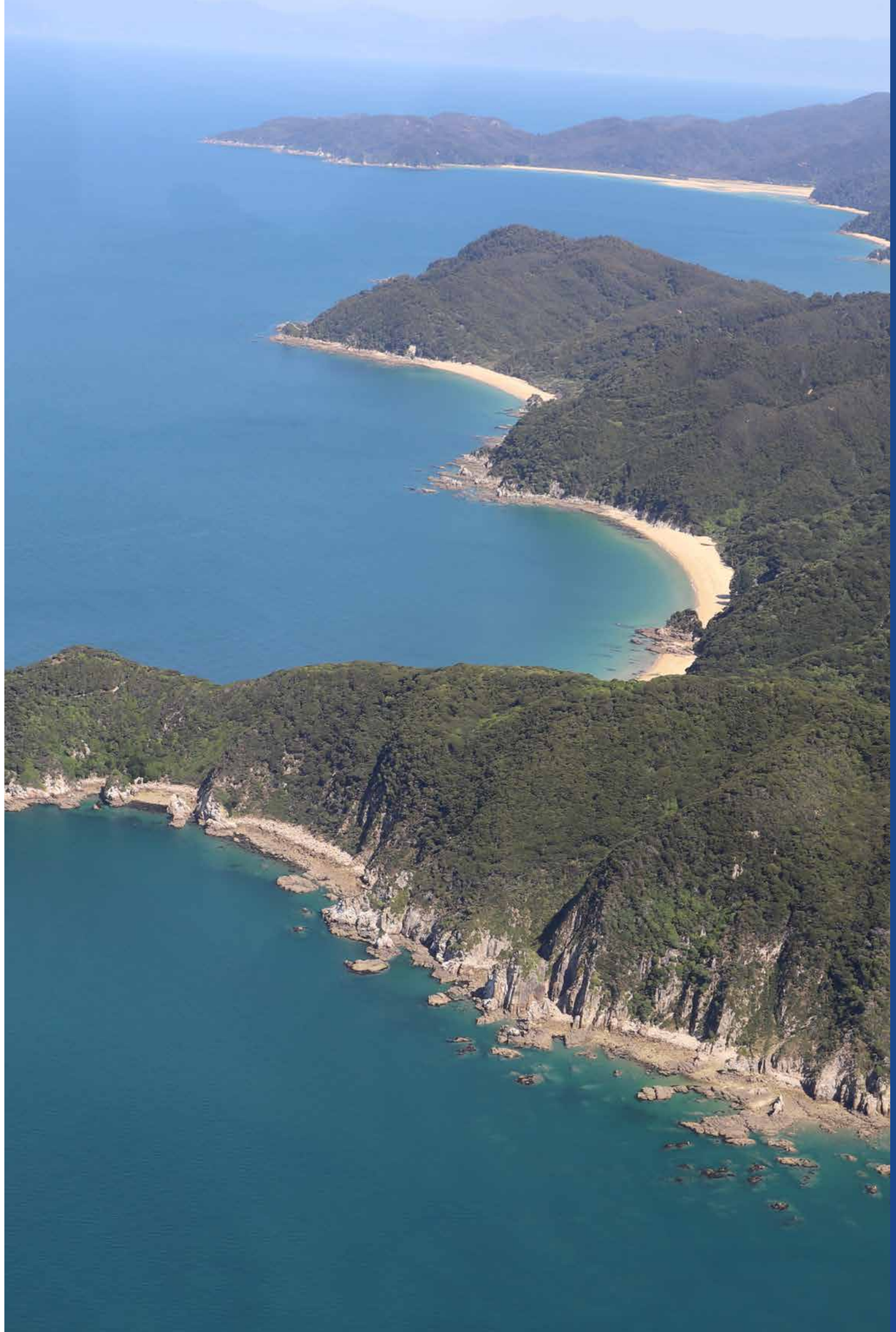
SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 28

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
TATA ISLANDS	VH	VH	VH	VH	• Granite islands unique to this part of the Tasman coastline • Contains the Tata Islands regionally significant geopreservation site • Tata Islands is part of the only karst coastline in the Abel Tasman National Park • Provides important habitat for little blue penguins and fur seals • Tata Islands are possum-free • Fur seals haul out from the Tata Islands • Reefs and rocky shores provide habitat for species such as reef heron, black-backed gull, red-billed gulls, pied shag, and spotted shag • Wild and remote experiences	• Includes the Tata Islands to the west of Wainui Bay
EASTERN BAYS	VH	VH	VH	VH	• Contains the regionally significant Tonga Bay granite quarry and Bark Bay sand barrier and estuary • Mixture of mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea ericoides*), broadleaved secondary, and indigenous primary forest • Habitat for the Raukawa gecko, forest gecko, northern grass skink and brown skink • Renowned for having a mild climate and sandy beaches • Tranquil and remote experiences	• Northern section overlooks the Tonga Island Marine Reserve
WAINUI BAY	H	H	H	H	• Underlying granite geology (Taupo Point) with the highly erodible granite forming the source of the golden sand in the bay. • Contains important roosting sites for wader bird species • Largely intact area of mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea ericoides*) forest • Expansive views of Wainui Bay • A sense of peacefulness, tranquillity and remoteness	• Some houses and roads present. Large areas of pasture have been exclude

Table continues on page 124



Right: Separation Point. Boffa Miskell, 2019.

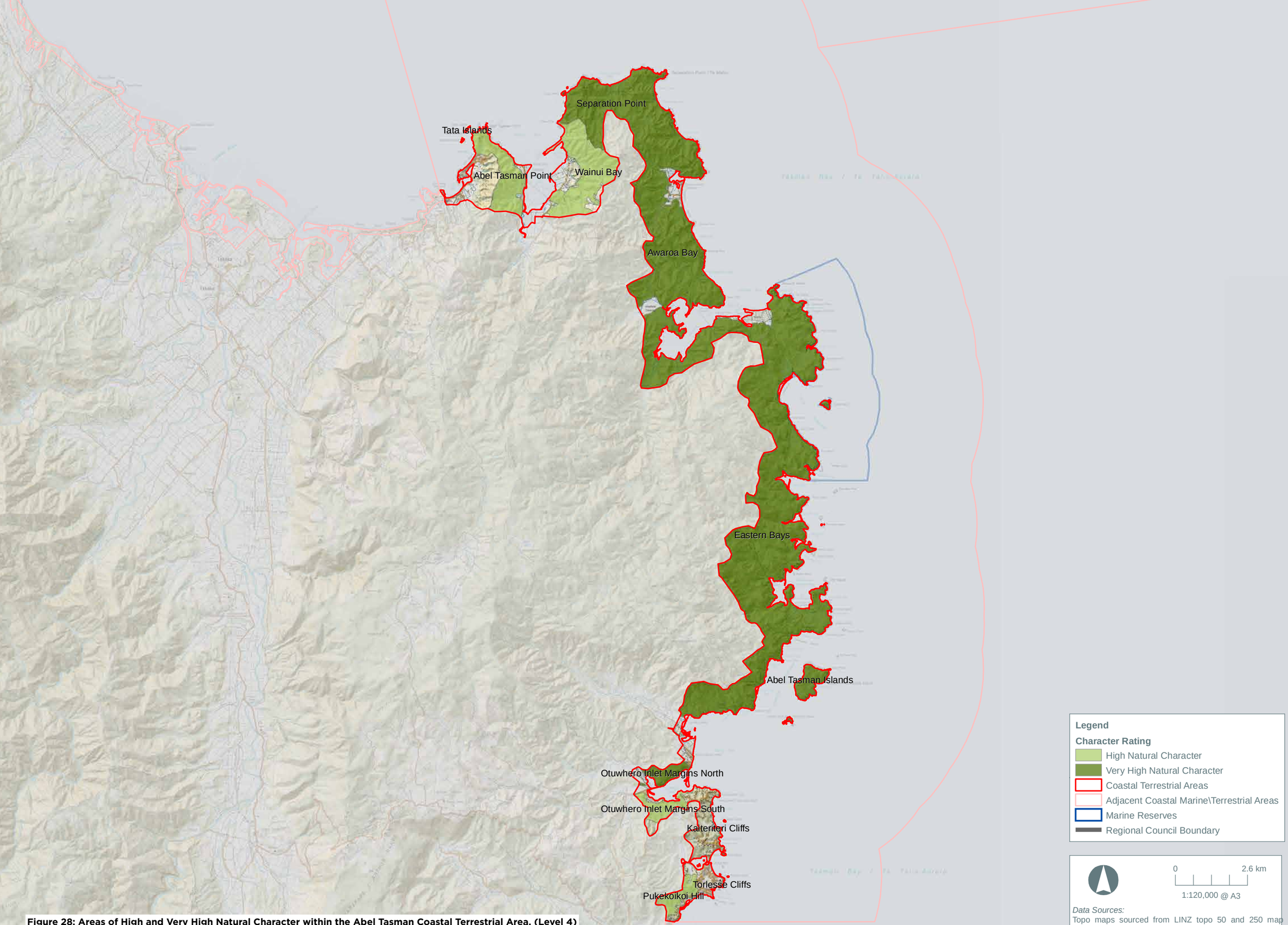


Figure 28: Areas of High and Very High Natural Character within the Abel Tasman Coastal Terrestrial Area. (Level 4)

Coastal Terrestrial Area 8: Abel Tasman

SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 28

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
SEPARATION POINT	VH	VH	VH	VH	• Regionally significant geopreservation site • Intact areas of indigenous coastal broadleaf forest • Rare coastal herb species on forest edge at Taupo Point • Wild and remote experiences	• Adjoins the marine Separation Point area of very high natural character.
AWAROA BAY	VH	VH	VH	VH	• Intact granite headlands and hills • Contains important roosting sites for wader bird species • Marsh crake and spotless crake have been recorded within the Awaroa estuary • Renowned for having a mild climate and sandy beaches • Remote and isolated experiences	• Excludes areas of housing and pasture
TORLESSE CLIFFS	H	H	H	H	• Intact granite coastal hills • Coherent mixture of secondary and primary indigenous forest • Extensive views of Tasman Bay	• Surrounded by residential development
PUKEKOIKOI HILL	H	H	H	H	• Intact granite coastal hills • Coherent mixture of secondary and primary indigenous forest • Extensive views of Tasman Bay	• Residential houses sit below this area
KAITERITERI CLIFFS	H	H	H	H	• Intact granite headlands and cliff faces • Areas of regenerating secondary indigenous forest • Popular place to explore from Kaiteriteri Beach	• Surrounded by the settlement of Kaiteriteri
OTUWHERO INLET MARGINS SOUTH	H	H	H	H	• Largely intact granite headland • Coherent area of regenerating secondary forest with an intact vegetation sequence between the marine and terrestrial environment • High sense of naturalness	• Housing is being constructed on this headland
OTUWHERO INLET MARGINS NORTH	VH	VH	VH	H	• Intact granite headland • Coherent area of primary forest with an intact vegetation sequence between the marine and terrestrial environment • High sense of naturalness	• Some tracks and buildings present

Label: VH=Very High; H=High; MH=Moderate High; M=Moderate; ML=Moderate Low; L=Low; VL=Very Low.

Above: Moutere River mouth and Motueka Sandspit. Boffa Miskell, 2019.

5.14. Coastal Terrestrial Area 9: Moutere

The Moutere Coastal Terrestrial Area extends from the mouth of the Riwaka River at the southern end of Abel Tasman National Park to Moutere Bluff near Ruby Bay. This part of the Tasman coastline is characterised by the sweeping nature of Tasman Bay, sand bars, and large lagoons and inlets. This Coastal Terrestrial Area is also well developed with the three major settlements of Riwaka, Motueka, and Tasman lining the coast.

Key coastal characteristics include: The Riwaka, Motueka, and Moutere Rivers, along with the Moutere Inlet. The Moutere Inlet is the largest coastal feature within the Moutere Coastal Terrestrial Area. The tidal estuary is fully developed, surrounded by exotic forestry and pasture. While much of the estuary was surrounded by saltmarsh, development and nearby settlement has displaced much of these communities. While the terrestrial edge of the Moutere Inlet has been developed the marine component still supports a range of habitats (Stevens & Robertson, 2013).

The inland extent of the Coastal Environment has been defined using the Ridgeline Principle, Vegetation and Land Use, and Coastal Hazard Principle. This includes the present-day coastal inundation zone, which is the potential extent of inundation during storm tide events using today's predictions.

Beyond this Coastal Terrestrial Area are the wider Moutere Plains and foothills of the Wharepapa/Arthur Range. The overlooking range is cloaked in a mixture of exotic and indigenous forest and reaches over 1000m asl with the highest point within the coastal context being Hoary Head at 1,473m asl. On the plains below much of the landscape

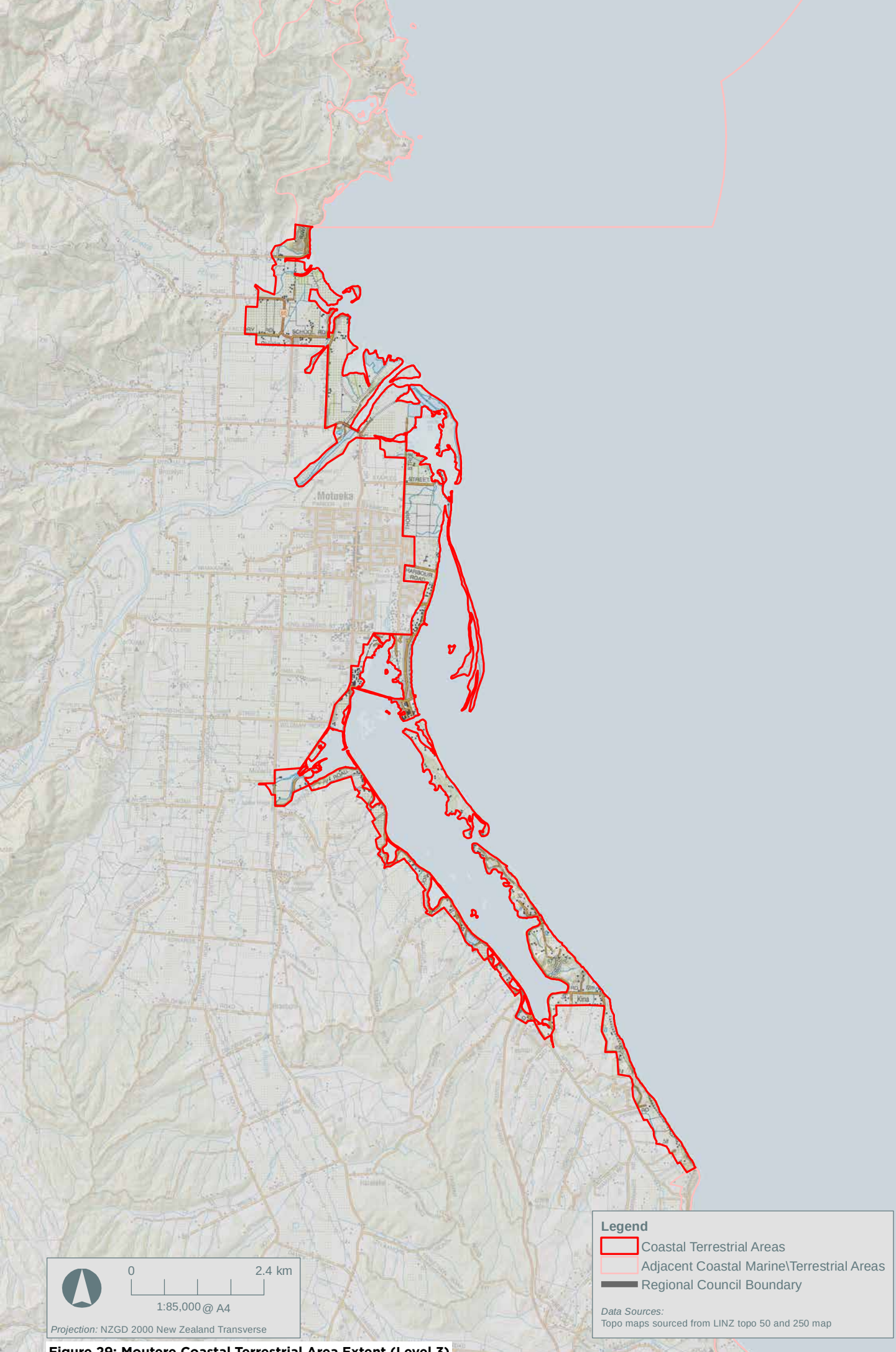
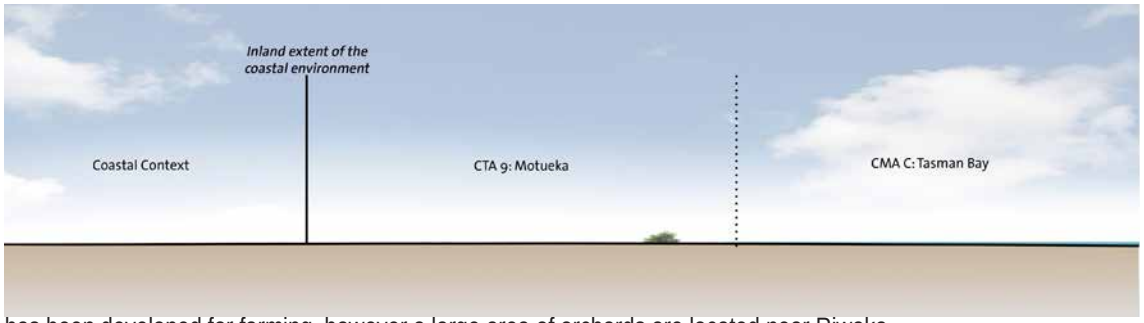


