

Schedule E: Indigenous Biological Diversity

~~Rare and threatened habitats~~ are areas of indigenous vegetation of a type identified in Table E.1 as being 'rare' or 'threatened' respectively, and which meet the criteria described in Table E.2 for determining whether an area of indigenous vegetation constitutes a 'habitat' for the purposes of this Plan.

~~At risk habitats~~ are areas of:

- (a) indigenous vegetation of a type identified in Table E.1 as being at risk, and which meet the criteria described in Table E.2 for determining whether an area of indigenous vegetation constitutes a 'habitat' for the purposes of this Plan
- (b) any vegetation (whether indigenous or not) within 20 metres of an area identified in Schedule D as being a site of significance aquatic
- (c) any vegetation (whether indigenous or not, and including 'no threat category' habitat types identified in Table E.1) that contains, or could be reasonably known to contain, threatened plant and/or animal species as identified in Table E.3.

~~Indigenous vegetation~~ refers to an assemblage of species that co-exist together and which provide resources for other species. Indigenous habitat is habitat comprised primarily of indigenous species, but which can include exotic species.

Table E.1:

Habitat Type	Habitat Type Description	Rule Stream Classification
Forest habitat named for and defined by dominant vegetation type		
Hall's totara/silver beech-kamahi-southern rata	This habitat type is dominated by a canopy of silver beech with kamahi also common. Podocarp species such as Hall's totara, totara, rimu and miro can be emergent at lower elevations. Southern rata can be scattered throughout, although its presence will be strongly influenced by the presence (current or historic) of possums.	Threatened
Hardwood/broadleaf forest	The hardwood/broadleaf forest is dominated by tawa with kamahi, hinau, black maire and southern rata also typically present. Kahikatea, rimu and/or totara can be emergent. Titoki and rewarewa can be a feature. The subcanopy comprises common broadleaf species.	Threatened
Kahikatea-pukatea-tawa forest	This habitat type is characterised by the presence of the swamp forest species kahikatea and pukatea in association with tawa in the drier, better-drained or raised areas. Matai, rimu and totara can be present but are restricted to better-drained soils. Titoki can be locally abundant in drier areas where soils are poorly drained. This habitat type can be found on lowland alluvium and floodplains.	Threatened
Kanuka forest	Kanuka forest is dominated by almost pure stands of kanuka. Manuka and common broadleaf species can also be present scattered through the canopy or comprising the understorey. Kanuka forest can be differentiated from kanuka scrub by size (greater than 2 m tall or 20 cm diameter (dbh)) and species composition.	Threatened
Podocarp forest	Podocarp forest is dominated by the podocarp species matai, kahikatea and totara. The dominance of any species is dependent on the drainage capability of the soil and history of past disturbance. Totara and matai are more abundant on free-draining soils, with kahikatea dominating on poorly drained soils. Broadleaf species	Threatened

Habitat Type	Habitat Type Description	Rule Stream Classification
	including titoki, tawa, maire and fuchsia are commonly found in association with the podocarp species, but in less abundance.	
Podocarp/black/mountain beech forest	This habitat type comprises black and mountain beech forest. Emergent podocarp species can be present in low numbers, including matai, totara, kahikatea and rimu and miro on wetter sites. Small broadleaf trees are also likely to be present. This habitat type can be found at mid altitudinal zones in dry climates, on free draining, relatively fertile soils.	Threatened
Podocarp/broadleaf fuchsia forest	Podocarp/broadleaf fuchsia forest is dominated by common broadleaf (woody flowering plants) species over which matai, totara, kahikatea or rimu are present to varying degrees. Climbers and epiphytes can be common. This habitat type tends to favour adequately drained and reasonably fertile soils. Although typically a feature of this habitat type, fuchsia is favoured by possums and may be uncommon in many areas.	Threatened
Podocarp/red beech/kamahi-tawa forest	Red beech, kamahi and tawa dominate this mid altitudinal habitat type. Podocarp species such as rimu and miro can be present scattered through the canopy or as emergent trees. Broadleaf species can also be present in the subcanopy and understorey.	Threatened
Podocarp/tawa-mahoe forest	Podocarp/tawa-mahoe forest is dominated by tawa and mahoe. Kahikatea and matai trees are present in the canopy or as emergent trees. Rimu and totara can also be present in low numbers. Tawa, mahoe, titoki, hinau, maire and pukatea can also be present. The subcanopy comprises common broadleaf species. This habitat type is found on dry dune land and low hill country.	Threatened
Rimu/tawa-kamahi forest	This habitat type is dominated by tawa and kamahi with hinau, rewarewa and mahoe common. Rimu is a feature, although its frequency depends on the history of disturbance of the site. Miro and totara can also be present. Kahikatea and matai are less common. Pukatea can be common, particularly in valleys. Black beech can be locally common (eg., inland from Wanganui). Common broadleaf species will be present in the understorey.	Threatened
Hall's totara/broadleaf forest	Hall's totara is a dominant component of this habitat type and may be emergent above the more common broadleaf species. Kamahi can also be a component of this habitat type, with matai and miro also present at lower altitudes. This habitat type is dominant above 800 m asl and can be found in sites where beech is absent.	At Risk
Mountain beech forest	Mountain beech forest is dominated by mountain beech, often occurring without many other tree species although mountain conifers and other species can be present in places. The understorey is typically sparse. Mountain beech forest is a common habitat type of the mountains (especially on eastern sites), occurring at higher altitudes where soils are thinner and less fertile. Mountain beech can tolerate cold temperatures and dry winds.	At Risk
Podocarp/kamahi forest	Podocarp/kamahi forest is dominated by the podocarp species rimu, miro, kahikatea or matai, with totara scattered throughout in varying dominance (dependent on soil drainage) over abundant kamahi. Tawa can also be present, as well as southern rata, hinau, maire, fuchsia and mahoe.	At Risk
Podocarp/kamahi-silver beech-southern rata forest	This habitat type is found at higher altitudes, often in cold and wet conditions. Kamahi dominates the canopy, with silver beech present also. Hall's totara can be present as emergent or canopy trees, with rimu and miro occasionally occurring. The presence of southern rata will be strongly influenced by the presence (current or historic) of possums. This habitat type is an intermediate between podocarp/broadleaf forest and pure beech forest.	No Threat Category
Mountain beech-red beech	This habitat type is defined by mountain beech and red beech	No Threat

Habitat Type	Habitat Type Description	Rule Stream Classification
forest	associations, with red beech more dominant at lower elevations and in wetter areas and mountain beech more dominant towards the treeline and in drier areas. The understorey can be quite sparse, although some understorey comprised of broadleaf species can be present. Hall's totara and occasional kaikawaka can be present in low numbers.	Category
Podocarp/kamahi-beech forest	Podocarp/kamahi-beech forest is characterised by a presence of rimu and/or miro in the canopy, in association with an understorey of kamahi and red or hard beech. Hall's totara can occasionally be present. Kamahi tends to be dominant with the podocarp species scattered throughout. Small broadleaf trees are also likely to be present. This habitat type is an intermediate between podocarp/broadleaf forest and pure beech forest and occurs in lowland areas that have a wet, cool climate.	No Threat Category
Red beech-silver beech forest	Defined by red beech and silver beech associations, this habitat type is common throughout the mountain regions at the mid altitudinal range. At lower altitudes podocarp species (Hall's totara, miro, rimu and matai) can be present. Kamahi can be widespread but is not generally abundant.	No Threat Category
Scrub, tussock-grassland and herbfield above treeline	This habitat type is present where the environment becomes inhospitable for tree species. The change between forest and vegetation above the treeline can be abrupt. Short stature woody shrubs and scrub are common, as are tussock grasses. Large and small (often inconspicuous) herbaceous species are common.	No Threat Category
Silver beech forest	Silver beech can be found where rainfall is higher (compared with mountain beech) and can form almost pure forests at higher elevations. The understorey typically supports small trees and shrubs. Hall's totara, rimu, miro or kahikatea can be present at mid altitudes. Kamahi can form a subcanopy at lower elevations in wet climates.	No Threat Category
Habitat named for structural vegetation class and defined by physical environment and dominant vegetation type		
Lichenfield tussockland, herbfield, shrubland or scrub on silicic intermediate rock	Where lichenfield, tussockland, herbfield, shrubland or scrub occurs on coastal cliffs of silicic intermediate rock. Silicic rock is igneous rock that is rich in silica (SiO_2). Silicic intermediate rock has a silica content of between 52–63%. Vegetation types typically found in this habitat include lichen species, non-woody or low-growing semi-woody herbs, tussocks, shrubs and scrub. Species characteristic of these vegetation types include, for example, <i>Pimelea</i> , sea primrose, <i>Selliera</i> , flax, toetoe, <i>Astelia</i> , <i>Hebe</i> , daisy species, kawakawa, mahoe and broadleaf.	Rare
Grassland and sedgeland on active dunelands	Where grassland or sedgeland occurs on active dunelands formed on raw coastal sand. Active dunelands are characterised by unstable sands. The continual instability of sand prevents the formation of soil and therefore the vegetation type that an active duneland can support is limited. Examples are <i>Spinifex</i> grassland and pingao sedgeland. Other indigenous species can also be present, eg., sand convolvulus and sand <i>Carex</i> .	Rare
Tussockland, herbfield or shrubland on stable dunelands	Where grassland, tussockland, herbfield, or shrubland occurs on stable dunelands formed on recent coastal sand. Vegetation types typically found on stable duneland include tussocks and low-growing or semi-woody herbs and shrubs. These vegetation types characteristically support, for example, toetoe, <i>Selliera rotundifolia</i> , sand <i>Gunnera</i> , native spinach, sand <i>Coprosma</i> , sand daphne, coastal tree daisy, pohuehue, tauhinu, <i>Coprosma</i> species and hangehange. Exotic invasive species are also a feature of stable duneland.	Rare
Tussockland, herbfield, scrub	Where scrub, tussockland, herbfield or forest occurs on inland	Rare