Figure 29: Moutere Coastal Terrestrial Area Extent (Level 3)



has been developed for farming, however a large area of orchards are located near Riwaka.
Diagram CTA9: Moutere representative Coastal Environment diagram

Abiotic

The Moutere Coastal Terrestrial Area is characterised by the Moutere Depression, a thirty-kilometre-wide valley system which finishes at Tasman Bay (Rattenbury et al., 1998). Three major rivers pass through this Coastal Terrestrial Area including the Riwaka, Motueka, and Moutere Rivers. The Motueka River is the largest of the three rivers, with its mouth approximately 2.5 kilometres north-west of Motueka township.

Geopreservation sites within this Coastal Terrestrial Area include the regionally important Moutere Inlet and Moutere Bluffs, and the nationally significant Motueka sandspit.

The main rivers within the Moutere Coastal Terrestrial Area are Riwaka, Motueka and Moutere Rivers. There are numerous other smaller perennial waterways within the Coastal Terrestrial Area. The Riwaka and Motueka Rivers flow to Tasman Bay, while the Moutere River drains to Moutere Inlet, which is a modified shallow tidal lagoon that has two entrances and two layers of barrier sandspits (Tasman District Council, 2001). The lower Motueka River is constrained and modified by stopbanks, channel improvements and bank protection. The channelization of the Moutere River was originally completed by settlers in the 1880s, and today is managed and maintained. Over the last 100 years, runoff has been concentrated into a single greatly straightened channel; this has increased erosion and thereby decreased channel capacity and increased sediment loads (sedimentation is a major issue in Moutere Inlet) (Tasman District Council, 2018). Both the Motueka and Moutere Rivers are bridged within the Coastal Terrestrial Area and there is a causeway across the mouth of the Moutere River. Some other smaller waterways in the Coastal Terrestrial Area are modified and straightened and tidal flap gates are present at the coastal / tidal interface (prevents flushing and reduces water quality, but also presenting a barrier to fish passage).

Natural coastal dynamics however are still able to occur. One highly dynamic system is the Motueka sandspit, where erosion and deposition of sand regularly occurs (Schuckard & Melville, 2019).

Modifications to the Coastal Terrestrial Area include three main settlements (and associated roading and industries), orchards, ports at Motueka and Mapua, sections of causeway along the coastal edge of the Moutere Inlet and discharge from the Motueka oxidation ponds to ground soakage on land adjoining the Motueka river mouth. There is also a wharf and sealed boat ramp for small trailer boats at the end of Green Tree Road, and there are stopbanks along the lower Motueka River within the Coastal Terrestrial Area (Schuckard & Melville, 2019).

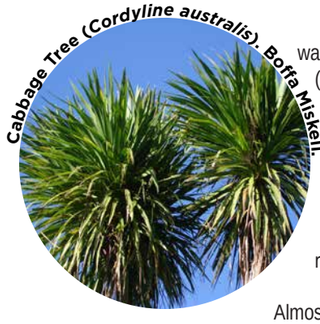
The climate within the Moutere Coastal Terrestrial Area is warmer and drier than other parts of the Tasman District. This is due to the Coastal Terrestrial Area being sheltered by the Wharepapa/Arthur Range from rain-bearing systems which come from the west and south. The average yearly rainfall is 1,250 mm, while annual sunshine hours are 2,300. The average annual temperature in summer is 23°C while in winter this drops to 3°C.

Biotic

The total land area within the Moutere Coastal Terrestrial area is 1,183 ha, of which 42.6% is pasture, 21.5% is cropland or horticulture, 13.5% is artificial surfaces, 5.4% is native wetland, 5% is bare or lightly-vegetated surfaces, 4.2% is exotic forest, 3.1% is exotic scrub, 2.6% is water bodies, and 2.1% is native forest.

Only a very small proportion of the Moutere Coastal Terrestrial Area is formally protected.. Important areas of public conservation land are the Raumanuka and Motueka Sandspit Scenic Reserves which protect sandspit ecosystems. There are also a number of marginal strips within the Coastal Terrestrial Area, but there are no QEII covenants.

Prior to human arrival almost all of the Coastal Terrestrial Area would have been forested. Ngaio (*Myoporum laetum*), cabbage tree (*Cordyline australis*), kowhai and totara (*Podocarpus totara*) would have been common along the coastal bluffs and fringing estuaries. Alluvial plains and terraces supported podocarp forests with totara (*Podocarpus totara*), matai (*Prumnopitys taxifolia*) and kahikatea (*Dacrycarpus dacrydioides*) and vegetation on the low hills


Cabbage Tree (Cordyline australis), Boffa Miskell.

was mixed podocarp / beech forest with black (*Fuscospora solandri*) and hard beech (*Nothofagus truncata*), rimu (*Dacrydium cupressinum*), totara (*Podocarpus totara*), kamahi (*Weinmannia racemosa*), titoki and tawa. Freshwater wetlands would have included lowland swamps with kahikatea (*Dacrycarpus dacrydioides*), harakeke, cabbage tree (*Cordyline australis*), Carex secta and raupo. Riparian ecosystems (trees, shrubs, flaxes, toetoe, etc.) would have bordered rivers and streams. Estuaries would have had vegetation sequences grading from eelgrass and saline turf into rushes, sedges, harakeke (lowland flax) and shrubs (mainly saltmarsh ribbonwood, mingimingi and mānuka) and then into forest (G. Walls & Simpson, 2004).

Almost all of the natural indigenous ecosystems have been cleared for farming and other productive uses. Only small fragments of indigenous forest and freshwater wetland remain. While the estuaries themselves are still surprisingly intact, their fringing vegetation sequences have largely been removed (G. Walls & Simpson, 2004). Coastal mānuka (*Leptospermum scoparium*) scrub is rare but can be found in localised areas, where it is probably partly induced (North, 2015).

Some of the small islands within the Moutere Inlet, including Horseshoe Island, support indigenous plant species including the Threatened – Nationally Critical grey saltbush and are used by DOC as 'marooning islands' for rare coastal plant species such as coastal peppercress, although king tides are causing problems for the conservation of these species (S. Courtney pers. comm. 2020).

For birds, an important part of this Coastal Terrestrial Area is the Motueka River delta. The delta consists of the Motueka sandspit, the Motueka River mouth and the "Kumaras" estuary. These areas provide foraging and roosting habitat for large number of resident and/or migratory shorebirds. Of particular importance is the Motueka Sandspit; this Scenic Reserve is recognised as one of eight areas of roosting habitat of international importance along the Tasman District coast. It is of international importance for bar-tailed godwit, variable oystercatcher, South Island pied oystercatcher and banded dotterel, and it is of national importance for ruddy turnstone (Schuckard & Melville, 2013). In summer Motueka Sandspit supports up to 10,000 wading birds. Motueka Sandspit also provides breeding habitat for black-billed gulls, white-fronted tern and black-fronted tern (Schuckard & Melville, 2019).

The extensive shellfish beds of Moutere Inlet also support high numbers of foraging waders and shorebirds, however 50% of the saltmarsh habitat has been lost. High numbers of royal spoonbill and little shag are also often recorded in Moutere Inlet (Schuckard & Melville, 2019).

Mature trees on Jackett Island provide nesting habitat for pied shags (Schuckard & Melville, 2019).

There are records of northern grass skink and brown skink in the Moutere Coastal Terrestrial Area.

The main waterways within the Moutere Coastal Terrestrial Area are the Riwaka, Motueka and Moutere Rivers. Water quality in the lower catchments is reduced as a result of nutrient inputs from the pre-dominantly agricultural and horticultural land use. There is little native riparian tree cover. The Motueka River has high numbers of introduced brown trout (and is one of New Zealand's best trout fisheries). Smaller tributaries in the Coastal Terrestrial Area are dominated by native fish. The Moutere River provides habitat for eels and giant kōkopu, however, the quality of this habitat is compromised through channel modification, the presence of few refuge pools and high summer water temperatures (James & Kroos, 2011). The Riwaka, Motueka and Moutere Rivers, as well as some other small waterways within the Coastal Terrestrial Area, provide inanga spawning habitat (Tasman District Council & Tasman Bay Guardians, 2020).

Experiential

The Moutere Coastal Terrestrial Area is one of the more developed areas within the Tasman coastal environment. The Coastal Terrestrial Area is easily accessed from State Highway 60, with settlements at Ruby Bay, Tasman, Lower Moutere, Motueka, and Riwaka.

This Motueka Sandspit is a popular recreational hotspot within this Coastal Terrestrial Area with an easy walking track that can be accessed from Motueka Quay near the Motueka Golf Course. Fishing from the Motueka wharf is open to the public and there are numerous recreational reserves along the Tasman Bay coast which have opportunities for picnicking, walking and bird watching. These include Baigents recreational reserve, and Kina Beach.

The Great Taste Trail, a mountain bike trail which connects Nelson to the wider parts of Tasman District, passes through this Coastal Terrestrial Area. This allows riders views of the Moutere Inlet and mouth of the Motueka River.

Right: View of the Motueka River and Motueka township. Boffa Miskell, 2019.

Mouteka Sandspit

Legend

Character Rating

- High Natural Character
- Very High Natural Character
- Coastal Terrestrial Areas
- Adjacent Coastal Marine\Terrestrial Areas
- Marine Reserves
- Regional Council Boundary

0 1.6 km

1:70,000 @ A3

Data Sources:
Topo maps sourced from LINZ topo 50 and 250 map series

Projection: NZGD 2000 New Zealand Transverse Mercator

Figure 30: Areas of High and Very High Natural Character within the Moutere Coastal Terrestrial Area. (Level 4)

Level 3 Rating: Coastal Terrestrial Area 9: Moutere

DEGREE OF NATURAL CHARACTER	NATURAL CHARACTER ATTRIBUTES		
	ABIOTIC	BIOTIC	EXPERIENTIAL
VERY HIGH			
HIGH			
MODERATE TO HIGH			
MODERATE			✓
MODERATE TO LOW	✓	✓	
LOW			
VERY LOW			
OVERALL NATURAL CHARACTER RATING	MODERATE LOW		

Coastal Terrestrial Area 9: Moutere

SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 30

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
MOTUEKA SANDSPIT	VH	VH	VH	VH	• Considered a nationally significant geopreservation site • Naturally dynamic coastal landform • Protected as a scenic reserve and considered one of eight internationally important roosting habitats within the Tasman District • Provides foraging and roosting habitat for resident and/or migratory shorebirds. • Of international importance for bar-tailed godwit, variable oystercatcher, South Island pied oystercatcher and banded dotterel, and it is of national importance for ruddy turnstone • Supports up to 10,000 wading birds in the summer months • Provides breeding habitat for black-billed gulls, white-fronted tern and black-fronted tern • High naturalness values	• Adjoins the coastal settlement of Motueka

Label: VH=Very High; H=High; MH=Moderate High; M=Moderate; ML=Moderate Low; L=Low; VL=Very Low.

Above: View of the Waimea River and Waimea Inlet looking towards Nelson. Boffa Miskell, 2019.

5.15. Coastal Terrestrial Area 10: Waimea

The Waimea Coastal Terrestrial Area extends from Moutere Bluff to the Tasman and Nelson District Boundary. This Coastal Terrestrial Area is well developed, being close to the major townships of Richmond, Mapua and Ruby Bay. Sitting at the end of the Waimea River Valley, the topography of this Coastal Terrestrial Area is relatively flat, allowing for the expanse of farmland, orchards, and scattered housing along the coastline.

Key coastal characteristics include: the low-lying islands of Rabbit Island, Rough Island, Bests Island and Bells Island, numerous tributaries and streams providing whitebait spawning sites, and areas of saltmarsh vegetation. Rabbit Island, the largest island, is covered in exotic forest and is a recreational reserve for mountain bikers and walkers. The island provides shelter from the rest of Tasman Bay. The smaller islands in the inlet have various uses including a golf course, oxidation ponds, residential dwellings and forestry (Stevens & Robertson, 2014).

The inland extent of the Coastal Environment is defined using the Ridgeline Principle, Vegetation and Land Use Principle, and Coastal Hazard Principle. This includes the present-day coastal inundation zone, which is the potential extent of inundation during storm tide events using today's predictions. In areas such as the Moutere Bluff where the inundation zone is not appropriate to use, the inland extent has been applied to the top of the bluff and nearby ridgeline.

Beyond the Coastal Environment, the Coastal Context Zone consists of the wider plains and valleys which make up the southern Tasman District. The Waimea River Valley is the largest, with State Highway 6 connecting to Christchurch and the West Coast. The foothills of the Southern Alps overlook this Coastal Terrestrial Area, particularly near Mahana and the Redwood Valley. Much of this has been developed into exotic forestry. The Waimea Inlet and its shoreline is also shared with the Nelson District which sits north-east of this Coastal Terrestrial Area.

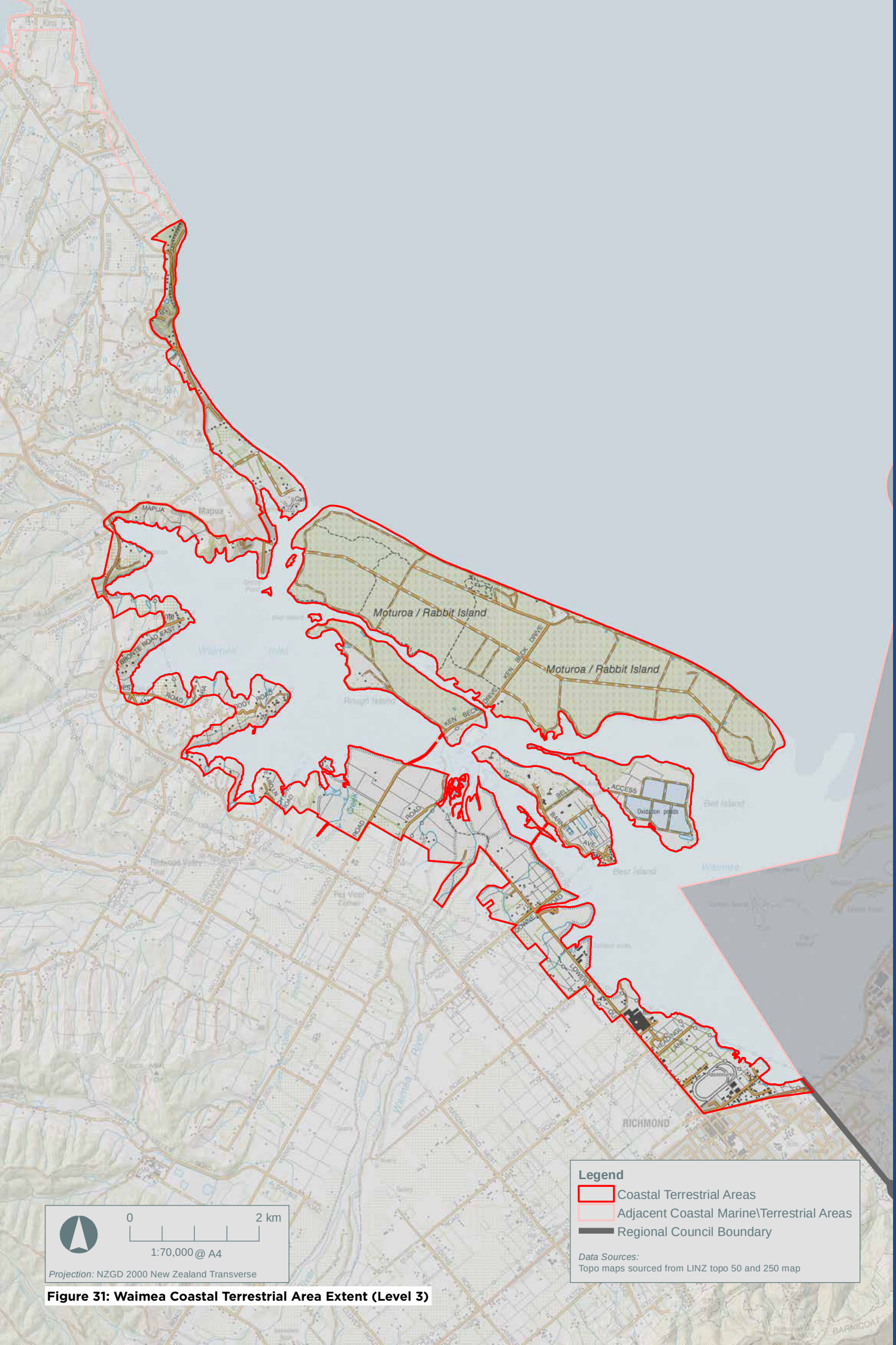


Figure 31: Waimea Coastal Terrestrial Area Extent (Level 3)

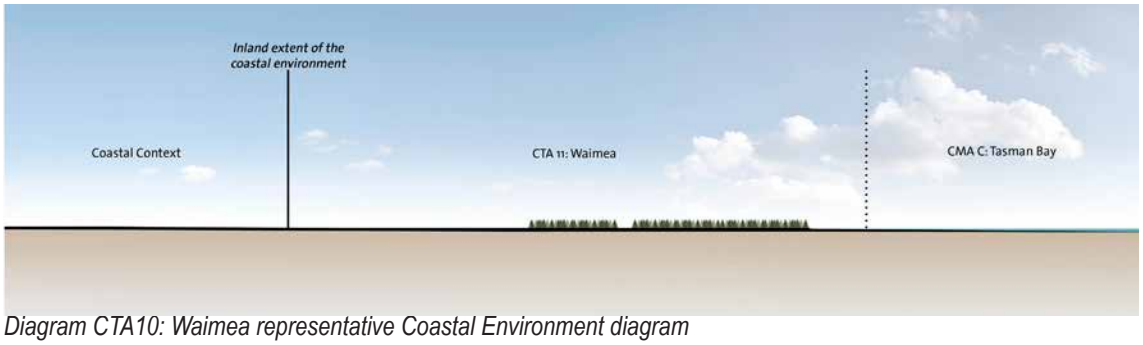


Diagram CTA10: Waimea representative Coastal Environment diagram

Abiotic

The Waimea Coastal Terrestrial Area forms part of the Moutere Depression and contains the mouth of the Waimea River. The Coastal Terrestrial Area sits at the south-eastern end of Tasman Bay and has an underlying geology of Holocene river gravels. The coastline is characterised by the Waimea Inlet, the largest semi-enclosed estuary in the South Island.

Geopreservation sites within this Coastal Terrestrial Area include the regionally significant Moutere Bluffs, and nationally significant Moturoa/Rabbit Island.

The main waterway within the Waimea Coastal Terrestrial Area is the Waimea River, which originates in the northwest Richmond Ranges and flows into Waimea Inlet. The Waimea River has been modified by stopbanks in its lower reaches, bridging and water abstraction for irrigation. Water abstraction can result in high water temperatures during low summer flows and can restrict fish passage (Hay & Young, 2005). Other waterways within the Waimea Inlet are small and often ephemeral (James & Kroos, 2011).

To the north of the inlet, the beaches which face Tasman Bay are narrow and are lined with coastal protection measures from the Grossi Point to Moutere Bluff. Natural coastal dynamics, but which are likely exacerbated by climate change, have resulted in significant sediment erosion in areas (Schuckard & Melville, 2019), such as at the eastern end of Rabbit Island. This resulted in loss of the sand beach; subsequently, an island developed on the Nelson and Tasman District boundary, “Sand Island”, between Rabbit Island and Nelson Airport (Schuckard & Melville, 2013).

The regional sewage scheme treats urban effluent at Bell Island in Waimea Inlet; the treated sewage is discharged into the Inlet on outgoing tides. Other modifications in the Coastal Terrestrial Area include: the installation of coastal protection structures to manage beach erosion along Ruby Bay and between Mapua and Grossi Point; bridges across the Waimea River; construction of the Ruby Bay bypass which has resulted in loss and fragmentation of the coastal margin; and the installation of stopbanks/bunds along the lower extent of the Waimea River within the Coastal Terrestrial Area (Schuckard & Melville, 2019).

Land reclamation has occurred to the south of the Coastal Terrestrial Area to make way for farmland. This in turn has claimed part of the estuary and saltmarsh environment which still exists today.

Climate within this Coastal Terrestrial Area is much warmer and drier than other parts of the Tasman District. This is due to the Coastal Terrestrial Area being sheltered by the Wharepapa/Arthur Range from rain-bearing systems which come from the west and south. The average yearly rainfall is 1,000 mm, while annual sunshine hours are 2,400. The average annual temperature in summer is 22°C while in winter this drops to 3°C.

Biotic

The total land area within the Waimea Coastal Terrestrial area is 2,672 ha, of which 42.1% is exotic forest, 31.4% is pasture, 14.4 is artificial surfaces, 4% is water bodies, 3.6% is cropland or horticulture, 1.8% is native forest, 1.7% is bare or lightly-vegetated surfaces, 1.2% is native wetland and 0.02% is exotic scrub.

Only a very small proportion of the Waimea Coastal Terrestrial Area is formally protected. Important protected areas are the McKee Memorial Scenic Reserve and a 2.2 ha QE covenant immediately south of the Reserve between Moutere Bluff and Ruby Bay and No Mans Island Nature Reserve in the Waimea Inlet south of Mapua.

The Waimea Coastal Terrestrial Area is mostly within the Motueka Ecological District. Prior to human arrival almost all of the Ecological District and Coastal Terrestrial Area would have been forested. Ngaio (*Myoporum laetum*), cabbage tree (*Cordyline australis*), kowhai and totara (*Podocarpus totara*) would have been common along the coastal bluffs and fringing estuaries. Alluvial plains and terraces supported podocarp forests with totara (*Podocarpus totara*), matai (*Prumnopitys taxifolia*) and kahikatea (*Dacrycarpus dacrydioides*). Vegetation on the low hills was mixed podocarp / beech forest with black (*Fuscospora solandri*) and hard beech, rimu, totara (*Podocarpus totara*), kamahi (*Weinmannia racemosa*), titoki and tawa. Freshwater wetlands would have included lowland swamps with kahikatea

(*Dacrycarpus dacrydioides*), harakeke, cabbage tree (*Cordyline australis*), *Carex secta* and raupo. Riparian ecosystems (trees, shrubs, flaxes, toetoe, etc.) would have bordered rivers and streams. Estuaries would have had vegetation sequences grading from eelgrass and saline turf into rushes, sedges, harakeke (lowland flax) and shrubs (mainly saltmarsh ribbonwood, mingimingi and mānuka (*Leptospermum scoparium*)) and then into forest (G. Walls & Simpson, 2004).

The larger coastal (barrier) islands in the Coastal Terrestrial Area were probably originally dominated by lowland totara (*Podocarpus totara*) forest. This vegetation type is now very rare and the only example that remains is a tiny, modified secondary remnant on Rough Island. Young lowland totara (*Podocarpus totara*) dominate the remnant and mature kānuka (*Kunzea ericoides*) are also present. The broadleaved canopy and sub-canopy component are comprised of kohuhu, fivefinger, mahoe and mapou (North, 2014).


Totara foliage (Podocarpus totara). Boffa Miskell.

The only remaining fen wetland on a barrier island in the Ecological District is on Rough Island. This wetland is groundwater fed and partly dominated by forest and scrub of cabbage trees (Cordyline australis) and mānuka (*Leptospermum scoparium*) with open areas of giant sedge, herbs and sedges that are largely exotic. Although modified, it is a very rare example of this type of wetland. Two locally rare Coprosma species occur in the wetland; *Coprosma propinqua* which is common in the wetland but only known from one other site in the Waimea Inlet, and one plant of swamp coprosma which was not recorded elsewhere in the Ecological District by North (2014). The sedges *Carex fascicularis* and *Baumea articulata* are reported only from the Rough Island wetland, although the latter has been spread to a few nearby wetlands (North, 2014).

No Mans Island, a small island in the Waimea Inlet that is a Nature Reserve is used by DOC as a 'marooning island' for the recovery of rare coastal plant species such as coastal peppercress (S. Courtney pers. comm. 2020).

The Waimea River mouth has a coastal estuary that provides significant shorebird habitat. Waimea Inlet East and Waimea Inlet West are two of eight areas of international importance along the Tasman District coast as roost sites for resident and/or migratory shorebirds. The inlet as a whole is of international importance for variable oystercatcher. Waimea Inlet East is also of international importance for South Island pied oystercatcher and wrybill, and of national importance for red know and bar-tailed godwit (Schuckard & Melville, 2013). Waimea Inlet East has three subsites (Bell Island, Sand Island and the eastern end of Rabbit Island) used by the same population of birds depending on weather, levels of disturbance and tide levels. Besides providing roosting habitat, Bell Island and Rabbit Island are important nesting site for variable oystercatcher. Bell Island also provides nesting habitat for Caspian tern and general habitat for black-fronted tern (it regularly supports 1% of the population). Rabbit Island and Rough Island provide breeding habitat for pied shag (Schuckard & Melville, 2019). White-faced heron and royal spoonbill are regular visitors to the Coastal Terrestrial Area; reef heron are also occasionally observed along the rocky coastal areas of Waimea (Schuckard & Melville, 2019).

The main waterway within the Waimea Coastal Terrestrial Area is the Waimea River, with numerous small, ephemeral streams feeding into this Inlet. Land use within the lower catchment is predominantly agricultural and horticultural and there are few riparian trees. This land use results in some nutrient enrichment, however, water quality is good as indicated by the macroinvertebrate community composition (LAWA, 2020). The Waimea River is known to support thirteen native of fish species as well as brown trout (introduced). There are a number of known inanga spawning sites within the Waimea Coastal Terrestrial Area, which are generally located in waterways at or immediately upstream of the confluence with Waimea Inlet (Tasman District Council & Tasman Bay Guardians, 2020).

Experiential

The Waimea Coastal Terrestrial Area is one of the most developed areas within the Tasman Coastal Environment. The edges of the Waimea Inlet largely contain areas of residential housing, while the islands have mixed land uses including sewerage treatment ponds and a golf course.

The Coastal Terrestrial Area is easily accessible off State Highway 60 and is well connected to the city of Nelson just outside of the District boundary to the east and Mouteka to the north-west.

While the Coastal Terrestrial Area is highly modified it does retain its high recreational value. Moturoa/ Rabbit Island caters to many sports and recreational hobbies providing walking biking and horse-riding tracks as well as opportunities for swimming, blokarting, kite surfing and picnicking. Further north there are small reserves in Ruby Bay popular with walkers including the Chaytor Reserve and Mckee Memorial Reserve.

The Great Taste Trail, a mountain bike trail which connects Nelson to the wider parts of Tasman District, passes through this Coastal Terrestrial Area. This allows riders views of the Waimea Inlet and passes through Moturoa/ Rabbit Island where riders then catch the ferry to Mapua.

Right: Fungi on Rabbit Island.
Lisa McGlinchey, Tasman District Council.