Habitat Type	Habitat Type Description	Rule Stream Classification
and forest on inland duneland	dunelands formed on raw or recent sands inland. Vegetation types typically found on inland duneland include; tussock, low growing or semi woody herbs, shrubs, small trees and forest trees. These vegetation types characteristically support, for example, teetee, flax, native spinach, manuka, kanuka, mahoe, lancewood, five-finger, hangehange, cabbage trees, titeki, akeake, ngaio, tawa, pineonwood and mahoe.	
Wetland habitat named for wetland type and defined by physical environment and vegetation type		
Dune slack	Dune slack wetlands are found in areas where wind has eroded hollows or depressions, or a topographically low area where water is permanently or seasonally ponded. Dune slack wetlands typically support herbfields.	Rare
Ephemeral	Ephemeral wetlands are usually of moderate fertility and neutral pH, characterised by a marked seasonal high water table, ponding and drying. Change in water levels can be very dramatic to the point of complete drying and fluctuations between aquatic and terrestrial plant species can occur. Ephemeral wetlands are fed by groundwater or an adjacent waterbody. Ephemeral wetlands typically support turf habitat (generally < 3 cm tall). Turf habitat contains 62% of New Zealand's threatened or uncommon plants. Ephemeral wetlands sometimes support rushland scrub.	Rare
Pakihi	Pakihi wetlands are often found in association with bogs and fens. Pakihi wetlands are rain-fed systems on mineral or sometimes peat substrate of very low fertility and low pH. Pakihi can be seasonally dry and can be found on level to rolling or sloping land in areas of high rainfall and old soils. Pakihi can support restiads, sedges, fernland, heathland and shrubland.	Rare
Seepages and springs	These wetlands are represented by areas of water that have percolated to the surface. The volume of water present at seepages is less than that at springs. Substrates, nutrient levels and pH can vary from site to site. Seepages and springs can be found at the point of change of slopes and places where the water table is raised. These wetlands can support sedgeland, cushionfield, mossfield or scrub.	Rare
Swamp	Swamp wetlands are generally of high fertility, receiving nutrients and sediment from surface water and groundwater. Substrates are generally a combination of peat and mineral. Standing water and surface channels are often present, with the water table either permanently or periodically above much of the ground surface. Swamp wetland can be found on plains, valley floors and basins. Swamps can support sedge, rush, reed, flax, tall herb, shrub, scrub and forest.	Threatened
Bogs and fens	These wetland classes are often found in association with each other. Bogs are formed on peat. Rain is the only source of water. Bogs are nutrient poor, poorly drained and aerated and usually acid. The water table is usually close to or just above the ground surface. Bogs can be found on relatively level or gently sloping ground including hill crests, basins, terraces and within other wetland classes. Bogs can support mosses, lichens, cushion plants, sedges, grasses, restiads, ferns, shrubs and trees. Fens are wetlands of low to moderate acidity and fertility with a substrate of predominantly peat. They receive groundwater and nutrients from adjacent mineral soils. The water table is usually close to or just below the surface. Fens can be found on slight slopes such as fans, toes of hillsides, and on level ground where peat has not accumulated and can grade into swamp. Fens support restiads,	Threatened

Habitat Type	Habitat Type Description	Rule Stream Classification
Saltmarsh	sedges, ferns, tall herbs, tussock grasses and scrub.	Threatened
Lakes and lagoons and their margins (including dune lakes)	Saltmarsh occurs within areas of tidal and saline influences (tidal and sub-tidal zones). Water sources come from groundwater and adjacent saline or brackish waters. Saltmarsh can support herbfield, rushland, scrub and mudflats.	Threatened
Habitat type named for the physical environment and defined by habitat		
Alpine gravel and rock	Gravel and rock present in the alpine zone	No Threat Category
Estuarine open water	Open water contained within an estuarine system	No Threat Category
Lake and pond	Open water contained within lakes and ponds	No Threat Category
Permanent snow and ice	Areas above the treeline dominated by permanent snow and ice	No Threat Category
River	Open water contained within a river channel	No Threat Category
River and lakeshore gravel	Gravels associated with rivers and lakes	No Threat Category

Table E.2:

Forest, scrub and shrubland habitat (dominated by woody vegetation) <i>A woody plant is one that forms a hard stem or trunk or 'becomes woody'</i>
Habitat types (as classified in Table E.1) included under this definition are:
Hall's totara/broadleaf forest Hardwood/broadleaf forest Kahikatea-pukatea-tawa forest Kanuka forest Mountain beech forest Mountain beech-red beech forest Podocarp forest Podocarp/black/mountain beech forest Podocarp/broadleaf fuchsia forest Podocarp/kamahi forest Podocarp/kamahi-beech forest Podocarp/kamahi-silver beech-southern rata forest Podocarp/red beech-kamahi-tawa forest Podocarp/silver beech-kamahi-southern rata forest Podocarp/tawa-mahoe forest Red beech-silver beech forest Rimu/tawa-kamahi forest Scrub, tussock grassland and herbfield above treeline Silver beech forest
Forest (where it occurs on stable inland duneland) Scrub (where it occurs on coastal cliffs of silicic intermediate rock, stable inland duneland) Shrubland (where it occurs on coastal cliffs of silicic intermediate rock, stable inland duneland)

(a) An area of vegetation or collection of plants is considered to be forest, scrub or shrubland habitat for the purposes of this Plan if it meets any of the following criteria:

- i. areas of continuous indigenous woody vegetation covering at least 0.25 ha within any water management sub-zone coded red (Figure E.1)
- ii. areas of continuous indigenous woody vegetation covering at least 1 ha within any water management sub-zone coded orange or yellow (Figure E.1)
- iii. areas of continuous indigenous woody vegetation covering at least 0.5 ha, where one or more other areas of indigenous habitat covering at least 0.5 ha is present up to 500 m away
- iv. areas of continuous indigenous woody vegetation covering at least 0.5 ha that support indigenous understorey vegetation
- v. discontinuous indigenous woody vegetation present within 50 m of an area of continuous indigenous vegetation covering at least 0.5 ha
- vi. areas of indigenous woody vegetation covering at least 0.5 ha in gully systems
- vii. areas of continuous indigenous woody vegetation within 5 m of a riverbed and covering at least 0.1 ha and extending at least 100 m along the length of the river
- viii. areas of indigenous scrub or shrubland covering at least 0.2 ha on stable inland duneland within any water management sub-zone coded red (Figure E.1), or on coastal cliffs of silicic intermediate rock
- ix. areas of indigenous woody vegetation that have been established for the purpose of habitat manipulation including habitat creation, restoration and buffering, where such an area covers at least 1 ha as a discrete site or at least 0.5 ha where it is adjacent to an existing area of indigenous habitat
- x. an area of woody vegetation that provides life supporting habitat to a threatened species as determined by Table E.3.

(b) An area of vegetation or collection of plants is not considered to be forest, scrub or shrubland habitat for the purposes of this Plan if the area meets any of the following criteria:

- i. areas of treeland (including windrows and scattered trees covering less than 1 ha where they exist scattered across the landscape in isolation of each other or other natural areas), excluding sites that meet the criteria outlined in section 1(a))
- ii. woodlots of indigenous tree species planted for the purposes of timber harvest
- iii. indigenous woody vegetation planted for landscaping, horticulture (including shelterbelts) or private gardening purposes.

Short stature, dry, non-woody habitat (dominated by dryland, non-woody or semi-woody vegetation)

Species found in these habitats are annual or perennial and do not produce a woody stem. Species can be sparsely distributed and in association with areas of unvegetated ground.

Habitat types (as classified in Table E.1) included under this definition are:

Grassland (where it occurs on active dunelands)

Herbfield (where it occurs on coastal cliffs of silicic intermediate rock, stable dunelands, and stable inland dunelands)

Lichenfield (where it occurs on coastal cliffs of silicic intermediate rock)

Sedgeland (where it occurs on active dunelands)

Tussockland (where it occurs on coastal cliffs of silicic intermediate rock, stable dunelands and stable inland dunelands)

(a) An area of vegetation or collection of plants is considered to be short stature, dry, non-woody habitat for the purposes of this Plan if the area meets any of the following criteria:

- i. areas of indigenous tussockland, grassland or sedgeland (as defined in Table E.1) covering at least 0.2 ha
- ii. areas of lichenfield, herbfield or mossfield (as defined in Table E.1) covering at least 0.1 ha
- iii. areas of indigenous habitat created at some time in the course of habitat restoration (including dune stabilisation projects)
- iv. areas of short stature, dry, non-woody vegetation that provides life supporting habitat to a threatened species as determined by Table E.3.

(b) An area of vegetation or collection of plants is not considered to be short stature, dry, non-woody habitat for the purposes of this Plan if the area meets any of the following criteria:

- i. indigenous vegetation planted for landscaping, horticultural, or private gardening purposes.

Wetland habitat (dominated by wetland vegetation)

Wetland areas include permanently or intermittently wet areas, shallow water, and land-water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions. The presence of water may be permanent, seasonal (ephemeral) or periodical, and is not always present as an open body.

Common species found in wetland habitat include (but are not limited to):

Raupe (bulrush)
 Flax
 Manuka or other wetland shrubs (eg., *Coprosma propinqua*, *Coprosma tonicaulis*, and *Olearia virgata*)
 Cabbage trees
 Kahikatea
 Pukatea
 Any wetland sedge, rush or reed species

Habitat types (as classified in Table E.1) included under this definition are:

Bogs and fens
 Ephemeral
 Dune slack
 Lakes, lagoons and their margins (including dune lakes)
 Pakahi
 Saltmarsh
 Seepages and springs
 Swamp

(a) An area of vegetation or collection of plants is considered to be wetland habitat for indigenous plant communities and/or indigenous fauna communities for the purposes of this Plan if the area meets any of the following criteria:

- i. open water associated with wetland habitat, excluding stock ponds less than 0.5 ha in area
- ii. areas of naturally occurring indigenous wetland habitat either in association with open water (fresh or estuarine), or excluding open water, covering at least 0.1 ha
- iii. areas of artificially created wetland habitat covering at least 0.5 ha
- iv. indigenous wetland habitat created in the course of habitat restoration
- v. areas of wetland vegetation that provide life supporting habitat to a threatened species as determined by Table E.3.

(b) An area of vegetation or collection of plants is not considered to be wetland habitat for indigenous plant communities and/or indigenous fauna communities for the purposes of this Plan if the area meets any of the following criteria:

- i. stock ponds less than 0.5 ha created for the purposes of stock watering, or water storage for the purposes of irrigation, (including old gravel pits but excluding lakes and areas of open water associated with wetland habitat)
- ii. damp paddocks, or paddocks subject to regular ponding, dominated by pasture species in association with wetland sedge and rush species
- iii. areas of treeland (including windrows and scattered trees covering less than 1 ha, eg., cabbage trees or kahikatea trees lacking continuous canopy, or understorey vegetation, where they exist scattered across the landscape with no connection to each other or other natural areas)
- iv. ditches or drains supporting raupe, flax or other wetland species (eg., *Carex* sp., *Isolepis* sp.), or areas of these species in drains or slumps associated with road reserves or rail corridors
- v. a pond and/or barrier ditch system specifically designed and installed for the purpose of treatment of animal effluent
- vi. habitat created and maintained for the purposes of wastewater treatment
- vii. habitat created and maintained in association with hydroelectric power generation
- viii. open water and associated vegetation created for landscaping purposes or amenity values where the planted vegetation is predominately exotic or includes assemblages of species not naturally found in association with each other, on the particular landform or at the geographical location of the created site.



Figure E:1 Map of the Manawatu-Wanganui Region with Water Management Zones coloured to indicate criteria

Table E.3: Threatened Species in the Manawatu-Wanganui Region

This table is not an exhaustive list of threatened taxa in the Manawatu-Wanganui Region. It is a list of nationally critical to sparsely distributed species⁴ that are easily recognised or are species of rare or threatened habitats at a local scale.