Tasman Bay / Te Tai-o-Aorere

Tasman Bay / Te Tai-o-Aorere

Rough Island Totara Forest

Moturoa / Rabbit Island

Moturoa / Rabbit Island

Bell Island

West Island

RICHMOND

Legend

Character Rating

- High Natural Character
- Very High Natural Character
- Coastal Terrestrial Areas
- Adjacent Coastal Marine\Terrestrial Areas
- Marine Reserves
- Regional Council Boundary

0 1.2 km

1:60,000 @ A3

Data Sources:
Topo maps sourced from LINZ topo 50 and 250 map series

Projection: NZGD 2000 New Zealand Transverse Mercator

Figure 32: Areas of High and Very High Natural Character within the Waimea Coastal Terrestrial Area. (Level 4)

Level 3 Rating: Coastal Terrestrial Area 10: Waimea

DEGREE OF NATURAL CHARACTER	NATURAL CHARACTER ATTRIBUTES		
	ABIOTIC	BIOTIC	EXPERIENTIAL
VERY HIGH			
HIGH			
MODERATE TO HIGH			
MODERATE			✓
MODERATE TO LOW	✓	✓	
LOW			
VERY LOW			
OVERALL NATURAL CHARACTER RATING	MODERATE LOW		

Coastal Terrestrial Area 10: Waimea

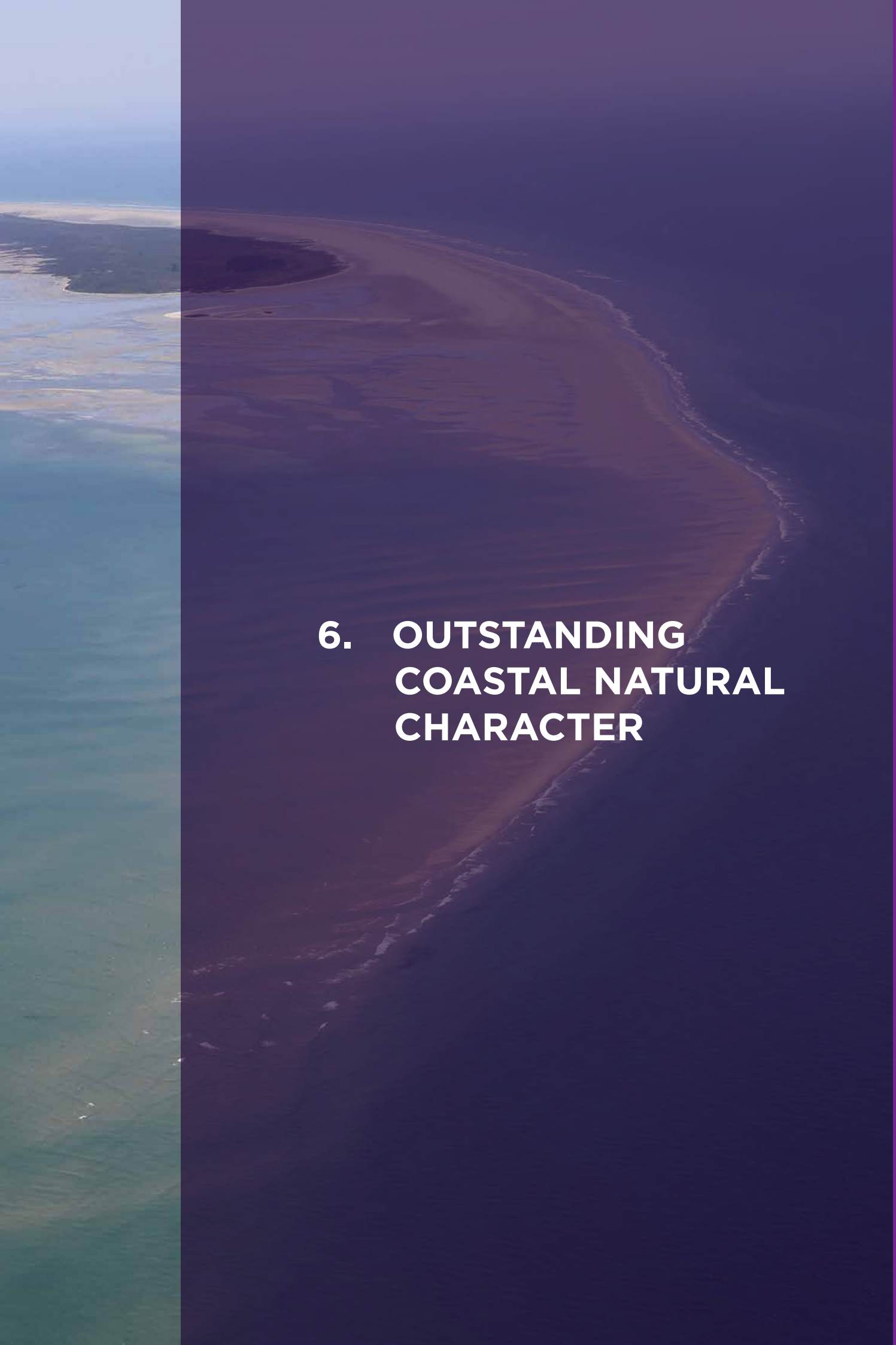
SPECIFIC CHARACTERISTICS AT THE LOCAL SCALE (LEVEL 4)

THESE ARE MAPPED WITH REFERENCE TO FIGURE 32

REFER TO COASTAL MARINE AREA B FOR FURTHER INFORMATION RELATING TO THE MARINE COMPONENT ASSOCIATED WITH THIS AREA.

AREA	OVERALL RATING	ABIOTIC	BIOTIC	EXPERIENTIAL	KEY CHARACTERISTICS	ADDITIONAL COMMENTS
ROUGH ISLAND TOTARA FOREST	H	H	H	MH	• Largely unmodified landform associated with coastal totara forest • Very rare coastal totara (Podocarpus totara) forest • Part of the Hunter Brown Reserve and popular with walkers • Moderate high levels of perceived naturalness	• Contained to the main area of vegetation (excluding individual trees and grassland)

Label: VH=Very High; H=High; MH=Moderate High; M=Moderate; ML=Moderate Low; L=Low; VL=Very Low.



6. OUTSTANDING COASTAL NATURAL CHARACTER

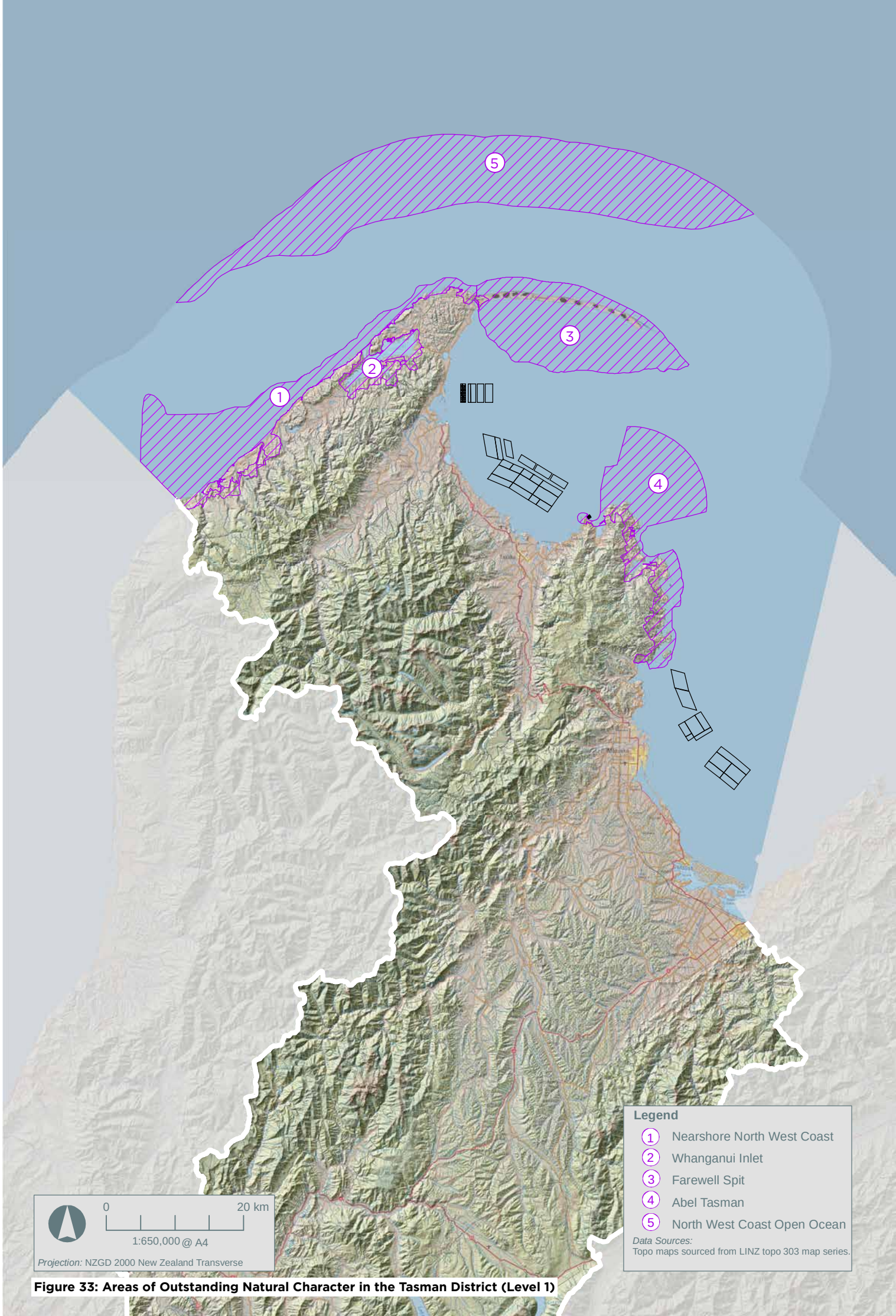


Figure 33: Areas of Outstanding Natural Character in the Tasman District (Level 1)

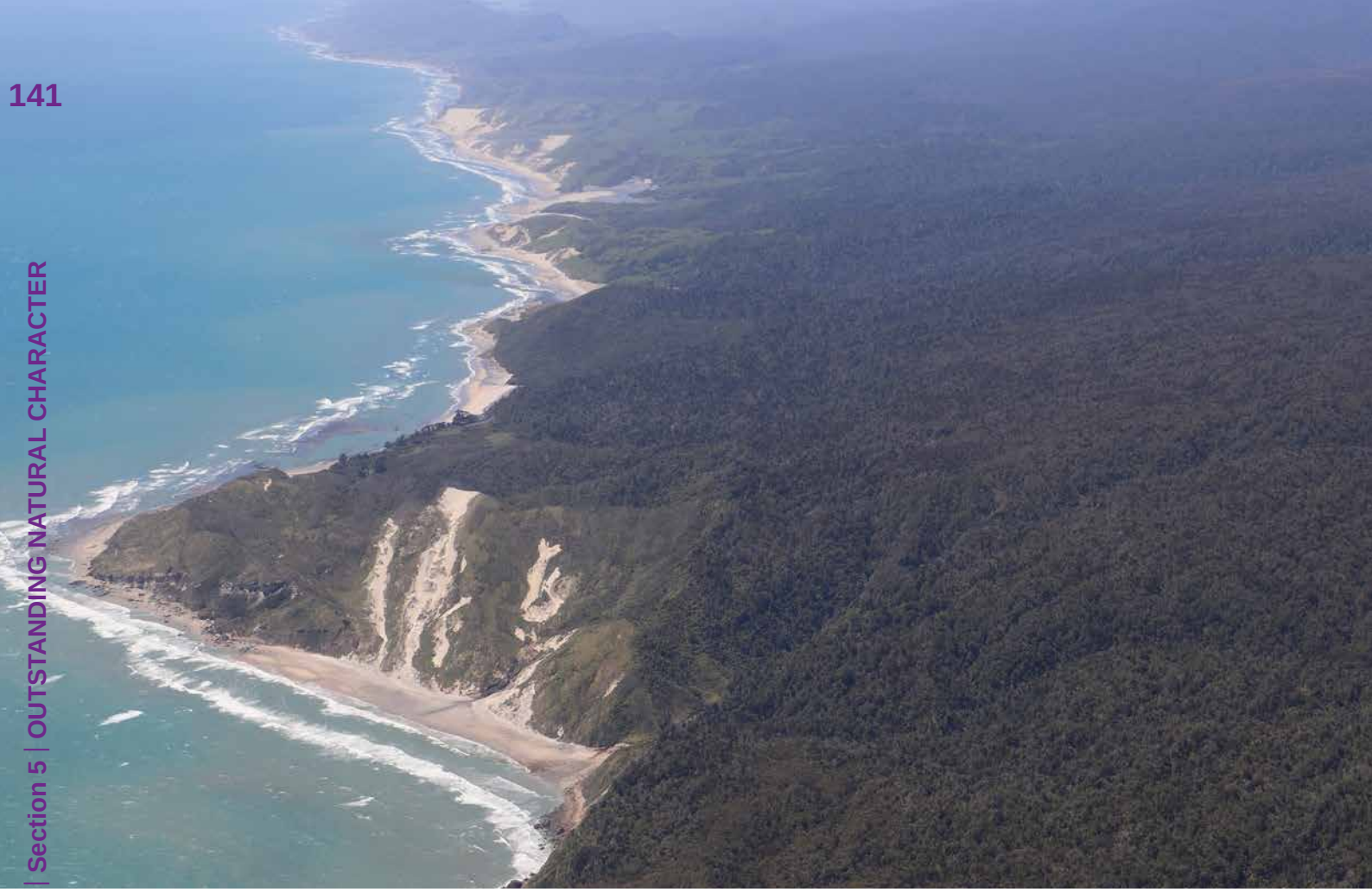
6.1. Outstanding Coastal Natural Character

As outlined within Section 2 of this Study, areas of Outstanding Natural Character (ONC) have been assessed as a separate step in the assessment process. This exercise is focussed at the more refined scale (Level 4) for each Coastal Terrestrial and Coastal Marine area. Only areas with a high or very high rating at the Level 4 scale were considered under this outstanding assessment.

The following pages outline the results of this separate assessment. In total, five separate Outstanding Natural Character Areas have been identified and mapped. They include both terrestrial and marine areas and are typically larger in extent than the individually mapped areas at the high and very high scale. These ONC areas are considered by the study team to meet the threshold statement outlined within Section 2 of this Study. They represent the most unmodified and most natural parts of the Tasman coastal environment. Over the next few pages, each ONC will be introduced accompanied by their associated values. Commentary about their mapped extent and any exclusions will also be outlined. Like any mapping project, there were some areas that enabled considerable discussion amongst the Study Team, as to whether or not the area under review met the 'outstanding' threshold. A review by terrestrial and marine ecologists also confirmed these mapped areas.

As mentioned, all areas of ONC hold at least high or very high abiotic, biotic and experiential attributes at the more refined, Level 4 scale. Figure 33 provides an overview of the ONCs for the marine and terrestrial coastal environment for Tasman District. The area was mapped at a scale of 1:10,000 or finer where possible

IDENTIFIED OUTSTANDING NATURAL CHARACTER AREAS FOR THE COASTAL ENVIRONMENT IN TASMAN (REFER TO FIGURE 33)	
1	North West Coast
2	Whanganui Inlet
3	Farewell Spit
4	Abel Tasman
5	North West Coast Open Ocean



Above: Kahurangi Point, north-western corner of the District. Boffa Miskell, 2019.