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Birds				
White heron Kotuku	<i>Egretta alba modesta</i>	Found in wetlands, estuaries and damp pasture.	Nationally Critical	Hoki_1a, Hoki_1b, Mana_10a, Mana_10d, Mana_13a, Mana_13e, Mana_13f, Mana_9a, Mana_9b, Mana_9c, Owha_1, Tura_1b, Tura_1c, West_5, West_7, West_8, Whai_2b, Whau_3e, Whau_4
Australasian bittern Matuku	<i>Bettaurus poiciloptilus</i>	Found in tall, dense beds of raupo and reeds in freshwater wetlands and wet pasture.	Nationally Endangered	Hoki_1a, Hoki_1b, Mana_10a, Mana_10e, Mana_10d, Mana_10e, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_11f, Mana_12a, Mana_12b, Mana_12c, Mana_12d, Mana_12e, Mana_13a, Mana_13b, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Ohau_1a, Ohau_1b, Rang_3a, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7a, Whai_7b, Whai_7d, Whau_4
Blue Duck Whio	<i>Hymenolaimus malachorhynchos</i>	Found in fast-flowing and turbulent streams and rivers in forest hillcountry.	Nationally Endangered	Rang_2a, Rang_2b, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2f, Whai_2g, Whai_3, Whai_4d, Whai_5a, Whai_5d, Whai_5e, Whau_1a, Whau_1c, Whau_3b, Whau_3c, Whau_3d

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Kaka (North Island)	<i>Nestor meridionalis septentrionalis</i>	Found in large native forest tracts.	Nationally Endangered	Akit_1c, Mana_1c, , Mana_3, Mana_7b, Mana_7d, Mana_8a, Mana_8b, Mana_8d, Mana_9d, Mana_9e, Mana_10a, Mana_10b, Mana_10c, Mana_11b, Mana_11c, Mana_12a, Mana_13b, Ohau_1a, Ohau_1b, Owha_1, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2f, Rang_2g, Rang_3b, Tura_1a, West_9, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5a, Whai_5b, Whai_5c, Whai_5d, Whai_5e, Whau_1a, Whau_1c, Whau_2, Whau_3b, Whau_3d, Whau_3e
New Zealand falcon Karearea	<i>Falco novaeseelandiae "bush"</i>	Found in native and pine forest and bush patches.	Nationally Vulnerable	Throughout the Region
Wrybill Ngutu parore	<i>Anarhynchus frontalis</i>	Over-winters in North Island estuaries.	Nationally Vulnerable	East_1, Mana_13a, Ohau_1a, Ohau_1b, Tura_1b, West_5, West_7, West_8, West_9, Whai_7b, Whau_4
Kiwi (North Island Brown)	<i>Apteryx australis mantelli</i>	Found in forest, scrubland and undeveloped farmland, swamps and pine forest particularly where native vegetation remains in gullies.	Serious Decline	Mana_10b, Mana_10c, Mana_12a, Rang_1, Rang_2b, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5a, Whai_5b, Whai_5c, Whai_5d, Whai_5e, Whau_1a, Whau_1c, Whau_3b, Whau_3d, Whau_3e
Banded dotterel	<i>Charadrius bicinctus</i>	A small wading bird of gravel beaches and riverbeds.	Gradual Decline	Hoki_1b, Mana_10a, Mana_10e, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_13a, Mana_13c, Mana_13f, Mana_6, Mana_7b, Mana_8c, Mana_8e, Mana_9a, Mana_9d, Mana_9e, Ohau_1b, Rang_2c, Rang_2d, Rang_2f, Rang_4b, Tura_1b, Tura_1c, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_1a, Whau_1b, Whau_1c, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Banded rail Mehu-peruru	<i>Gallirallus philippensis assimilis</i>	Found in saltmarsh and rush covered freshwater wetlands.	Sparse	Hoki_1, Mana_7, Mana_8, Mana_9, Mana_10, Mana_11, Mana_12, Mana_13, Owha_1, Rang_2, Rang_3, Rang_4, Tura_1, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_2, Whai_3, Whai_4, Whai_5, Whai_6, Whai_7, Whau_2, Whau_3, Whau_4
Marsh crake	<i>Porzana pusilla affinis</i>	Found in raupo swamps.	Sparse	Throughout except Rang_1, Rang_2c, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_3b, Whau_3d
North Island fernbird Matata	<i>Bowdleria punctata vealeae</i>	Secretive bird of dense scrubby vegetation associated with drier wetlands, rush and tussock frostflats, saltmarshes, and low manuka scrub.	Regionally Uncommon	Throughout the Region from coastal to habitats below 1000m
Spotless crake Puweto	<i>Porzana tabuensis plumbea</i>	Secretive bird of freshwater wetlands with raupo or sedges.	Sparse	Throughout the Region
North Island robin Toutouwai	<i>Petroica australis longipes</i>	Found in mature native forest, sometimes seen in mature exotic forest and old scrub.	Regionally Uncommon	Rang_1, Rang_2c, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5a, Whai_5b, Whai_5c, Whai_5d, Whai_5e, Whau_1a, Whau_1c, Whau_3b, Whau_3d, Whau_3e
Freshwater fish				
Brown mudfish	<i>Neochanna apoda</i>	A cigar-shaped, sandy grey-brown coloured fish of 175 mm in length. The head is small with a large mouth with equal length jaws and fleshy lips. Brown mudfish occupy clear water in a range of habitats including spring-fed streams, wetlands, pools of water within podocarp forest, overgrown creeks and even unmaintained roadside and farm drains.	Regionally Vulnerable	Hoki_1a, Mana_10d, Mana_11f, Mana_13a, Mana_13c, Rang_4d, West_8
Giant kokopu	<i>Galaxias argenteus</i>	A dark coloured stout fish (length of about 240 mm) with a long broad head and a large mouth with about equal length jaws and thick, fleshy lips. Giant kokopu are found in streams and wetlands not far from the sea, not venturing very far inland. Affected by loss of riparian spawning habitat.	Regionally Vulnerable	Hoki_1a, Rang_4a, Rang_4b

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Short-jawed kokopu	<i>Galaxias postvectis</i>	A large (150–200 mm, but can reach 350 mm), sleek fish, with a long bluntly pointed snout that overhangs mouth and lower jaw distinctly receding. Affected by loss of riparian spawning habitat.	Regionally Vulnerable	Mana_7b, Mana_8a, Mana_8d, Mana_9c, Mana_9e, Mana_11c, Mana_13d, Ohau_1b, Ohua_1, Rang_2b, West_9, Whai_2g, Whai_3, Whai_4a, Whai_5b, Whai_5c, Whai_5e, Whai_6
Banded kokopu	<i>Galaxias fasciatus</i>	Banded kokopu can be distinguished from the other galaxiid species by the presence of the thin, pale, vertical bands along the sides and over the back of the fish. Adult banded kokopu usually live in very small tributaries where there is virtually a complete overhead canopy of vegetation. This vegetation does not have to be native bush.	Regionally Vulnerable (pers. comm. expert)	Akit_1a, Akit_1b, Mana_9e, Mana_11c, Mana_12a, Mana_13b, Ohau_1a, Ohau_1b, West_5, West_8, Whai_5b, Whai_5e
Lamprey	<i>Geotria australis</i>	A jawless fish with a toothed, funnel-like sucking mouth, which bores into the flesh of other fishes to suck their blood. Lampreys live mostly in coastal and fresh waters, although at least one species, <i>Geotria australis</i> , probably travels significant distances in the open ocean. Affected by loss of riparian spawning habitat.	Regionally Vulnerable	Mana_1a, Mana_9a, Mana_10a, Mana_11b, Ohau_1b, Whai_5e, Whai_6, Whai_7e
Terrestrial invertebrates				
Snail	<i>Powelliphanta traversi tararuaensis</i>	Giant carnivorous land snail.	Nationally Endangered	Mana_8a, Mana_8d, Mana_9d, Mana_13d, Ohau_1a, Ohau_1b, West_9
Snail	<i>Powelliphanta traversi traversi</i>	Giant carnivorous land snail.	Nationally Endangered	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Moth	<i>Asaphodes stinaria</i>	A moth with mid brown fore wings with two narrow transverse white bands and pale brown hindwings, from forest edge and grassland habitats, including wetlands and tussock grasslands. Coastal to montane.	Nationally Endangered	Akit_1, East_1, Hoki_1, Mana_1, Mana_2, Mana_3, Mana_4 Mana_5, Mana_6, Mana_7, Mana_8, Mana_9, Mana_10, Mana_11, Mana_12, Mana_13, Ohau_1, Owha_1, Rang_1, Rang_2, Rang_3, Rang_4, Tura_1, West_1, , West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_3, Whai_4a, Whai_4c, Whai_4d, Whai_5, Whai_6, Whai_7, Whau_1, Whau_2, Whau_3, Whau_4
Black Katipo spider	<i>Latrodectus atritus</i>	Coastal spider found in a variety of sand-dune systems associated with driftwood, vegetation or stones. Usually inhabits foredunes and dune swales but has been found associated with dunes several kilometres from the sea.	Serious Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Katipo spider	<i>Latrodectus katipo</i>	Coastal spider found in a variety of sand-dune systems associated with driftwood, vegetation or stones. Usually inhabits foredunes and dune swales but has been found associated with dunes several kilometres from the sea.	Serious Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Forest ringlet	<i>Dodonidia helmsii</i>	Forest butterfly. The reported larval host plant is <i>Gahnia setifolia</i> , growing in beech forests.	Gradual Decline	Mana_10, Mana_1a, Mana_1b, Mana_3, Mana_4, Mana_5, Mana_9b, Mana_9c, Rang_1, Rang_2, Whai_1, Whai_2, Whai_4, Whai_5, Whai_6, Whai_7a, Whau_1c, Whau_3
Mammals				
Short-tailed bat (Northern) (Central), Pekapeka	<i>Mystacinia tuberculata rhyacobia</i>	A bat with grey-brown fur, long ears and a tail that pierces the tail membrane. Restricted to old growth indigenous forest. Forages in the forest interior and generally flies within 10 m of the ground.	Nationally Endangered/Range Restricted	Rang_1, Rang_2, Whai_1, Whai_2, Whai_2g, Whai_3, Whai_4, Whai_5d, Whai_5e, Whau_1, Whau_2, Whau_3

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Long-tailed bat (North Island), Pekapeka	<i>Chalinolobus tuberculata</i>	A bat with dark brown fur, short ears and tail within the tail membrane. Tail membrane with a distinct pouch. Found in indigenous and exotic forest, this bat is an aerial insectivore, flying high and swallow-like.	Nationally Vulnerable	Hoki_1a, Mana_10, Mana_11, Mana_12, Mana_13, Mana_1a, Mana_1b, Mana_2a, Mana_2b, Mana_3, Mana_4, Mana_5, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_8, Mana_9, Ohau_1a, Ohau_1b, Rang_1, Rang_2, Rang_3a, Rang_3b, Rang_4c, Tura_1a, West_2, West_9, Whai_1, Whai_2, Whai_3, Whai_4, Whai_5, Whai_6, Whai_7a, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3
Reptiles				
Small-scaled skink	<i>Oligosoma microlepis</i>	A smooth skinned grey, striped lizard with prominent dark stripes on each side.	Regionally Vulnerable	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whau_1b
Pacific gecko	<i>Hoplodactylus pacificus</i>	A velvety skinned lizard in a variety of shades of brown and grey, with paler patches which may be stripey, or irregular markings. Lives on the ground, but will climb trees. Found in a variety of habitats.	Gradual Decline	Throughout – except Rang_1, Rang_2c, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_3b, Whau_3d
Wellington green gecko	<i>Naultinus elegans punctatus</i>	A velvety skinned bright green that inhabits scrub and forest areas especially kanuka and manuka.	Gradual Decline	Throughout – absent from Whai_2f, Whai_2g, Whai_4b
Speckled skink	<i>Oligosoma infrapunctatum</i>	A smooth skinned lizard with distinctly speckled back and tail.	Gradual Decline	Throughout the Region
Striped skink	<i>Oligosoma striatum</i>	A smooth skinned dark brown striped lizard with prominent cream stripes on each side. Found in epiphytes in standing trees as well as rotting trees on the ground.	Data deficient (Regionally Uncommon, Wanganui Conservancy)	West_1, West_2, West_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5a, Whai_5b, Whai_5c, Whai_5d, Whai_5e, Whai_6, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_3a, Whau_3c, Whau_3e
Vascular plants				
(none known)	<i>Acaena rorida</i>	Small perennial herb from damp hollows in tussock grasslands and limestone ravines.	Nationally Critical	Rang_2a, Rang_2b