6.2. ONC Area 1: North West Coast

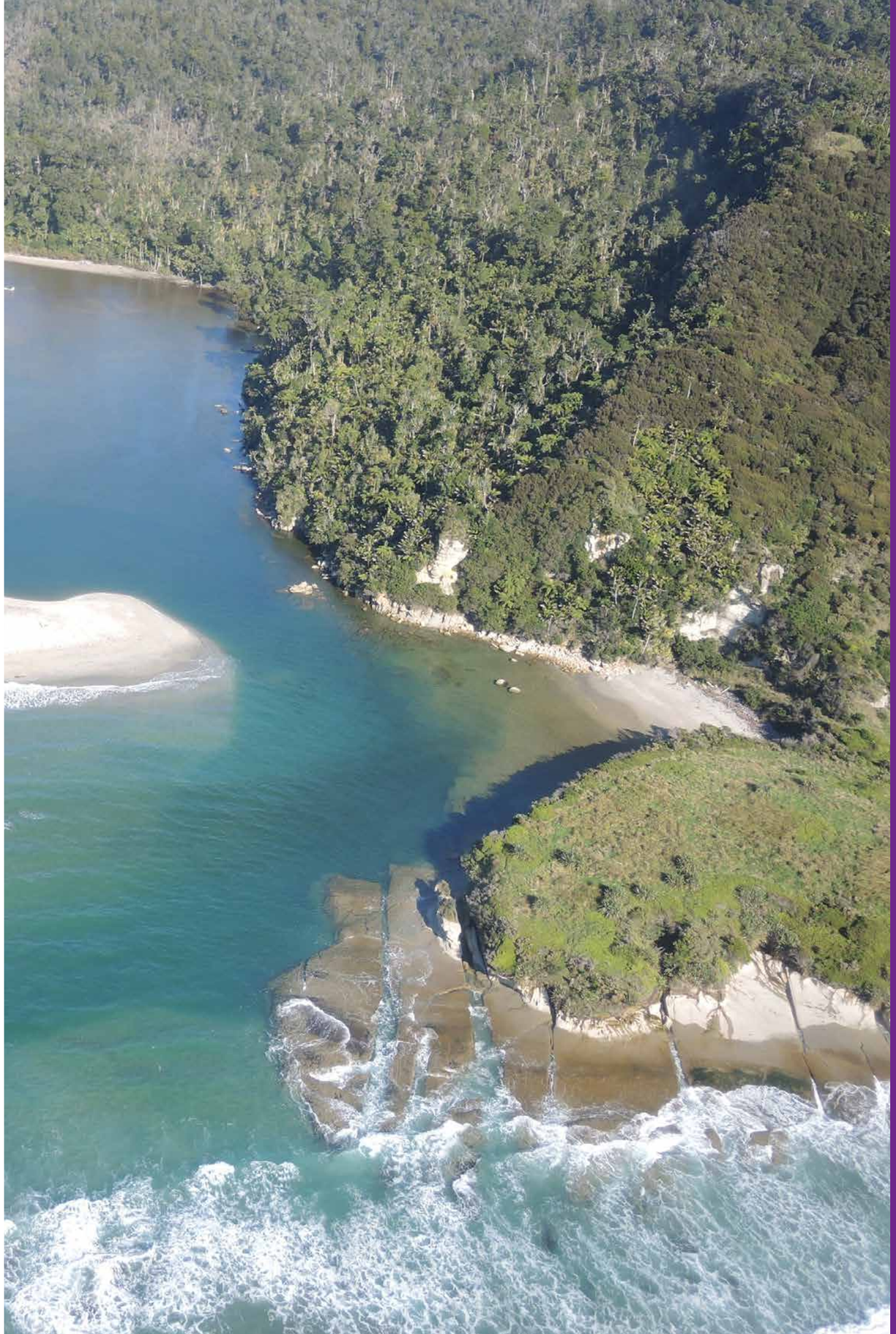
This area of Outstanding Natural Character includes the remote and unmodified parts within the North West Nelson Forest Park, Farewell Spit and within two kilometres of the north-west coast coastline. Encompassing the dramatic and highly natural intact indigenous forests, sandy beaches, precipitous cliffs, rocky outcrops, and the Archway Islands, including the northern coastal waters off Farewell Spit, this area contains some of the region's most threatened biota.

NORTH WEST COAST OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 34	
VALUES	
ABIOTIC	• Dynamic oceanic currents and nutrient rich waters • Intact sandstone and limestone mountain range forming the North-West Nelson Forest Park • Collapsed limestone features and headlands • Intact coastal islands subjected to natural erosion • Includes the regionally significant Turimawaiwi River mouth, Paturau marine terraces, Nguroa to Paturau limestone coastal features and Cape Farewell to Ngauroa coastal arches geopreservation sites • Exposed limestone cliffs subject to natural erosion with rocky headlands and sandy beaches

Table continues on page 142

NORTH WEST COAST OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 34	
VALUES	
BIOTIC	• Extensive primary and secondary indigenous forest cover • Whararíki Beach has a relatively intact sequence of dunes that support diverse vegetation and a series of inter-dune dune lakes and wetlands • Breeding colonies of sooty shearwaters,fluttering shearwaters and little blue penguins on the Archway Islands • The north-western slope of Mt Lunar and Curious Cliff support unique coastal turf, bluff and heathland vegetation communities • Coastal salt turfs supporting threatened and at-risk plant species are found at Kahurangi Point, Bar Point, Pilch Point and on the Archway Islands. • Pilch Point supports the only naturally occurring population of Carmichaelia juncea on this coast • Hotspot area for one specific morphological variant of the Nelson green gecko/starred gecko • Diverse carnivorous terrestrial snail species in forested areas on Kahurangi Point and at Mangarākau • Streams support shortfin and longfin eels, giant kōkopu, banded kōkopu and inanga populations, as well as redfin, common and giant bullies and freshwater crayfish / kēkēwai • Diverse range of polychaete marine worm species within the offshore seabed • Common dolphin, hectors dolphin, dusky dolphin, orca and fur seals present • Contains two Maitaitai reserves (Anatori and Kaihoka)
EXPERIENTIAL	• High level of naturalness due to lack of human modification and structures • Views of the Whanganui Inlet, and the Tasman Sea • High sense of wildness, isolation and remoteness due to rugged and exposed nature of the coastline • Recreational opportunities in areas such as Whararíki Beach and Fossil Point Tracks.
MAPPED EXTENT:	
The mapped extent of this area of Outstanding Natural Character is defined by the areas of Very High Natural Character mapped at the level 4 scale. For the marine environment the extent follows the very high mapping at the Level 4, as it considers trawling/ fishing practices that have affected the benthic environment beyond the near shore and Kahurangi Shoals. For the terrestrial environment, the areas has included the indigenous stands of vegetation associated with the North West Nelson Forest Park, and its connections with the coastal waters. Areas of sand dunes, wetlands and lowlands have also been included where limited or no modifications are apparent. The mapping has excluded modified areas of pasture. This Outstanding Natural Character area connects with the Whanganui Inlet ONC area as well as the Farewell Spit ONC area.	
RATING	**OUTSTANDING**

Right: Big River Mouth. Simon Walls, Department of Conservation.



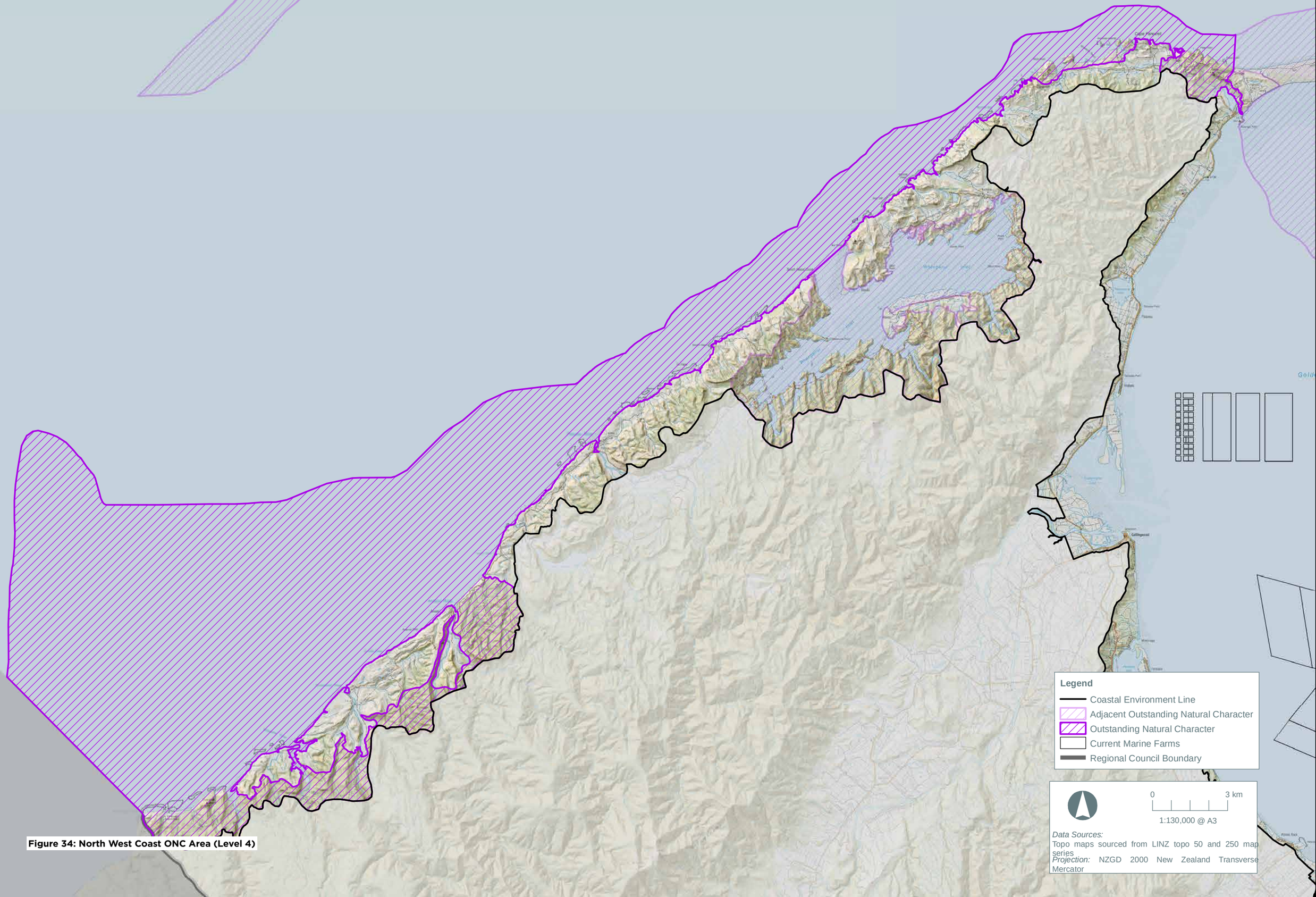


Figure 34: North West Coast ONC Area (Level 4)

Pillar Point and Whahariki Heads. Simon Walls, Department of Conservation.

Above: View of the western Whanganui Inlet from Dry Road. Boffa Miskell, 2019.

6.3. ONC Area 2: Whanganui

This area of Outstanding Natural Character includes the ecologically rich and broadly intact vegetation sequences of lowland and coastal forest and waters of Whanganui Inlet. Due to the lack of modification and its remote location, the inlet supports a diverse range of habitats and communities including wader birds, fur seals, and marine and freshwater fish species that are unrivalled within the top of the South Island.

WHANGANUI OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 35	
VALUES	
ABIOTIC	• Drowned river valley system formed from sandstone • Exposed rocky headlands and cliffs largely intact • Intact sand dune system near the mouth of the inlet • One of the best examples of inlets in New Zealand due to lack of land clearance and modification
BIOTIC	• Forms the Westhaven (Te Tai Tapu) Marine Reserve and the Westhaven Wildlife Management Reserve • Fur seals haul out at the mouth of the Whanganui Inlet • Important breeding site for banded rail, banded dotterel and Australasian bittern • Population of critically threatened shrub Brachyglottis cockaynei on conglomerate cliffs and shoreline in the northern part of the inlet • Provides nursery and feeding habitat for thirty-eight marine fish species and twelve freshwater fish species • Contains valuable saltmarsh vegetation and eel grass

Table continues on page 146

Above: Brachyglotti cockaynei at Whanganui Inlet. Simon Walls, Department of Conservation.

WHANGANUI OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 35	
VALUES	
EXPERIENTIAL	• High level of naturalness due to lack of human modification and structures • Views of the Whanganui Inlet, and the Tasman Sea • Isolated and remote experiences • Recreational opportunities for walkers and kayakers • The transient ebb and flow of the movement of the tide exacerbates the perceived naturalness of the intertidal area.

MAPPED EXTENT:

The mapped extent of this area of Outstanding Natural Character is defined by the areas of Very High Natural Character. This area excludes the area of farmland near Rakopai.

Within the marine environment, this has included all of the coastal waters, including the areas where the road acts as a causeway over numerous inlets. There are limited marine based modifications (other than the road modifications) and these are considered to be minor within the broader area.

The terrestrial area mapped includes all areas of indigenous vegetation surrounding the inlet, extending to the inland coastal environment boundary.

RATING	OUTSTANDING

Right: Whanganui Inlet entrance. Boffa Miskell, 2019.

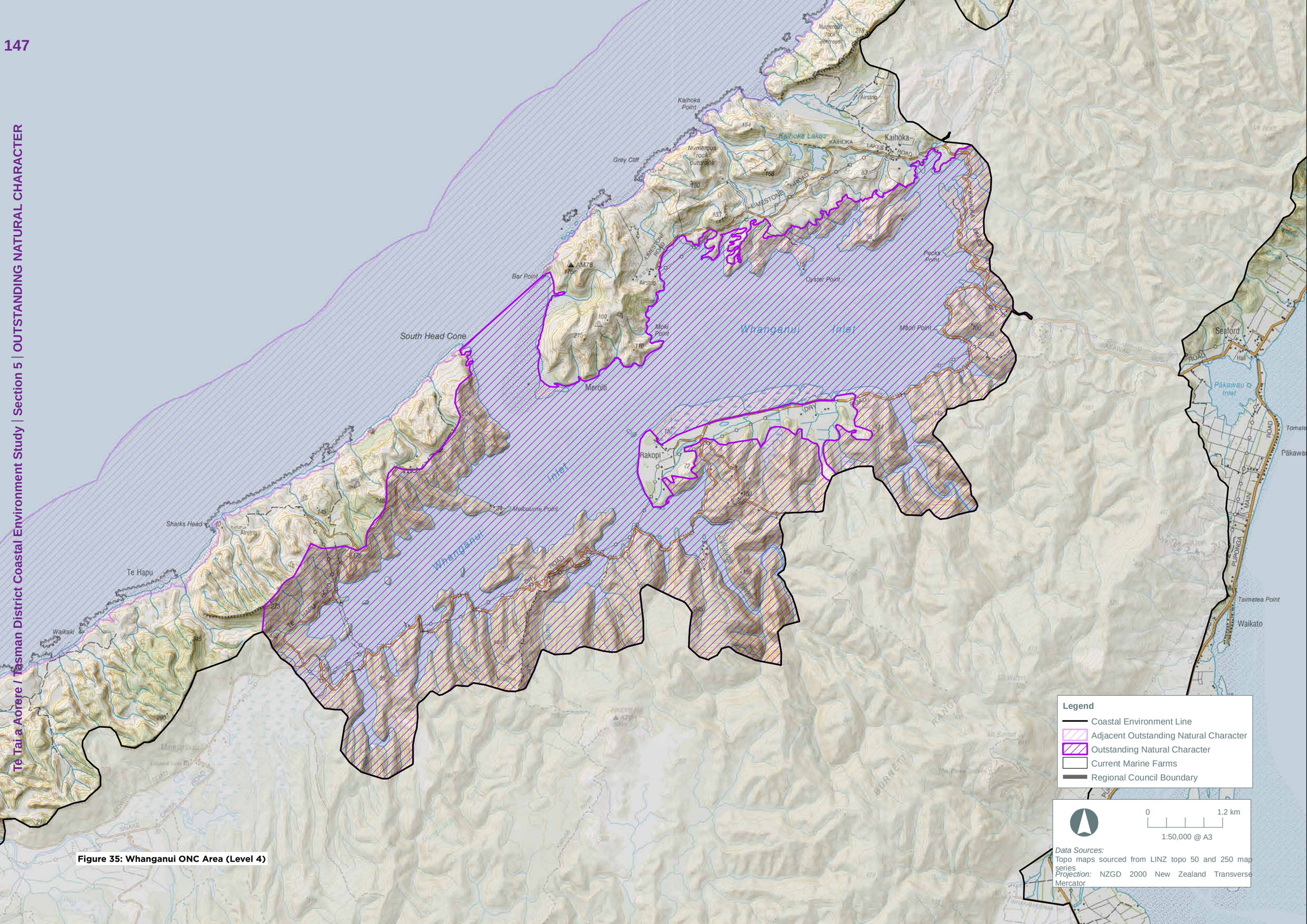


Figure 35: Whanganui ONC Area (Level 4)

View looking south towards the Whanganui Inlet.
Boffa Miskell, 2019

Above: Gannet colony on Farewell Spit. Simon Walls, Department of Conservation.

6.4. ONC Area 3: Farewell Spit

This area of Outstanding Natural Character is unique nationally for its geomorphological processes and internationally recognised for its ecological values, particularly for wader birds. Farewell Spit provides an exemplary habitat for numerous invertebrates, fish and bird species due to the intact sand dunes which run the length of the spit. This Outstanding Natural Character area also includes the intertidal and saltmarsh coastal water habitats to the south.

FAREWELL SPIT OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 36	
VALUES	
ABIOTIC	• Longest sandspit in New Zealand formed from West Coast quartz sands • Five distinct landscape features including ocean beach; mobile dune belts; inter-dune hollows; low rolling dunes and intertidal sandplains • Dynamic natural processes with naturally uncommon active dune systems • Exposed limestone cliffs subject to natural erosion near Fossil Point • Internationally significant geopreservation site • Formed from the dynamic natural processes associated with the Westland Current

Table continues on page 150

FAREWELL SPIT OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 36	
VALUES	
BIOTIC	• Internationally recognised as a RAMSAR site and 98% of Farewell Spit is protected • Intact stand of regenerating broadleaved indigenous hardwoods and mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea ericoides*) near Fossil Point • High diversity and population of wader bird species, as well as other bird species including little blue penguins • Over eighty wetland birds have been recorded on Farewell Spit • Whales, dolphins and orca frequent these waters. Species include pilot whales, sperm whales, minke and fin whales • Stronghold for the red katipo spider • Regenerating indigenous species including mānuka (*Leptospermum scoparium*), kānuka, lowland flax, bracken, sedges (*Carex spp.*), herbs, kaikomako, rimu and some akeake • Valuable areas of salmarsh and eel grass providing habitat for wader birds, invertebrate and fish species.
EXPERIENTIAL	• Isolated, wild and remote experiences • Expansive views of the Tasman Sea and Golden Bay • Popular walking tracks and recreational opportunities are available at Farewell Spit, including the Fossil Point track and bus tours of the spit. • The transient ebb and flow of the movement of the tide exacerbates the perceived naturalness of the intertidal area.

MAPPED EXTENT:

The mapped extent of this area of Outstanding Natural Character is defined by the areas of Very High Natural Character east of Pillar Point and the intertidal flats south of Farewell Spit. The area of farmland at the base of the spit has been excluded from this area of Outstanding Natural Character.

For the marine environment the extent follows the very high mapping at the Level 4, as it encompasses the entire intertidal and saltmarsh coastal water habitats to the south. Beyond this area of Outstanding Natural Character trawling/ fishing practices has affected the benthic environment and delimited the mapped extent. To the south, a similar level of modification has resulted in the extent. Aquaculture within Golden Bay has also been a determining factor.

All of the terrestrial environment of the Spit has been included, despite parts being slightly modified (presence of a lighthouse at the end of the Spit for example). These modifications are small in comparison with the large internationally recognised spit.

RATING	OUTSTANDING

Right: View of Farewell Spit Interdial Area and the Tasman Sea. Boffa Miskell, 2019.

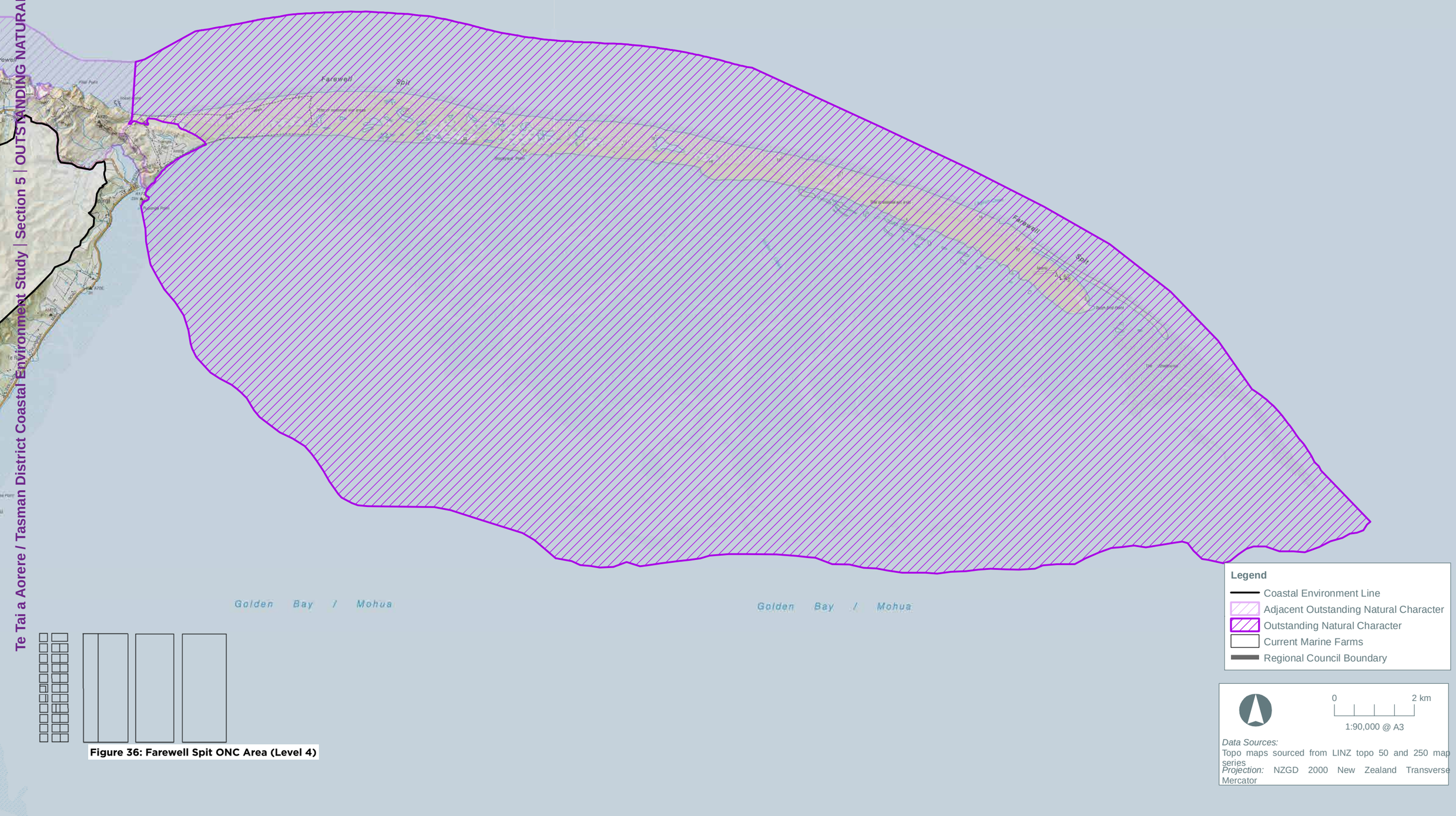
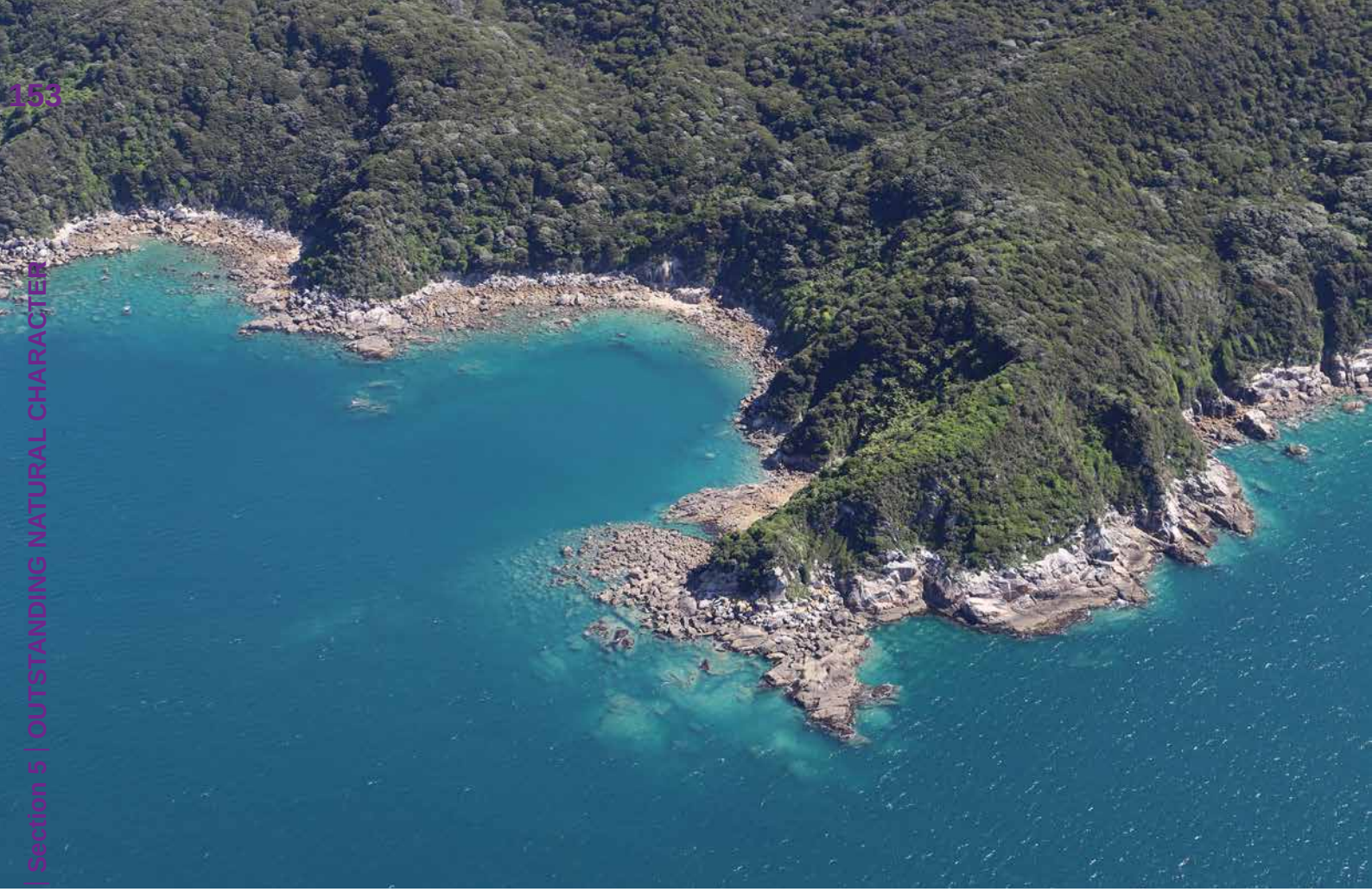


Figure 36: Farewell Spit ONC Area (Level 4)

Flower on Farewell Spit.Simon Walls, Department of Conservation.



Above: Brereton Cove near Awaroa Bay. Boffa Miskell, 2019.

6.5. ONC Area 4: Abel Tasman

This area of Outstanding Natural Character encompasses the majority of the Abel Tasman National Park coastline and includes the extensively unmodified areas of native broadleaf and podocarp forest, extending from the coastal ridge to the sea floor. The Abel Tasman Outstanding Natural Character area is renowned throughout New Zealand and internationally for not only its abiotic and biotic values, but its recreational and remote experiential values and includes the unmodified rich coastal waters of the Tonga Island Marine Reserve and Separation Point Exclusion Area.

ABEL TASMAN OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 37	
VALUES	
ABIOTIC	• Separation Point Exclusion Zone remains one of the least modified areas Golden Bay • Distinctive and highly legible granite headlands and cliffs unique to this part of the Tasman coastline • Contains regionally significant Separation Point headland, Tonga Bay granite quarry, and Bark Bay sand barrier and estuary geopreservation sites. This also includes the nationally significant Honeymoon Bay orbicular granite, and Breaker Bay orbicular granite. • The Tata Islands are granite islands unique to this part of the Tasman coastline and are a regionally signifcant geopreservation site

Table continues on page 154

ABEL TASMAN OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 37	
VALUES	
BIOTIC	• The Raukawa gecko is found on Adele Island and there are records of king shags being present • Provides important habitat for little blue penguins, orca, dolphins and fur seals. • Tonga Island has the second largest New Zealand fur seal breeding colony at the top of the South Island. • Fur seals haul out from the Tata Islands • Reefs and rocky shores provide habitat for species such as reef heron, black-backed gull, red-billed gulls, pied shag, and spotted shag • Intact area of regenerating broadleaved indigenous forest and primary indigenous forest • Contains important roosting sites for wader bird species • Habitat present for numerous bird species such as the fernbird (Bowdleria punctata), banded rail (*Gallirallus philippensis*), Australasian bittern (*Botaurus poiciloptilus*) and the marsh crake (*Porzana pusilla*) • Marsh crake and spotless crake have been recorded within the Awaroa estuary • Intact habitat within the Separation Point Exclusion Zone and Tonga Island Marine reserve for marine fish and invertebrate species • Separation Point provides a nursery for juvenile fish species • Regionally significant bryozoan coral beds are present • Coherent areas of saltmarsh vegetation around the estuaries and inlets
EXPERIENTIAL	• Renowned for having a mild climate and sandy beaches • Remote, wild and isolated experiences • High recreational and naturalness values due to dominance of natural elements, patterns and processes. • Strong transient aspects including the seasonal display of pohutukawa and flowering rātā; the highly dynamic inlets, estuaries, dunes and spit landforms; the highly visible coastal erosion processes; birdlife; the varying weather conditions expressed in surface water conditions; and the dynamic patterning of light on intertidal areas.

MAPPED EXTENT:

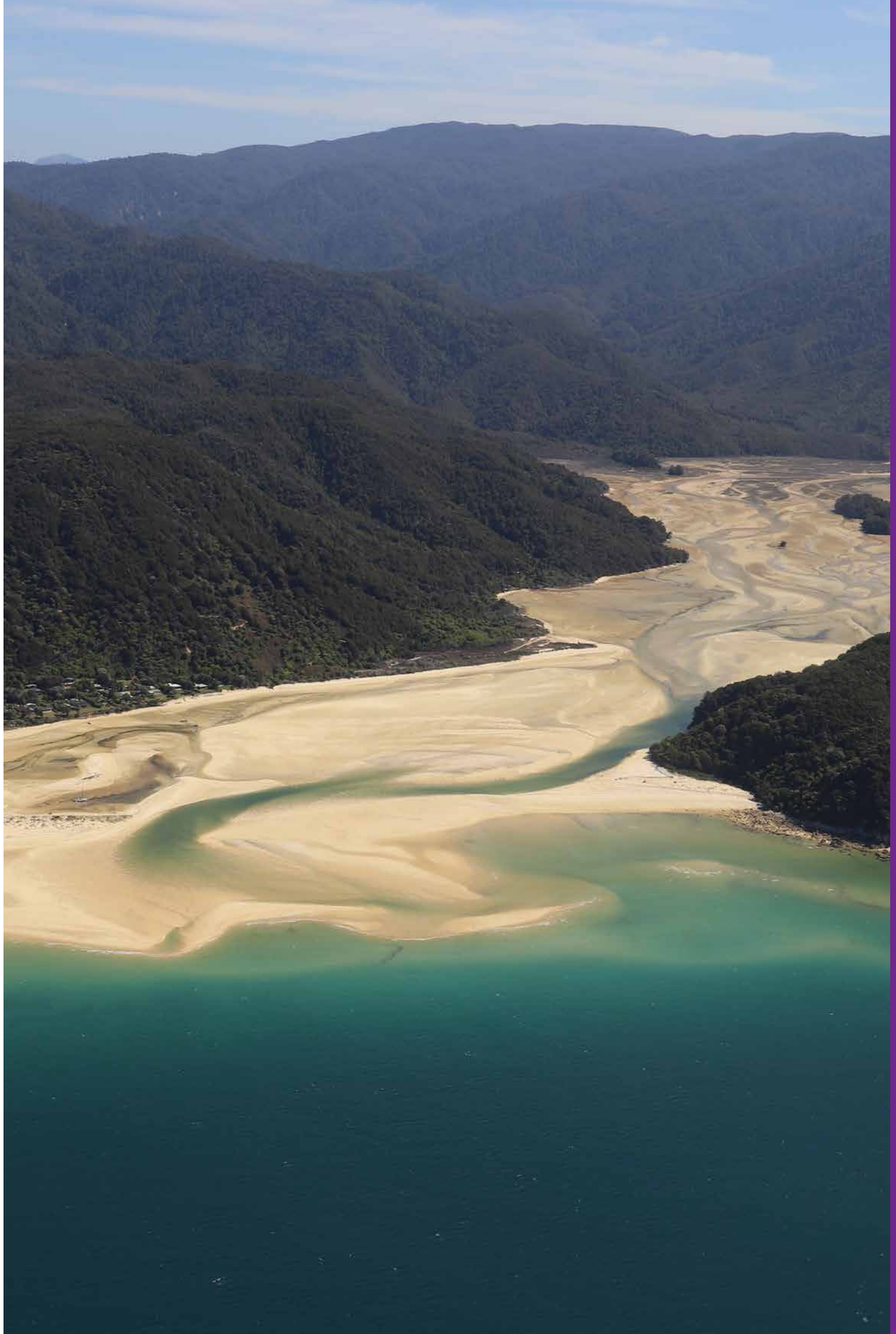
The mapped extent of this area of Outstanding Natural Character includes areas of Very High Natural Character in both the Abel Tasman Marine and Terrestrial Areas.