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Sneezewood	<i>Centipeda minima</i>	Prostrate annual herb of ephemeral wet areas—partially dried lake, pond or stream margins.	Nationally Critical / Regionally Uncommon	Hoki_1a, Hoki_1b, Mana_10a, Mana_10c, Mana_10d, Mana_10e, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_11f, Mana_12a, Mana_12b, Mana_12c, Mana_12d, Mana_12e, Mana_13a, Mana_13b, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Ohau_1a, Ohau_1b, Rang_3a, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7a, Whai_7b, Whai_7d, Whau_4
Mudwort	<i>Limosella "Manutahi"</i>	Prostrate herb from mud or damp ground.	Nationally Critical / Regionally Rare	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Gardners tree daisy	<i>Olearia gardnerii</i>	Divaricating shrub/small tree (up to 3 m) found in podocarp forest on alluvial terraces, associated with other divaricating shrubs and trees.	Nationally Critical	Rang_2f, Rang_2g
Sand daphne	<i>Pimelea "Turakina"</i>	A low-growing grey-green shrub of sand dunes.	Nationally Critical	Tura_1b, West_5, Whau_4
Turners kohuhu	<i>Pittosporum turneri</i>	A small tree (up to 8 m) with a divaricating juvenile and sub-adult form. Grows in montane to subalpine forest, and on frostflat margins and in scrub alongside streams.	Nationally Critical	Mana_1a, Mana_1b, Mana_10b, Mana_10c, Mana_12a, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e
Swamp green hooded orchid	<i>Pterostylis micromega</i>	An orchid (150–380 mm) with conspicuous green flower, found in bogs, fens, and swamps.	Nationally Critical	Tura_1c, West_1, West_2, West_3, West_4, Whai_2b, Whai_4d, Whai_5d, Whai_5e, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_1a, Whau_1c, Whau_3b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Sebaea	<i>Sebaea ovata</i>	Annual erect herb (50–33 mm), growing in damp, sparsely vegetated dune slacks, depressions, and associated sand plains. One of most threatened plant species in New Zealand.	Nationally Critical	Mana_13a, Rang_4b, Tura_1b, West_1, West_4, West_5, West_6, West_7, Whai_7b, Whau_4
Water brome	<i>Amphibromus fluitans</i>	Grass of fertile, seasonally dry wetlands and edges of shallow lakes and lagoons.	Nationally Endangered	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
(none known)	<i>Crassula peduncularis</i>	Prostrate annual herb of seasonally damp coastal tufts, marine terraces and ephemeral wetlands.	Nationally Endangered	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Hairy willowherb	<i>Epilobium hirtigerum</i>	Woody herb of coastal/lowland to montane habitats. A short-lived species of open ground, seepages on cliff faces, sparsely vegetated wetland margins, braided riverbeds, lake edges and swamps.	Nationally Endangered	Akit_1a, Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_1a, Mana_1b, Mana_1c, Mana_2a, Mana_2b, Mana_3, Mana_4, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_7d, Mana_8a, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9b, Mana_9c, Mana_9d, Mana_11c, Mana_13a, Mana_13c, Mana_13d, Mana_13e, Ohau_1a, Ohau_1b, Owha_1, West_7, West_8, West_9, Whai_2e, Whai_2f, Whai_2g, Whai_4b
Nau Cook's scurvy grass	<i>Lepidium oleraceum</i>	Woody herb found in fertile and friable coastal soils and rock crevices associated with seabird roosts.	Nationally Endangered	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
(none known)	<i>Myosotis "Volcanic Plateau"</i>	Low-growing short-lived herb of alpine sand and shingle habitats.	Nationally Endangered/ Regionally Vulnerable	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whau_1b

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
(none known)	<i>Myosotis pygmaea</i> var. <i>glauca</i>	Low growing short lived herb of open dry sandy/gravelly habitats.	Nationally Endangered	Rang_1, Rang_2e
Mountain myrrh	<i>Oreomyrrhis colonsei</i> var. <i>delicatula</i>	Perennial herb of subalpine ephemeral wetlands and flushed tarns.	Nationally Endangered	Mana_10b, Mana_10c, Mana_1a, Mana_1b, Mana_3, Mana_4, Mana_5b, Mana_5e, Mana_5d, Mana_5e, Mana_9c, Mana_12a, Rang_1, Rang_2a, Rang_2b, Rang_2e, Rang_2e
Stalked adder's tongue fern	<i>Ophioglossum petiolatum</i>	Fern consisting of a wide sterile blade and a conspicuous fertile spike.	Nationally endangered	Hoki_1a, Hoki_1b, West_7, West_8,
Heart leaved kohuhu	<i>Pittosporum obcordatum</i>	Divaricating tall shrub or small erect tree up to 5-8 m, growing in lowland alluvial forest, mainly in the east. Favours sites prone to summer drought and prone to water logging and frost during winter.	Nationally Endangered	Akit_1a, Akit_1b, Akit_1c, East_1, Mana_1a, Mana_1c, Mana_2a, Mana_2b, Mana_3, Mana_4, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9b, Mana_9c, Mana_9d, Mana_9e, Whau_1
(none known)	<i>Uncinia strictissima</i>	Rush like sedge forming dense tufts. Found in lowland scrub, swamps, lake margins and in damp clearings within lowland forest.	Nationally Endangered	Rang_2c, Rang_2f, Whai_1, Whai_2b, Whai_2c, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e
(none known)	<i>Myosotis pygmaea</i> var. <i>minutiflora</i>	Low growing short lived herb of coastal shingle habitats.	Nationally Vulnerable	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
(none known)	<i>Ranunculus tornatifolius</i>	Small perennial herb of damp sites in forests, scrub and tussock grassland.	Nationally Vulnerable	Rang_2a, Rang_2b, Whai_4d, Whai_5d
Kohurangi, Kirks Daisy	<i>Brachyglottis Kirkii</i> var. <i>kirkii</i>	Daisy. An epiphytic tree of lowland to lower montane forests.	Serious Decline	Throughout – coastal to montane habitats
Sea sedge	<i>Carex litorosa</i>	Sedge of salty and brackish marshes.	Serious Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Whau_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Pua o te reinga Dactylanthus Woodrose	<i>Dactylanthus taylorii</i>	A root parasite of about 30 cm diameter, with unbranched shoots of about 20 cm long with pinkish brown, scale like leaves of about 15 mm. These shoots support spikes of tiny flowers when they emerge above the ground. This plant grows on the roots of about 30 native hardwood species.	Serious Decline	Mana_1a, Mana_1b, Mana_10b, Mana_10c, Mana_10d, Mana_11d, Mana_12a, Mana_12d, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Rang_4c, Rang_4d, Tura_1a, Tura_1b, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5d, Whai_5e, Whai_6, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3a, Whau_3b, Whau_3c, Whau_3d, Whau_3e, Whau_4
Native carrot New Zealand carrot	<i>Daucus glochidiatus</i>	Herb of coastal to montane cliff faces, rock outcrops, talus slopes, tussock grasslands and open forests.	Serious Decline	Akit_1a, Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_1a, Mana_1b, Mana_1c, Mana_2a, Mana_2b, Mana_3, Mana_4, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_7d, Mana_8a, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9b, Mana_9c, Mana_9d, Mana_9e, Mana_11c, Mana_13a, Mana_13b, Mana_13c, Mana_13d, Mana_13e, Ohau_1a, Ohau_1b, Owha_1, West_7, West_8, West_9
Waiu-atua sand milkweed shore spurge	<i>Euphorbia glauca</i>	Perennial herbaceous coastal plant up to 1 m, with red stems, bluish green leaves and milky sap. Grows on coastal cliffs, banks and talus slopes, sand dunes and rocky lakeshore scarps.	Serious Decline	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Pygmy clubrush	<i>Isolepis basilaris</i>	A very small rush species 3-9 cm across. Leaves are bright green above and reddish brown below. Grows in dune lakes, damp, sandy or silty margins of lagoons, tarns, ephemeral lakes and rivers in fresh or brackish water.	Serious Decline	Mana_13a, Rang_4b, Rang_4b, West_5, West_6