The marine environment includes the Tonga Island Marine Reserve and the Separation Point Exclusion Area. The latter is a recognised area where no fishing, trawling or dredging occurs. Beyond this are more modified open waters, where fishing and trawling methods are well established and have affected the natural character of the benthos.

For the terrestrial environment the extent of the mapping extends to the limits of the inland coastal environment boundary including the indigenous forest clad hills and wetlands. All areas of modified pasture and small settlements have been excluded. All offshore islands have been included.

RATING	OUTSTANDING

Right: Awaroa Bay.
Boffa Miskell, 2019.



Tasman Bay / Te Tai-o-Aorere

Legend

- Coastal Environment Line
- Adjacent Outstanding Natural Character
- Outstanding Natural Character
- Current Marine Farms
- Regional Council Boundary

0 3.4 km

1:150,000 @ A3

Data Sources:
Topo maps sourced from LINZ topo 50 and 250 map series
Projection: NZGD 2000 New Zealand Transverse Mercator

Figure 37: Abel Tasman ONC Area (Level 4)

Above: Southern Right Whale. Department of Conservation.

6.6. ONC Area 5: North West Coast Open Ocean

This area of Outstanding Natural Character encompasses the northern most area of the North West Coast Coastal Marine Area. This part of the Tasman marine environment is incredibly dynamic due to the meeting of the Westland and D'Urville Currents and remains largely untouched with infrequent or no presence of trawling and dredging. As a result, this area of Outstanding Natural Character represents a largely unmodified tract of open ocean within the Tasman District.

ABEL TASMAN OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 38	
VALUES	
ABIOTIC	• Dynamic oceanic conditions and nutrient rich waters • Intact benthic environment due to infrequent trawling
BIOTIC	• Several marine mammal species inhabit or pass through these waters. • Polychaete worm species and various bryozoan species • Offshore benthic communities associated with sand and mud include cockle species such as *Pratulum pulchellum*, and the dog cockle *Tucetona laticostata*, and bivalve species including the morning star shell (*Tawera spissa*), and *Mactra ordinaria* are present • Sea birds present include cape petrels (*Daption capense*), sooty shearwater (*Ardenna grisea*), New Zealand white capped albatross (*Thalassarche steadi*), great albatross (*Diomedea sp.*), southern black backed gull (*Larus dominicanus*), black-browed albatross (*Thalassarche melanophris*), southern royal albatross (*Diomedea epomophora*), giant petrels (*Macronectes giganteus*), and the Westland petrel (*Procellaria westlandica*) • Marine mammals include common dolphin (*Delphinus delphis*), dusky dolphins (*Lagenorhynchus obscurus*), Hector's dolphins (*Cephalorhynchus hectori*), and orca (*Orcinus orca*) all frequent these waters as well as southern right whales (*Eubalaena australis*) and blue whales (*Balaenoptera musculus*)

Table continues on page 158

Above: Farewell Spit and the Tasman Sea. Boffa Miskell, 2019.

ABEL TASMAN OUTSTANDING NATURAL CHARACTER ATTRIBUTES AND VALUES (LEVEL 4)	
REFER TO FIGURE 38	
VALUES	
EXPERIENTIAL	• Expansive, unmodified views of the Tasman Sea and wild experiences • Lack of human light sources and modification • Transient values of marine wildlife and currents • Wild and remote experiences

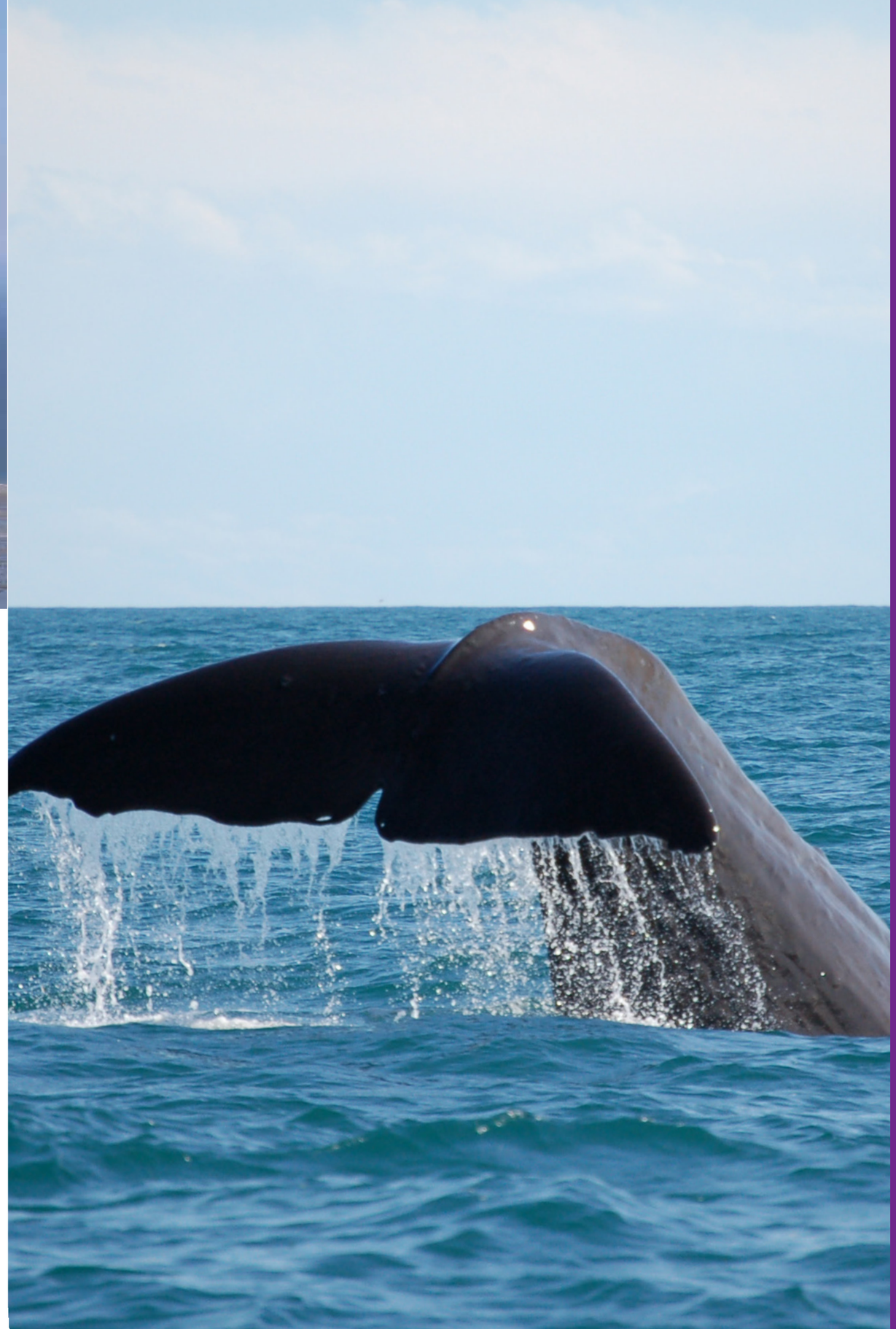
MAPPED EXTENT:

The mapped extent of this area of Outstanding Natural Character is defined by North West Coast Open Ocean area of Very High Natural Character from the North West Coast Coastal Marine Area.

The marine environment includes the area of lightly trawled or unmodified areas of the Tasman marine environment on the north-west coast. This part of the North West Coast Coastal Marine Area is close to the 12 Nautical Mile mark and is part of the highly dynamic Westland Current system.

RATING	OUTSTANDING

Right: Whale breaching the surface of the ocean. Department of Conservation.



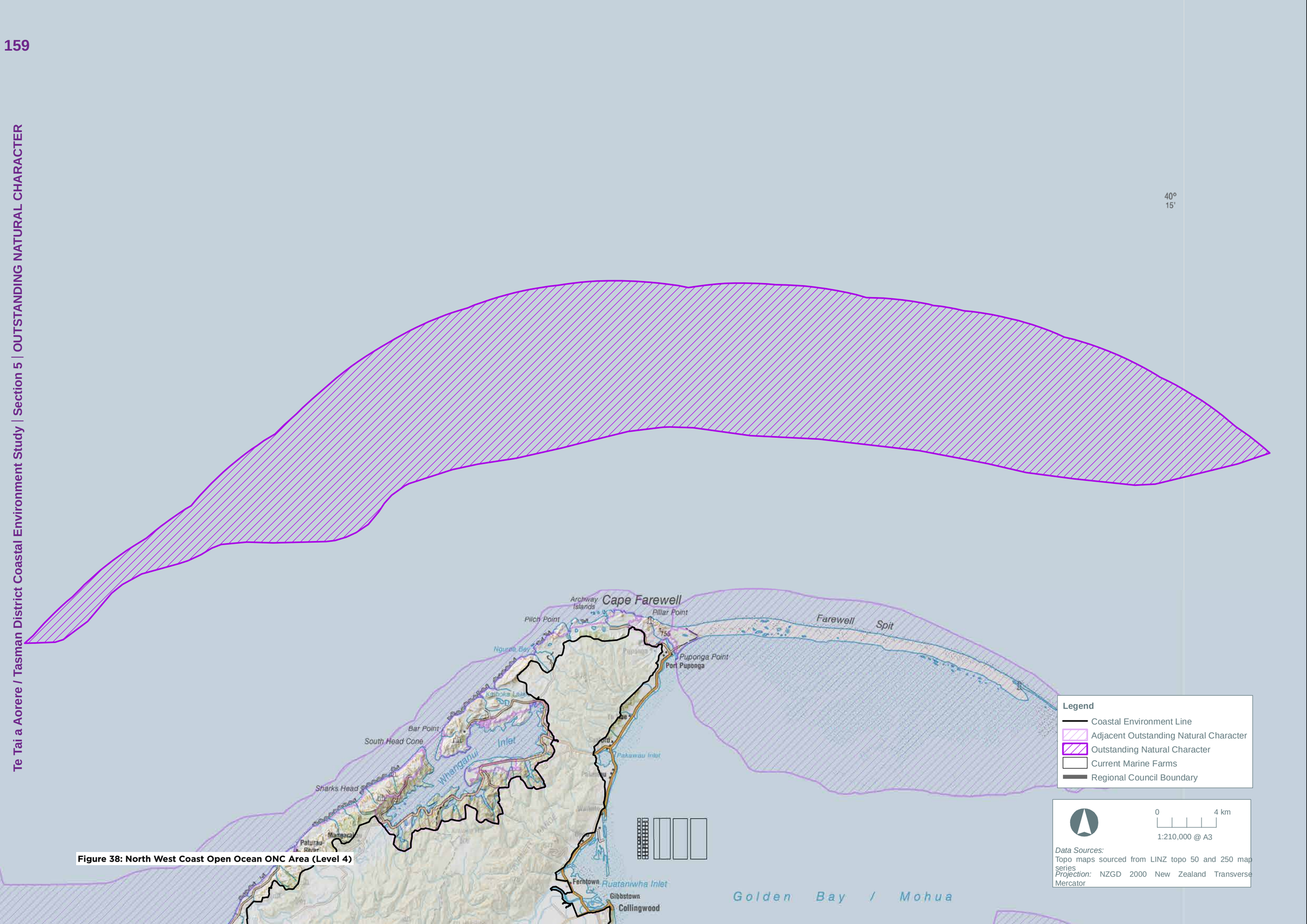
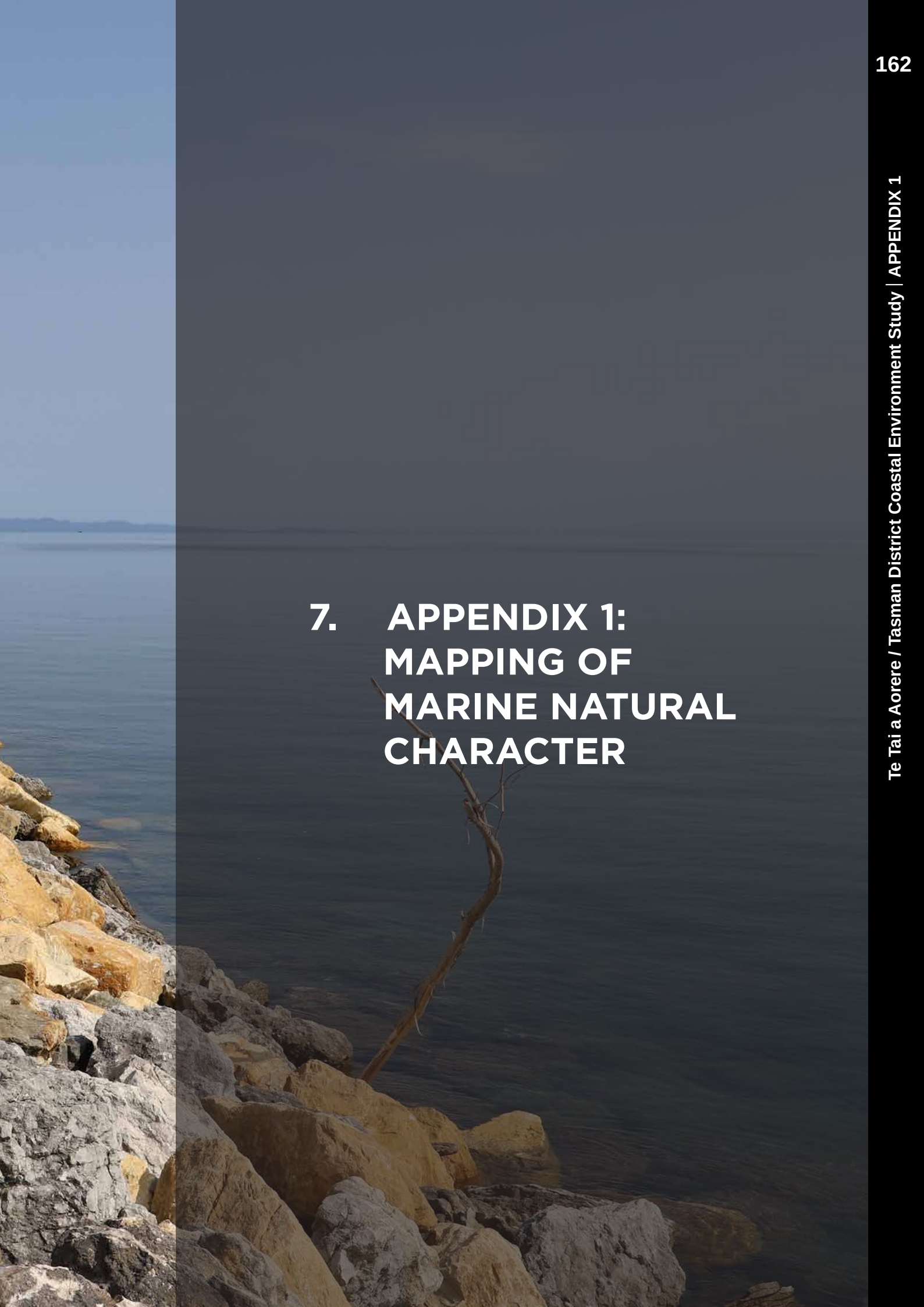


Figure 38: North West Coast Open Ocean ONC Area (Level 4)



7. APPENDIX 1: MAPPING OF MARINE NATURAL CHARACTER

7.1. Introduction

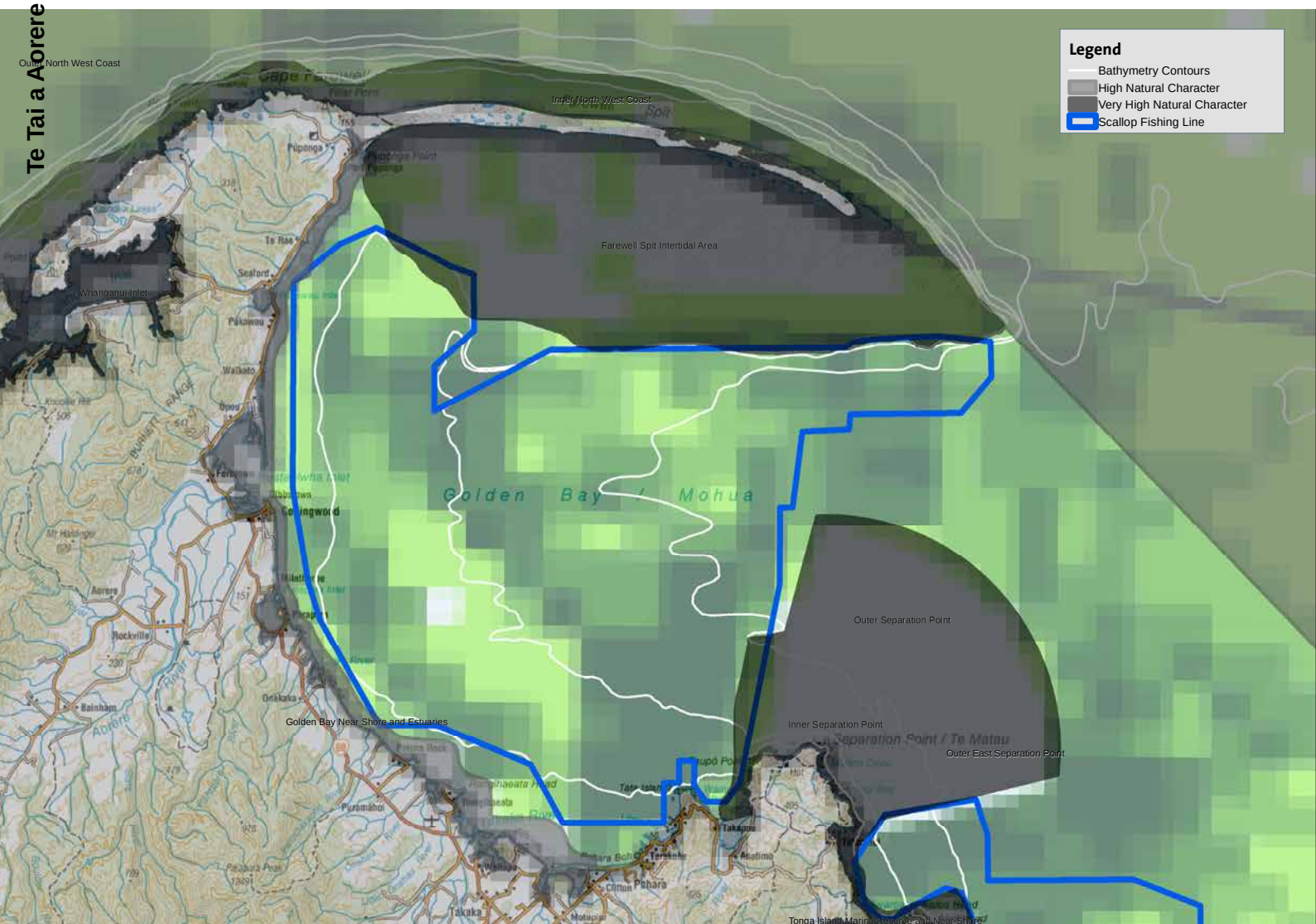
To assist in defining the degree of natural character within the marine environment, specific information from the Ministry for Primary Industries (MPI) and others was utilised. Specifically, this information was in regard to the modification which has been carried out within Golden Bay and Tasman Bay and within the waters off the north west coast. Data provided by MPI includes the bottom trawl effort from 2007-2013. Other data includes scallop fishing averaged over a six and sixteen year period up to 2012 (Obsorne et al, 2014) and dredging

All of this modification affects the rating of marine natural character to various degrees, and based on this, Boffa Miskell Limited incorporated this information to determine (as best as possible) the High, Very High and Outstanding Natural Character boundaries, to reflect the level of modification associated with fishing efforts within the Southland Region. This information was used alongside other information to assist in determining the degree of natural character of an area.

7.2. Methodology

Using this data, Boffa Miskell Limited was able to determine areas of High, Very High and Outstanding Natural Character boundaries throughout Tasman's coastal marine area. Due to the variety of scales of the data, this required a level of interpretation (see image below), which also has an effect on the experiential aspects of natural character. The data did vary, and any decisions made were made in light of the information we had to hand. Whilst some information was quite detailed in its mapping, other data was very broad and made decision making more tricky. Duration of an activity, where possible has also been taken into account.

Each image was georeferenced in GIS and overlayed to assist in forming the Natural Character boundaries for the Tasman Coastal Study. For consistency, each set of data was applied to each of Tasman's Coastal Marine Areas and these new boundaries were drawn at 1:10,000 scale.



7.3. Types of modification to the Coastal Marine Area

There are numerous human-induced modifications that can affect an area's level of natural character. Within the marine environment, an area's natural character includes all the abiotic aspects (including the seabed, the water column, the water surface, the air above the water) as well as biotic (including fish, sea mammals and habitats) and experiential aspects. Modification can occur to any part of coastal marine area. The material provided by MPI focussed predominantly on fishing efforts, and these and other types of modification in the coastal marine area are listed below:

7.3.1. Seabed Modification

Within Tasman's Coastal Marine areas there are four main fishing activities which occur, impacting the abiotic and biotic values of benthic habitats on the sea floor. The following information provided by the MPI explains each of these activities:

Bottom trawling

Bottom trawling involves the use of a large net which is towed by one (single) or two (pair) vessels. The net is controlled by steel trawl doors which can weigh up to five tonnes each and guided by ground rollers/bobbins which are approximately one metre in diameter and two-hundred kilograms in weight. The net is then dragged along the sea bed to catch bottom dwelling fish species.

Set netting

Set netting is the anchoring of a large net to the sea floor and held up with a series of floats to prevent the net from sinking. Nets cannot be larger than sixty metres wide or set within sixty metres of another net. Depending on the target species, these nets can be set at the surface, midwater or on the sea bed with restrictions in place to prevent the catch of protect species such as Hector's and Maui dolphins.

Dredging

Dredging is specifically used to catch benthic species such as oysters and scallops from shallow waters. Much like bottom trawling, a boat tows the steel nets along the sea floor to catch these species before hauling the nets back up to the surface.

Other seabed modifications include, reclamation, anchorage points (for a range of activities), drilling and fracking, piers, wharves, groynes and seawalls, outfalls, sedimentation (from land use activities), ship wrecks and dredging for the maintenance of shipping channels.

Each of these methods cause varying degrees of modification to the abiotic and biotic values of marine habitats. In the context of this review, major anchorage points have also been considered, particularly to the north east of Stewart Island.

7.3.2. Other types of modification in the marine environment

Other types of modification that can affect the marine natural character of an area can include the following:

- Fishing (which does not affect the seabed)
- Boating traffic and vessel activity (including berthing areas/ marinas/ ports)
- Floating activities, such as aquaculture and marinas
- Biological stressors (i.e. invasive species)

Much of this data is available at a variety of scales and has been used to inform the extent of natual character mapping.

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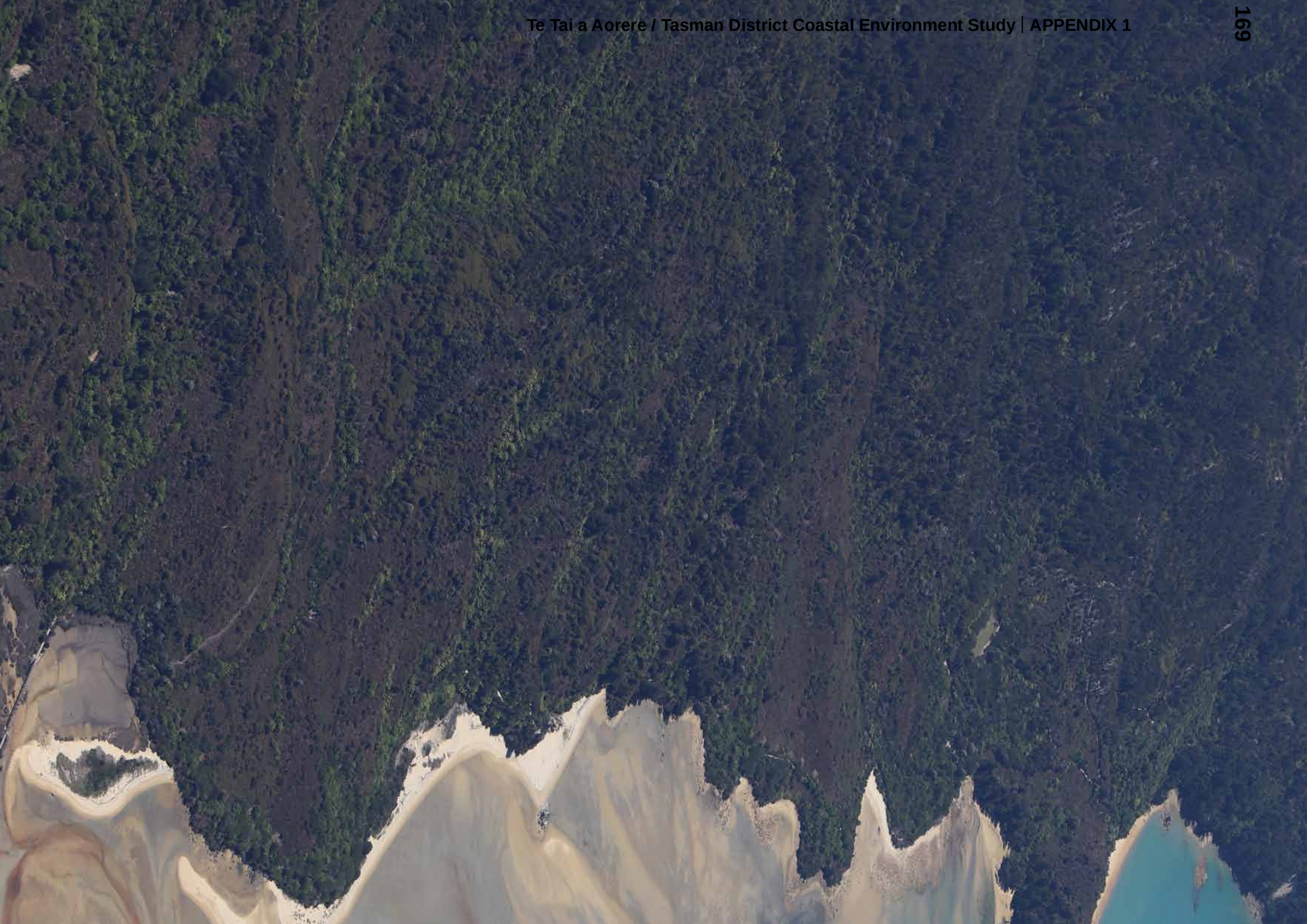

9. APPENDIX 3: NATURAL CHARACTER RESTORATION OPPORTUNITIES

9.1. Natural Character Restoration Opportunities

Policy 14 of the New Zealand Coastal Policy Statement 2010 (NZCPS 2010) promotes the restoration or rehabilitation of the natural character of the coastal environment. Policy 14 directs the identification of areas and opportunities for restoration, and the inclusion of provisions in statutory plans. Direction is also given in relation to the use of restoration conditions when granting resource consents and designations.

Guidance on the implementation of Policy 14 is available from the Department of Conservation:

http://www.doc. govt.nz/Documents/conservation/marine-and-coastal/ coastal-management/guidance/policy-14.pdf

In the context of Tasman, the potential for restoration is summarised in the Table 1 below.

Natural character restoration and rehabilitation can help address the effects of past management decisions. Restoration and rehabilitation can also assist with approvals for new resource uses in the coastal environment. Natural character restoration is also an important opportunity to benefit for human use, appreciation and enjoyment of the coast.

There are a number of practical measures to support ecological restoration that also benefit natural character restoration. Work is underway to prepare the Tasman Biodiversity Strategy to provide strategic direction and action priorities for Biodiversity and Biosecurity initiatives within the district. Refer to https://www.tasman.govt.nz/my-region/environment/environmental-management/biodiversity/a-bio-strategy-for-tasman/

Terrestrial	1. Re-establish natural patterns of indigenous vegetation. 2. Areas of secondary forest and regenerating shrublands provide excellent potential for lowland forest restoration. 3. Restoration of native duneland vegetation. 4. Potential for delta restoration to enhance estuarine margins, delta shrubland and forest communities, and whitebait spawning habitat. 5. Reduce weeds and pests so that the indigenous biodiversity elements can persist as significant components of natural character including: *a. Reduce introduced pest mammals on islands where technically feasible.* *b. Maintain the absence of major mammal pests.*
Freshwater	6. Re-establish natural riparian margins around rivers, streams, coastal and other wetlands, and estuaries. 7. Restore compromised fish passage and hydrological connectivity between freshwater ecosystem types e.g. wetlands and running water systems
Marine	8. Reduce disturbance to natural seabed communities particularly in various deeper areas of Tasman. 9. Reduce sedimentation and other contaminants entering the coastal marine area from point source and diffuse nutrient inputs from sources including river inflows, groundwater and general run-off.

Table 1: Natural Character restoration priorities for Tasman