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
King fern Para	<i>Marattia salicina</i>	Large fern favouring lowland forest karst habitats.	Serious Decline	West_1, West_2, Whai_6, Whai_7a, Whai_7c
Dwarf musk/matt leaved Mazus	<i>Mazus novaezealandiae</i> subsp. <i>impolitus</i> f. <i>impolitus</i>	A perennial creeping herb of coastal damp hollows and sand flats, sandy turf and coastal pasture.	Serious Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Dwarf musk	<i>Mazus novaezealandiae</i> subsp. <i>novaezealandiae</i>	A perennial creeping herb of lowland swamp forest, pasture and forest margins.	Serious Decline	Akit_1b, East_1, Hoki_1a, Hoki_1b, Mana_1a, Mana_1b, Mana_2a, Mana_2b, Mana_3, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7b, Mana_7c, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9c, Mana_9d, Mana_9e, Mana_10a, Mana_10d, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_11f, Mana_12a, Mana_12b, Mana_12c, Mana_12d, Mana_12e, Mana_13a, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Ohau_1b, Owha_1, Rang_3a, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_4
(none known)	<i>Pimelea tomentosa</i>	An erect, grey-green, leafy shrub of open clifftops, scrub, frostflats, track sides and other seral habitats.	Serious Decline	Throughout the Region
Kirk's kohuhu Thick-leaved kohukohu	<i>Pittosporum Kirkii</i>	A small, openly branched shrub which is usually epiphytic, rarely terrestrial, in coastal to montane forest.	Serious Decline	Rang_1, Rang_2a, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Tura_1a, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5a, Whai_5b, Whai_5c, Whai_5d, Whai_5e, Whai_6, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Green hood	<i>Pterostylis paludosa</i>	A green hood orchid up to 180 mm tall in peat bogs and heathlands, usually in well-lit sites amongst mosses and sedges.	Serious Decline	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e
Yellow mistletoe Pirita Piriraki	<i>Alepis flavida</i>	A parasitic shrub, mainly of beech.	Gradual Decline	Throughout the Region
Jersey fern Annual fern	<i>Anogramma leptophylla</i>	A small fern of clay banks, rock faces and alluvial banks.	Gradual Decline	Akit_1b, Akit_1c, East_1, Mana_1c, Mana_5a, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_7d, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9d, Mana_9e, Owha_1
Sand tussock Hinarepe	<i>Austrostipa littoralis</i>	Tussock up to 70cm tall found in coastal dunes, particularly foredunes and dune hollows and sandy and rocky places.	Gradual Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Climbing groundsel	<i>Brachyglossis sciadophila</i>	Slender, twining or tangling climber often draped over host plant in a dense mass or creeping along ground. Lowland, along forest margins or in alluvial forest.	Gradual Decline/ Regionally Uncommon	Akit_1b, East_1, Hoki_1a, Hoki_1b, Mana_1a, Mana_1b, Mana_2a, Mana_2b, Mana_3, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7b, Mana_7c, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9c, Mana_9d, Mana_9e, Mana_10a, Mana_10d, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_11f, Mana_12a, Mana_12b, Mana_12c, Mana_12d, Mana_12e, Mana_13a, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Ohau_1b, Owha_1, Rang_3a, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_4
(none known)	<i>Grimmia obconica</i>	Divaricating shrub (2-3.5 m) found in a range of habitats.	Gradual Decline	Rang_2b, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Tura_1a
(none known)	<i>Grimmia pedicellata</i>	Shrub or small tree (up to 9 m) of kahikatea-dominated alluvial forest.	Gradual decline	Akit_1b, East_1, Hoki_1a, Hoki_1b, Mana_1a, Mana_1b, Mana_2a, Mana_2b, Mana_3, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7b, Mana_7c, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9c, Mana_9d, Mana_9e, Mana_10a, Mana_10d, Mana_11, Mana_12, Mana_13a, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Ohau_1b, Owha_1, Rang_3a, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
(none known)	<i>Coprosma wallii</i>	Divaricating shrub to small tree (up to 3 m) growing in a range of habitats on fertile substrate (alluvial, riparian and subalpine), in places with cold winters and dry summers. Never associated with broad-leaved canopy trees.	Gradual Decline	Mana_10b, Mana_10c, Mana_10d, Mana_12a, Mana_12d, Rang_2b, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b
(none known)	<i>Crassula mania</i>	Minute annual herb of coastal turf and associated fine silt and gravel.	Gradual Decline/ Regionally Uncommon	West_1, West_2, West_3, Whai_7a, Whai_7b
Tufted hair grass Wavy hair grass	<i>Deschampsia caespitosa</i>	An erect tussock of coastal to subalpine wetlands and lake margins.	Gradual Decline	Rang_2f, Whau_1b
Pingao Golden sand sedge	<i>Desmoschoenus spiralis</i>	A coarse-leaved, yellow-sand-binding plant of coastal fore-dunes.	Gradual Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Pygmy sundew	<i>Drosera pygmaea</i>	Small red, red-purple or green rosette-forming carnivorous herb. Coastal to subalpine, usually in pakihi shrublands and adjoining wetlands, especially peat bogs.	Gradual Decline	Rang_2f, Whau_1a, Whau_1b
Sand spike sedge Spikesedge	<i>Eleocharis neozelandica</i>	Small, leafless, duneland wetland sedge. Found on damp sand flats, often near streams or in places where fresh water filters through the sand at depth or in ephemeral wetlands. Currently only known from one site in the Region.	Gradual Decline	Mana_13a, Rang_4b, Rang_4b, West_5, West_6
Marsh willowherb	<i>Epilobium chionanthum</i>	A small, clumped herb with white flowers found in swamps and wet swards of grasses or sedges near lake and river margins, or in bogs (below 900 m).	Gradual Decline	Whai_1, Whai_2e, Whai_2f, Whai_2g, Whai_4b
Sea holly, coastal eryngie	<i>Eryngium vesiculosum</i>	A small herb of coastal gravelfields.	Gradual Decline	Akit_1b, East_1, Hoki_1b, Mana_13a, Mana_7a, Mana_7c, Mana_7d, Ohau_1b, Owha_1, West_7, West_8, West_9
Gunnera	<i>Gunnera arenaria</i>	Small-leaved prostrate coastal species of damp sand ground, dune slacks and swales, and along tidal river margins and coastal sandstone bluffs.	Gradual Decline	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
New Zealand iris Mikeikei	<i>Libertia peregrinans</i>	An iris with hard copper-orange coloured leaves (15–70 cm long) with prominent dark orange veins. A primarily coastal or lowland species of sandy, peaty or pumiceous soils. Found growing in dune slacks and swales, on the margins of swamps and in open poorly draining ground under scrub.	Gradual Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_2f, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_1a, Whau_1b, Whau_4
(none known)	<i>Melicytus flexuosus</i>	Divaricating shrub (to 5 m) growing on fertile alluvial terraces and floodplains, often on forest margins and in scrub.	Gradual Decline	Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3b, Tura_1a, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2f, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e
Scarlet mistletoe Korukoru Pirita Reeroe	<i>Peraxilla colensoi</i>	A parasitic shrub up to 3 m across, mainly in silver beech forest.	Gradual Decline	Throughout the Region – absent from Whai_2f, Whai_2g, Whai_4b
Red mistletoe Pikirangi Pirita Reeroe Pirinea	<i>Peraxilla tetrapetala</i>	A parasitic shrub up to 2 m across, mainly in coastal to montane beech forest.	Gradual Decline	Throughout the Region
Sand daphne Autetaranga Toroheke Sand pimelea	<i>Pimelea arenaria</i>	Prostrate coastal shrub (less than 30 cm) found on the landward side of the foredunes, back hollows and blowouts. Small white flowers on the ends of the branches.	Gradual Decline	Mana_13a, Rang_4b, Rang_4b, West_5, West_6
Swamp buttercup	<i>Ranunculus macropus</i>	Semi-aquatic to aquatic rosette herb, usually found in coastal to lowland raupe-dominated wetlands.	Serious Decline	Throughout – coastal to lowland habitats
Raukawa	<i>Raukawa edgerleyi</i>	A large shrub or small tree up to 10 m tall with separate adult and juvenile phases. Prefers cloud forests.	Gradual Decline	Throughout – lowland to upper montane habitats
(none known)	<i>Selliera rotundifolia</i>	A prostrate coastal mat forming herb (up to 700 mm in diameter), growing in dune fields in seasonally damp swales (ephemeral wetlands) and occasionally found along the margins of slow-flowing tidal streams.	Gradual Decline	Mana_13a, Rang_4b, Rang_4b, West_5, West_6

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New Zealand sow thistle Puha Shore puha	<i>Sonchus kirkii</i>	Biennial to perennial herb up to 1 m tall of coastal habitat, usually on cliff faces in or around damp seepages.	Gradual Decline	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owaha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Teucrium	<i>Teucrium parvifolium</i>	A shrub (up to 2 m) with small leaves. Grows along fertile stream sides and river terraces in lowland dry forest and podocarp broadleaf forest. Can also grow in forest margins, clearings and amongst scrub.	Gradual Decline	Mana_10b, Mana_10c, Mana_10d
White mistletoe Taapia_pirita Tupia	<i>Typeia antarctica</i>	A shrubby parasite to 1 m diameter of forest or scrub habitat (often in regenerating vegetation).	Gradual Decline	Throughout the Region
Swamp nettle	<i>Urtica linearifolia</i>	Sparingly branched herb which inflicts a painful sting. Found in fertile swamps, lakes and river margins, swampy shrubland and forest.	Gradual Decline	Throughout lowland to montane. Absent from Whai_2f, Whai_2g, Whai_4b
(none known)	<i>Brachyglossis turneri</i>	A tall herb (daisy) of stream margins.	Range Restricted / Regionally Uncommon	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whai_4b, Whai_5b, Whai_5c, Whau_1b
Sand coprosma	<i>Coprosma acerosa</i>	Coastal shrub in sand dunes and dune hollows.	Range Restricted	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owaha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Willowherb	<i>Epilobium astonii</i>	Heavily branched, erect perennial herb forming compact bushes up to 300 mm. A subalpine to alpine species (760-1370 m a.s.l.) usually found on cliff faces, often along canyon and gorge walls, sometimes on exposed boulders along ridge lines.	Range Restricted	Mana_10b, Mana_10c, Mana_12a, Rang_2a, Rang_2b
(none known)	<i>Leptinella dispersa</i> subsp. <i>rupestris</i>	Creeping, perennial herb forming loose patches or compact turf depending on local conditions. Inhabits the margins of freshwater swamps and wetlands bordering saltmarsh, sometimes in deep hollows or on shaded cliff faces.	Range Restricted	West_1, West_2, West_3, Whai_7a, Whai_7b

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
(none known)	<i>Myosotis eximia</i>	Low-growing perennial herb found on limestone cliffs and talus slopes.	Range Restricted	Mana_10b, Mana_10c, Mana_1a, Mana_1b, Mana_3, Mana_4, Mana_5b, Mana_5e, Mana_5d, Mana_5e, Mana_9c, Mana_12a, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2e
(none known)	<i>Simplicia buchananii</i>	A grass with a preference for base-rich substrates and semi-shaded situations in forest or near rock overhangs.	Range Restricted	Rang_2b, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Tura_1a
Feeble bent	<i>Agrostis imbecilla</i>	Delicate, slender, tufted perennial grass, 150–350 mm tall. A montane, subalpine to alpine species of damp sites within tussock grassland.	Sparse	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whau_1b
Gossamer grass	<i>Anemanthele lessoniana</i>	Erect, tufted perennial grass. Sea level to montane forest, forest margins, scrub and on cliff faces and associated talus.	Sparse/Regionally Uncommon	Mana_10b, Mana_10c, Mana_10d, Mana_11d, Mana_12a, Mana_12d, Rang_2a, Rang_2b, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Rang_4c, Rang_4d, Tura_1a, Tura_1b, Whai_6, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_1a, Whau_1b, Whau_2, Whau_3a, Whau_3c, Whau_3d, Whau_3e, Whau_4
Parsley fern Patotara	<i>Botrychium australe</i>	Red-green (bronze) to bright green fleshy fern. A species of open ground, short and tall tussock grassland, forest clearings, shrubland, river flats, reverting pasture and seasonally flooded ground.	Sparse	Throughout the Region
Mistletoe Dwarf mistletoe Leafless mistletoe	<i>Korthalsella salicornioides</i>	Succulent mistletoe, much branched, green, yellow-green, red-green to orange-green plant parasitising exposed branches and branchlets of host. Most commonly found on kanuka/manuka.	Sparse	Throughout – coastal to subalpine habitats
(none known)	<i>Lepilaena bilocularis</i>	Annual, aquatic herb of lakes, brackish water, or slow-flowing rivers. Usually found in shallow fresh water habitats not far from the coast.	Sparse	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Native musk Maori musk Native monkey flower	<i>Mimulus roopens</i>	Mat forming, succulent, perennial herb. Strictly coastal in permanently damp or soggy saline mud or silt soils.	Sparse	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owaha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
Leafless pohuehue Leafless muhlenbeckia	<i>Muehlenbeckia ephedroides</i>	Prostrate twiggy shrub of coastal to subalpine fertile gravel to sandy soils.	Sparse	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_10a, Mana_10b, Mana_10c, Mana_10d, Mana_10e, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_11f, Mana_12a, Mana_12b, Mana_12c, Mana_12d, Mana_12e, Mana_13a, Mana_13b, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Mana_1b, Mana_1c, Mana_3, Mana_4, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_7d, Mana_8a, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9b, Mana_9c, Mana_9d, Mana_9e, Ohau_1a, Ohau_1b, Owaha_1, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1a, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_2g, Whai_3, Whai_4a, Whai_4b, Whai_4c, Whai_4d, Whai_5a, Whai_5b, Whai_5c, Whai_5d, Whai_5e, Whai_6, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3a, Whau_3b, Whau_3c, Whau_3d, Whau_3e, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
(none known)	<i>Myosotis spathulata</i>	Prostrate perennial herb, on or near rock outcrops, under rock overhangs, on ledges or amongst rubble in forest or shrubland.	Sparse	Akit_1a, Akit_1b, Akit_1c, East_1, Mana_10a, Mana_10b, Mana_10c, Mana_10d, Mana_12a, Mana_1a, Mana_1b, Mana_1c, Mana_2a, Mana_2b, Mana_3, Mana_4, Mana_5a, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_6, Mana_7b, Mana_9a, Mana_9b, Mana_9c, Mana_9e, Rang_2a, Whai_1, Whai_2e, Whai_2f, Whai_2g, Whai_4b
(none known)	<i>Olearia quinquevulnera</i>	Shrub 2.2 x 2 metres. Montane to subalpine, on valley floors, on forest margins, clearings, amongst rocks, below cliffs and in subalpine scrub, often in poorly drained or permanently wet soils.	Sparse	Whai_4d, Whai_5d
Fierce lancewood	<i>Pseudopanax ferox</i>	Small tree up to 8 m tall. In grey scrub overlying pumice, on recent alluvial (coarse gravels), limestone outcrops, boulder fall, cliff faces, talus slopes and scarpas. Also found as a sparse component of seasonally drought-prone but otherwise cold and wet alluvial forests.	Sparse / Regionally Uncommon	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whau_1b
Koheriki	<i>Scandia rosifolia</i>	Semi-erect to somewhat open sprawling, woody, aromatic shrub up to 1 x 1 metres. Usually on cliff faces, clay banks or amongst boulders, often found along cliffs lining river gorges, more rarely in scrub.	Sparse	Mana_1a, Mana_1b, Mana_2b, Mana_3, Mana_4, Mana_5b, Mana_5c, Mana_5d, Mana_5e, Mana_9a, Mana_9b, Mana_9c, Mana_10a, Mana_10c, Mana_10d
(none known)	<i>Stegostyla atradonia</i>	Orchid favouring infertile substrates, especially clay podzols and pumice soils, usually in thick leaf litter under kanuka/manuka.	Sparse	Throughout – coastal to montane habitats
New Zealand spinach Kokihi Tutae ikameana	<i>Tetragonia tetragonoides</i>	Widely trailing perennial herb of the coastal strand zone often growing along beaches amongst driftwood and seaweed but also in sand dunes, on boulder and cobble beaches, on cliff faces and rock ledges.	Sparse	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Owha_1, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Sun orchid	<i>Thelymitra formosa</i>	Very stout orchid which at flowering is up to 0.8 m tall. Stem dark red-green or dark green. Mainly found in lowland to montane wetlands, scrub and open forest.	Sparse	Akit_1b, Akit_1c, East_1, Hoki_1a, Hoki_1b, Mana_1c, Mana_5a, Mana_6, Mana_7a, Mana_7b, Mana_7c, Mana_7d, Mana_8a, Mana_8b, Mana_8c, Mana_8d, Mana_8e, Mana_9a, Mana_9d, Mana_9e, Mana_10e, Mana_11b, Mana_13a, Mana_13b, Mana_13c, Mana_13d, Mana_13e, Ohau_1a, Ohau_1b, Owha_1, Rang_1, Rang_2c, Rang_2f, West_7, West_8, West_9, Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d
Bristle fern	<i>Trichomanes colensoi</i>	Colony forming fern of dark recesses, rock faces and overhangs, usually near to or partially immersed in water.	Sparse	Throughout the Region
(none known)	<i>Trisetum drucei</i>	Dense, tufted grass up to 600 mm. A cliff dwelling species preferring calcareous mudstones, siltstones, sandstones, and marble and limestone.	Sparse	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3b, Whau_1b
Native angelica	<i>Gingidia montana</i>	Prostrate montane herb.	Regionally Rare	Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d
Maori dock New Zealand dock Runa	<i>Rumex flexuosus</i>	Rhizomatous herb with broadly oval leaves.	Regionally Rare	Mana_1a, Mana_1b, Mana_10b, Mana_10c, Mana_12a, Rang_2a, Rang_2b, Rang_2c, Rang_2e, Rang_2f, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
(none known)	<i>Coprosma virescens</i>	Divaricating shrub inhabiting forest edges and scrub.	Regionally Uncommon	Mana_10b, Mana_10c, Mana_10d, Mana_11d, Mana_12a, Mana_12d, Rang_2a, Rang_2b, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Rang_4c, Rang_4d, Tura_1a, Tura_1b, Whai_6, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_1a, Whau_1b, Whau_2, Whau_3a, Whau_3c, Whau_3d, Whau_3e, Whau_4
Matagouri Wild Irishman	<i>Discaria toumatou</i>	Divaricating shrub inhabiting forest edges and scrub.	Regionally Uncommon	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_4a, Rang_4b, Rang_4d, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_7b, Whau_4
	<i>Schoenus nitens</i>	Wetland sedge 5-25 cm tall with pale green leaves with purplish tips growing in moist dune hollow and brackish swamps near the coast.	Regionally Uncommon	Mana_13a, Rang_4b, Rang_4b, West_5, West_6
Native cleaver Native bedstraw	<i>Galium trilobum</i>	Perennial herb with straggling, slender stems, 10-70 cm long. Leaf stems 0.5-3 mm long. Leaves 2-10 mm long. Lowland to upland. In shady, damp and wet places such as forest margins, scrub, stream and lake sides, moist pastures and tussockland, shrubland, rushland in seepage and near swamp.	Regionally Uncommon	Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Green mistletoe	<i>Hemistylus micranthus</i>	A coastal to lowland mistletoe that prefers shrubland and secondary regrowth.	Regionally Uncommon	Hoki_1a, Hoki_1b, Mana_10a, Mana_10b, Mana_10c, Mana_10d, Mana_10e, Mana_11a, Mana_11b, Mana_11c, Mana_11d, Mana_11e, Mana_11f, Mana_12a, Mana_12b, Mana_12c, Mana_12d, Mana_12e, Mana_13a, Mana_13b, Mana_13c, Mana_13d, Mana_13e, Mana_13f, Ohau_1a, Ohau_1b, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Rang_2g, Rang_3a, Rang_3b, Rang_4a, Rang_4b, Rang_4c, Rang_4d, Tura_1a, Tura_1b, Tura_1c, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_6, Whai_7a, Whai_7b, Whai_7c, Whai_7d, Whau_1a, Whau_1b, Whau_2, Whau_3a, Whau_3c, Whau_3d, Whau_3e, Whau_4
Dwarf mistletoe	<i>Korthasella clavata</i>	Coastal to subalpine mistletoe. Usually found parasitising shrubs within grey scrub communities, also found on shrubs and trees within montane alluvial forest.	Regionally Uncommon	Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d
Native mint Mokimeki	<i>Mentha cunninghamii</i>	Prostrate herb of lowland to high montane grassland and open habitats, such as cliffs, river banks, lakesides, sometimes in swampy ground.	Regionally Uncommon	Whai_1, Whai_2a, Whai_2b, Whai_2c, Whai_2d, Whai_2e, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d
Alpine yellow forget-me-not	<i>Myosotis australis "yellow"</i>	Low mat herb with yellow flowers, found in tussock grasslands.	Regionally Uncommon	Mana_10c, Mana_12a, Mana_1a, Mana_1b, Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2e, Rang_2f, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_2, Whau_3b, Whau_3c, Whau_3d, Whau_3e
Small prostrate milfoil	<i>Myriophyllum votschii</i>	Small branching bright green herb with leaves only 1–3 mm long, growing in coastal damp sands, inland on lake margins and in shallow waters.	Regionally Uncommon	Mana_13a, Rang_4b, Rang_4b, West_5, West_6

Common Name	Scientific Name	Description ²	Status ⁴	Water management zones or sub-zones where these species may occur
Giant maiden-hair	<i>Adiantum formosum</i>	Tall, widely creeping fern from alluvial forest and gorge sides. Usually found in shaded sites amidst drifts of leaf litter. Rarely grows in full sun.	Vagrant	Mana_10a, Mana_10e, Mana_11b, Mana_11c
New Zealand sneezewort	<i>Centipeda aotearoana</i>	Annual to short lived perennial prostrate herb forming circular patches 10-30 cm diameter, from open damp ground, lake, tarn and river margins, ephemeral wetlands and drains.	Data Deficient	West_3, West_4, Whai_7a, Whai_7b, Whai_7d
(none known)	<i>Euchiton polylepis</i>	Stoloniferous, perennial daisy, lowland to subalpine in damp places, especially stream sides and damp hollows in grassland, cliffs and rocky places.	Data Deficient	Hoki_1a, Hoki_1b, Mana_12c, Mana_13a, Mana_13f, Ohau_1b, Rang_2c, Rang_2d, Rang_2f, Rang_4a, Rang_4b, Tura_1b, West_1, West_2, West_3, West_4, West_5, West_6, West_7, West_8, West_9, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_5d, Whai_5e, Whai_7b, Whau_1a, Whau_1b, Whau_1c, Whau_3b, Whau_3c, Whau_3d, Whau_4
Papataniwha	<i>Lagenifera montana</i>	Small herb with leaves in a rosette at base of plant from subalpine to alpine seeps, cushion bogs, swamps, lake and tarn margins, wet tussock grassland and stream banks, 600-900m altitude, occasionally lower.	Data Deficient	Mana_8a, Mana_8d, Mana_9d, Ohau_1a, Whai_1, Whai_2b, Whai_2c, Whai_2d, Whai_4d, Whai_5d, Whai_5e, Whau_1a, Whau_1b, Whau_1c, Whau_3b, Whau_3c, Whau_3d
(none known)	<i>Pimelea aridula</i> agg.	Erect shrub up to 1 m tall of lowland to montane grassland and rocky places	Data Deficient	Rang_1, Rang_2a, Rang_2b, Rang_2c, Rang_2d, Rang_2e, Rang_2f, Whau_1b
Greenhood	<i>Pterostylis irwinii</i>	A large, slender, long-leaved orchid from damp areas in light scrub or near forest track-sides.	Data Deficient	Whai_4d, Whai_5d
Grassland wheatgrass	<i>Stenostachys laevis</i>	Perennial grass of tussock grasslands, grey scrub, shaded cliff faces, lake sides and flushes.	Data Deficient	Rang_2a, Rang_2b

⁴Follows Hitchmough, 2002. New Zealand Threat Classification System lists. Biodiversity Recovery Unit, Department of Conservation, Wellington.

Table E.4:

~~The ecological significance of an area or site is an indication of the importance of that place within the landscape and its contribution to the biodiversity values of the Region.~~

~~Spatial scale is an important consideration when assessing ecological significance. In most instances, a site will be evaluated for significance at the water management sub-zone scale. However, a site may possess values or species that make it significant at a larger spatial scale – for example, water management zone level, regional level, national level or international level. Ecological significance can also be assessed at an ecological spatial scale such as ecological district or ecological region. Regardless of scale, a site will always be classified by its highest level of significance.~~

~~Desktop and field-based assessment will be incorporated when determining the ecological significance of a site.~~

Criteria	Definition
Representativeness	<ul style="list-style-type: none"> The site contains habitat type that is under represented (20% or less of known or likely former cover), assessed either at the national, regional, water management zone or water management sub zone scale. This criterion includes sites of Threatened habitat types as identified in Table E.1.
Rarity and Distinctiveness	<ul style="list-style-type: none"> The site supports one or more species that are classified as threatened (as determined by the New Zealand Threat Classification System), or The site supports a species that is endemic to the Manawatu-Wanganui Region, or any given water management zone or water management sub zone, or The site supports a species, or community of species, that is distinctive to the Manawatu-Wanganui Region. Distinctiveness describes the uncommon presence or unique assemblage of species or habitat at any given geographical location.
Ecological Context	<ul style="list-style-type: none"> The site provides connectivity (physical connections) between two or more areas of indigenous habitat, or The site provides an ecological buffer (is a closely adjacent site of similar, degraded or exotic habitat that provides protection) to another area of indigenous habitat, including aquatic habitat, or The site is an area of indigenous habitat that forms part of an indigenous ecological sequence (connectivity between different habitat types across a gradient (eg., altitudinal or hydrological).
Previously Assessed Sites	<ul style="list-style-type: none"> Any site assessed at a previous time, or by a previous agency, on criteria in keeping with the policies, objectives and criteria of this Plan, to be of ecological significance.

SCHEDULE E: *INDIGENOUS* BIOLOGICAL DIVERSITY*

Schedule E is a component of Part II - the Regional Plan.

A rare habitat*, threatened habitat* or at-risk habitat* is an area of vegetation or physical substrate which:

- (a) is a habitat type identified in Table E.1 as being “Rare”, “Threatened” or “At-risk” respectively,
- (b) meets at least one of the criteria described in Table E.2(a) for the relevant habitat type, and
- (c) is not excluded by any of the criteria in Table E.2(b).

Unless otherwise stated, the habitat types in Table E.1 comprise vegetation that is *indigenous**. *Indigenous** is defined in the Glossary of the Plan for the purposes of Schedule E and means vegetation comprised predominantly of indigenous species, but which may include *scattered** exotic species.

It is recommended that a suitably qualified expert is engaged for assistance with interpreting and applying Schedule E. This could be:

- (a) a consultant ecologist, or
- (b) the Regional Council staff, who currently provide this service free of charge, including advice and a site visit where required in the first instance. It may be that following this initial provision of information, the proposal will require an Assessment of Ecological Effects to be provided as a component of the consent application. In such instances it is recommended that a consultant ecologist be engaged to conduct the assessment.

The Regional Council can, in all cases, provide any spatial data and existing information where available as relevant to the habitat and the proposed activity.

Interpreting Schedule E:

Do I need a resource consent^?

YES IF:

the area of vegetation or physical substrate is determined to be habitat type classified as “Rare”, “Threatened” or “At-risk” in Table E.1 **AND** it meets any of the criteria in Table E.2(a) **AND** it is not excluded by any of the criteria in Table E.2(b).

NO IF:

the area of vegetation or physical substrate is determined to be habitat type that is not classified in Table E.1,

OR

the area of vegetation or physical substrate is determined to be habitat type classified as “Rare”, “Threatened” or “At-risk” in Table E.1 but **does not** meet any of the criteria in Table E.2(a),

OR

the area of vegetation or physical substrate meets any of the criteria in Table E.2(b).

Table E.1:

Table E.1 describes characteristics of habitat types as they are expressed at the regional scale. The “Habitat Type Label” column is intended as a label only and is not intended as a habitat description. The “Defined As” column defines the meaning of the habitat type set out in the “Habitat Type Label” column. The “Further Description” column is to assist Plan users and is not definitive. Patches of any given habitat type may not exhibit all elements considered characteristic of that habitat type. Some species listed may not be present, or be present in different abundances than indicated. Other species not listed can also be present. *Sites** of the same habitat type can exhibit differences from each other. Further, there may be differences in predicted composition and actual composition on the ground, particularly as a result of *site** modification and pest impacts. Unless otherwise stated, the habitat types listed in Table E.1 comprise vegetation that is *indigenous**.

*Water Management Zones** and *Sub-zones** are described in Schedule AA.

Habitat Type Label	Defined As	Classification	Further Description
<i>Forest* and Treeland* Habitat Types Classified as Threatened</i>			
<u>Hardwood/broadleaved forest or treeland</u>	<u>Tawa forest* in association* with other <i>indigenous*</i> broadleaved* species, or tawa dominated* treeland*.</u>	<u>Threatened</u>	Kamahi, hinau and black maire are likely to be <i>common*</i> . Podocarp* species such as kahikatea, rimu or totara may be emergent above the canopy*. Titoki, rewarewa or northern rata may also be a feature. The subcanopy is likely to comprise <i>common*</i> <i>indigenous*</i> broadleaved* species. This habitat type is found in hill country north of Wanganui and the east coast at elevations of 0 - 150 m asl.
<u>Kahikatea-pukatea-tawa forest or treeland</u>	<u>Kahikatea dominated* forest* or treeland* on lowland alluvium and floodplains commonly found in association* with pukatea and tawa.</u>	<u>Threatened</u>	This habitat type is likely to be characterised by the presence of the swamp forest* species kahikatea and pukatea. Tawa will be <i>common*</i> on the drier, better drained or raised areas. Matai, rimu and totara can be present but are restricted to areas of better-drained soils. Titoki is also likely to be <i>common*</i> . Kahikatea-pukatea-tawa forest is found on alluvial soils throughout the Region predominantly at elevations between 0 - 350 m but also up to 650 m asl.
<u>Podocarp forest or treeland</u>	<u>Podocarp* forest* or treeland* dominated* by matai, kahikatea or totara.</u>	<u>Threatened</u>	The dominance of any of these species is dependent on the drainage capability of the soil and history of past disturbance. Totara and matai are likely to be more <i>abundant*</i> on free-draining soils, with kahikatea likely to be <i>dominant*</i> on poorly-drained soils. <i>Indigenous*</i> broadleaved* species (for example titoki, tawa, maire and fuchsia) are likely to be found in association* with the podocarp* species, but will be less <i>abundant*</i> than the podocarp* species. Podocarp forest is mostly confined to the Wanganui, Rangitikei and Ruapehu Districts, from sea level to 900 m asl.
<u>Podocarp/broadleaf-fuchsia forest or treeland</u>	<u>Podocarp* dominated* forest* over a subcanopy of broadleaf and fuchsia, or podocarp* dominated* treeland*.</u> <u>The podocarp* species matai, totara, kahikatea or rimu, will be present at varying levels of abundance*.</u>	<u>Threatened</u>	This habitat type tends to favour adequately drained and reasonably fertile soils. Although typically a feature of this habitat type, fuchsia is favoured by possums and may be uncommon in many areas. Broadleaf (<i>Griselinia</i>), and <i>indigenous*</i> climbers and epiphytes are also likely to be <i>common*</i> . Kamahi may also be present but typical <i>indigenous*</i> broadleaved* species may be lacking. This habitat is largely confined to small isolated areas in high rainfall areas of the hill country in Ruapehu, Wanganui, Tararua and Manawatu Districts, from 400 - 900 m asl.

Habitat Type Label	Defined As	Classification	Further Description
<u>Podocarp/tawa-mahoe forest or treeland</u>	<u>Tawa and mahoe dominated* forest* or treeland* with scattered* emergent podocarp* species.</u>	<u>Threatened</u>	<p>Kahikatea or matai trees are likely to be present in the canopy* or as emergent trees. Rimu and totara may also be present in low numbers. Titoki, hinau, maire or pukatea may also be present. The subcanopy is likely to comprise common* indigenous* broadleaved* species.</p> <p>This habitat type is found on dry dune land^ and low hill country (from sea level to 750 m asl).</p>
<u>Rimu/tawa-kamahi forest or treeland</u>	<u>Tawa and kamahi dominated* forest* or treeland* with scattered* emergent rimu.</u>	<u>Threatened</u>	<p>Hinau, rewarewa or mahoe are likely to be common*. Rimu may be a feature of this habitat type, although its frequency will be dependent on the history of disturbance of the site*. Miro and totara may also be present with kahikatea and matai likely to be less common*. Pukatea is commonly likely to be present, particularly in valleys. Black beech may be locally common* on dry ridges in hill country (eg., inland from Wanganui). Common* indigenous* broadleaved* species are also likely to be present in the understorey.</p> <p>Rimu/tawa-kamahi forest can be found in all Districts of the Region from sea level to 800 m asl.</p>
<u>Podocarp/red beech-kamahi-tawa forest or treeland</u>	<u>Red beech, kamahi and tawa dominated* forest* or treeland* occurring between 400 - 700 m asl.</u>	<u>Threatened</u>	<p>Podocarp* species such as rimu, Hall's totara and miro may be present scattered* through the canopy* or as emergent trees. Indigenous* broadleaved* species may also be present in the subcanopy and understorey. At the higher altitudes of the range of this habitat type, silver beech becomes increasingly dominant*.</p> <p>Podocarp/red beech-kamahi-tawa forest is largely confined to the Rang 2b Water Management Sub-zone*.</p>
<u>Podocarp/black beech/mountain beech forest or treeland</u>	<u>Black beech and mountain beech dominated* forest* or treeland* occurring between 400 - 1250 m asl.</u>	<u>Threatened</u>	<p>Emergent podocarp* species (eg., matai, totara, kahikatea, rimu or miro) can be present as emergent trees, but are not dominant*. Small indigenous* broadleaf trees are also likely to be present.</p> <p>This habitat type is found in dry climates, on free-draining, relatively fertile soils.</p>
<u>Hall's totara/silver beech-kamahi forest or treeland</u>	<u>Silver beech dominant* forest* or treeland* in association* with abundant* kamahi occurring between 750 - 1400 m asl.</u>	<u>Threatened</u>	<p>Indigenous* conifer species such as Hall's totara, pahautea, totara, rimu and miro are likely to be emergent at lower elevations where silver beech is less dominant*. Northern rata may be scattered* throughout, although its relative abundance* is strongly influenced by the effects (current or historic) of possum.</p> <p>This habitat type is found in the montane areas of the Rangitikei and Manawatu Districts.</p>

Habitat Type Label	Defined As	Classification	Further Description
Kowhai-broadleaved forest or treeland	<p><i>Forest*</i> or <i>treeland*</i> dominated* by kowhai on river^ terraces, river^ risers or cliffs and bluffs associated with rivers^.</p> <p>This habitat type is found in the central area of the Region, within the following Water Management Sub-zones*: Akit 1a, Akit 1b, Akit 1c, Mana 1a, Mana 1b, Mana 1c, Mana 7a, Mana 7b, Mana 7c, Mana 7d, Mana 12d, Rang 2b, Rang 2e, Rang 2f, Rang 2g, Rang 3a, Rang 3b, Rang 4c, Whai 6, Whai 7a, Whai 7c, Whai 7d, Whau 2, Whau 3a, Whau 3e, Tura 1a, Tura 1b.</p>	Threatened	<p>Kowhai-broadleaved* forest* is typically low-growing <i>forest*</i> or <i>treeland*</i>, often with a mixture of small tree* species and shrubs* including lacebark, ribbonwood, kanuka and indigenous* divaricating shrubs*.</p> <p>The absence of a dense canopy* of tawa or kamahi from this habitat type is notable.</p>
Kanuka forest or treeland	<p>Kanuka forest* or <i>treeland*</i> is dominated* by almost pure stands of well-developed kanuka. This habitat type is differentiated from kanuka scrub* by size (greater than 4.5 m tall or 20 cm diameter measured at 1.4 metres above the ground).</p>	Threatened	<p>Manuka and typical indigenous* broadleaved* species can also be present scattered* through the canopy* or understorey but will not be dominant*.</p>
<i>Forest*, Treeland*, Scrub* or Shrubland* Habitat Types Classified as At-risk</i>			
Podocarp/kamahi forest or treeland	<p>Podocarp* forest* or <i>treeland*</i> dominated* by rimu, miro, kahikatea, matai or totara in varying dominance over abundant* kamahi.</p>	At-risk	<p>The degree of dominance of each of the podocarp* species will be dependent on soil drainage and past disturbance history. Totara, miro and matai are likely to be more abundant* on free-draining soils, with kahikatea likely to be dominant* on poorly-drained soils. Rimu will likely be dominant* in areas of high rainfall. Tawa, northern rata, hinau, black and white maire, fuchsia and/or mahoe may also be present.</p> <p>Podocarp/kamahi forest can be found throughout the Region, excluding the western lowland area, predominantly at elevations between 150 - 900 m asl. However, Podocarp/kamahi forest can also be found between 50 - 1100 m asl.</p>

Habitat Type Label	Defined As	Classification	Further Description
Hall's totara/broadleaf forest or treeland	Hall's totara and broadleaf <i>dominant* forest* or treeland*</i> in montane sites* lacking beech.	At-risk	<p>Pahautea can be <i>co-dominant*</i> in this habitat type, but is absent from the northern Tararua Ranges, where mountain toatoa is likely to be locally <i>common*</i>. Matai and miro can be present at the lower altitudes in this habitat type. Kamahi can also be a component of this habitat type, and will be more <i>common*</i> in wetter climates. Rimu is not a feature of this habitat type as Hall's totara/broadleaf forest is mostly found above the altitudinal limit of rimu.</p> <p>Hall's totara/broadleaf forest is the <i>dominant*</i> habitat type above 800 m asl where beech is absent, but can also be found to elevations as low as 450 m asl.</p>
Mountain beech forest or treeland	Mountain beech <i>dominated* forest* or treeland*</i> .	At-risk	<p>This habitat type often occurs without many other <i>tree*</i> species, although upland conifers (eg., Hall's totara, pahautea, and mountain toatoa) and other species (eg., silver beech, broadleaf) may be present (but not <i>common*</i>) in places, especially at lower elevations or where rainfall is higher. The understorey of mountain beech <i>forest*</i> is typically sparse. Mountain beech can tolerate cold temperatures, dry winds, and low fertility soils.</p> <p>Mountain beech forest can be the predominant habitat type at higher altitudes (650 - 1450 m asl), especially on eastern sites* and in areas with harsh environmental conditions.</p>

Habitat Type Label	Defined As	Classification	Further Description
Indigenous forest, treeland or scrub on alluvial terrace, floodplains, shingle fans or sand dunes supporting divaricating plant species	<p><i>Indigenous*</i> forest*, treeland*, or scrub* on alluvial terraces or floodplains in areas prone to summer drought and water-logging and frost during winter, that provides habitat for any of the following:</p> <p>Gardners tree daisy (<i>Olearia gardnerii</i>), heart-leaved kohuhu (<i>Pittosporum obcordatum</i>), <i>Coprosma obconica</i>, <i>Coprosma wallii</i>, <i>Melicrytus flexuosus</i>, fierce lancewood (<i>Pseudopanax ferox</i>).</p> <p>OR</p> <p><i>Indigenous*</i> forest*, treeland*, or scrub* on freely draining shingle fans, river^ terraces and sand dunes that provides habitat for matagouri (<i>Discaria toumatou</i>).</p>	At-risk	<p>This habitat type supports threatened or regionally uncommon divaricating plant species.</p> <p>This habitat type may be the result of disturbance (naturally or human induced), contain exotic species, or other <i>indigenous*</i> divaricating species than those listed here, or be found in association* with another habitat type (eg., Podocarp-broadleaf forest).</p> <p>Although these species may occur together or in isolation throughout the Region, this habitat type is mostly found in the Middle Rangitikei Water Management Zone* (Rang_2), with matagouri mostly found on sand country of the west coast of the Region, the East Coast Management Zone (East_1) and the Upper Whangaehu (Whau_1).</p>
Indigenous forest or scrub containing Powelliphanta land snails	<p><i>Indigenous*</i> forest* or scrub* habitat containing <i>Powelliphanta traversi traversi</i> or <i>Powelliphanta traversi tararuensis</i> land snails.</p> <p>This habitat type is found in Lake Papaitonga (West_8), Lake Horowhenua (Hoki_1a), Kahuterawa (Mana_11c) and Mangaore (Mana_13d) Water Management Sub-zones*.</p>	At-risk	<p><i>Powelliphanta traversi traversi</i> may be found under leaf litter of forest* comprising pukatea, kahikatea and maire tawake in wet sites*, and tawa, kohekohe, karaka, and totara in drier sites* located in the Water Management Sub-zones* referred to which are found on the Horowhenua Plains.</p> <p><i>Powelliphanta traversi tararuensis</i> may be found under leaf litter and bush rice grass in forest* comprising rimu and miro with rewarewa and pigeonwood in sites* with seepages, and where fertile alluvial soils or litter have accumulated, or in scrub* dominated* by wheki.</p> <p>Either species of land snail may be present in even small and modified fragments of this habitat type.</p>

Habitat Type Label	Defined As	Classification	Further Description
Riparian margin	<u>Any indigenous* or exotic woody vegetation* that is forest*, treeland*, scrub*, or shrubland*, that is not classified elsewhere in Schedule E as rare* or threatened*, within 20 m landwards from the top of the river^ bank adjacent to a site* identified in Schedule AB as being a Site of Significance - Aquatic.</u>	At-risk	Riparian margin vegetation comprises <i>indigenous*</i> woody vegetation*, exotic woody vegetation*, or a combination of both <i>indigenous*</i> and exotic woody vegetation*. This habitat type varies greatly between sites* in both structure and composition, and might be highly modified, contain artificial assemblages of species or include deliberately planted woody species (<i>indigenous*</i> or exotic).
Tussockland* Habitat Type Classified as At-risk			
Indigenous tussockland below the treeline	<u>Red tussock (<i>Chionochloa rubra</i> subsp. <i>rubra</i> var. <i>rubra</i>) dominated* tussockland* below the treeline in areas with natural or human induced disturbance regimes, high water^ tables or temperature inversions.</u> <u>This habitat type is found in Rang 1, Rang 2a, Rang 2b, Rang 2c, Rang 2d, Rang 2e, and Rang 2f, Water Management Sub-zones*.</u>	At-risk	<u>Red tussock is particularly dominant* in humid climates on moist soils. Other tussock species that can be present include silver tussock and blue tussock. Silver tussock will be more important on higher fertility disturbed areas. Blue tussock may be uncommonly present as an inter-tussock species amongst red tussock.</u> <u><i>Indigenous*</i> and exotic woody species (eg., heather, monoao, <i>Hebe</i>, manuka and kanuka) are likely to be increasingly present as natural successional processes advance.</u>
Wetland^ Habitat Types Classified as Rare or Threatened			
Dune slack wetland	<u>Dune slack wetlands^ support low-growing <i>indigenous*</i> herbfld* and occur in topographically low sites* where wind has eroded hollows or depressions in raw sand, or where water^ is permanently or seasonally ponded.</u>	Rare	<u>Dune slack wetlands^ are found close to the sea on sand country, and can comprise a mosaic of <i>indigenous*</i> vegetation and bare sand. Exotic species are frequently present.</u>
Ephemeral wetland	<u>Ephemeral wetlands^ support <i>indigenous*</i> turf (<3 cm tall) species, <i>indigenous*</i> rushland* and <i>indigenous*</i> scrub*, are most frequently found in depressions lacking a surface outlet, and are characterised by a marked seasonal ponding and drying.</u>	Rare	<u>Ephemeral wetlands^ are of moderate fertility, neutral pH and fed by groundwater or an adjacent water body^. Seasonal variations in rainfall and evaporation result in seasonal variation in water^ level. Ephemeral wetlands^ may experience complete drying in summer months or dry years.</u> <u>Ephemeral wetlands^ are found on sand country (although they also occur elsewhere), and may comprise a mosaic of <i>indigenous*</i> vegetation and bare sand. Fluctuations between aquatic and terrestrial plant species often occur and exotic species are frequently present.</u>

Habitat Type Label	Defined As	Classification	Further Description
Bog and fen wetland	<p><u>Bog wetlands</u>[^] support <u>indigenous</u>* <u>mosses, lichens, cushion plants, sedges, grasses, restiads, ferns, shrubs</u>* and <u>trees</u>* and are formed on peat with rainwater the only source of water[^].</p> <p><u>Fen wetlands</u>[^] support <u>indigenous</u>* <u>restiads, sedges, ferns, tall herbs, tussock grasses and scrub</u>* and are on predominantly peat. Fen wetlands[^] receive inputs from groundwater and nutrients from adjacent mineral soils.</p>	Threatened	<p><u>Bog wetlands</u>[^] can be found on relatively level or gently sloping ground including hill crests, basins, terraces and within other wetland[^] classes. Bog wetlands[^] are nutrient poor, poorly drained and aerated, and usually acid. The water[^] table is often close to or just above the ground surface.</p> <p><u>Fen wetlands</u>[^] can be found on slight slopes (eg., fans), toes of hillsides, or on level ground without much accumulation of peat. Fen wetlands[^] can grade into swamp wetland[^]. Fen wetlands[^] are of low to moderate acidity and fertility and the water[^] table is usually close to or just below the surface.</p> <p><u>Bog wetlands</u>[^] and <u>fen wetlands</u>[^] are often found in association* with each other and are dominated* by <u>indigenous</u>* species, but exotic species can also be present.</p>
Pakihi wetland	<p><u>Pakihi wetlands</u>[^] support <u>indigenous</u>* <u>restiads, sedges, fernland</u>[*], <u>shrubland</u>* and <u>heathland</u>*. Pakihi wetlands[^] are rain-fed systems on mineral or peat, or mature, skeletal soils.</p>	Rare	<p><u>Pakihi wetlands</u>[^] can be found on level to rolling or sloping land[^] in areas of high rainfall. Pakihi wetlands[^] are of very low fertility and low pH and are frequently saturated, but can be seasonally dry.</p> <p><u>Pakihi wetlands</u>[^] are often found in association* with bog and fen wetlands[^]. Exotic species can also be present.</p>
Seepage and spring wetland	<p><u>Seepage wetlands</u>[^] support <u>indigenous</u>* <u>sedgeland</u>[*], <u>cushionfield</u>[*] <u>mossfield</u>* or <u>scrub</u>*, occur on slopes, and are fed by groundwater.</p> <p>A <u>spring wetland</u>[^] occurs at the point that an underground stream emerges at a point source.</p>	Rare	<p><u>Seepage and spring wetlands</u>[^] can be found at the point of change of slopes and places where the water[^] table is raised. Seepage wetlands[^] are often also fed by surface water[^] including where groundwater has percolated to the surface. Substrates (ranging from raw or well-developed mineral soil to peat), nutrient levels and pH vary from site* to site*.</p> <p><u>Seepage and spring wetlands</u>[^] are often small and can occur as isolated systems or in association* with other wetland[^] types. The volume of water[^] within a seepage system is less than that within a spring system.</p> <p><u>Seepage and spring wetlands</u>[^] are dominated* by <u>indigenous</u>* species but exotic species can also be present.</p>

Habitat Type Label	Defined As	Classification	Further Description
Swamp and marsh wetland	<p><u>Swamp and marsh wetlands</u>[^] support <i>indigenous*</i> sedges, rushes, reeds, <i>flaxland*</i>, tall herbs, <i>herbfield*</i>, shrubs*, scrub* and forest*.</p> <p><u>Swamp wetlands</u>[^] are generally of high fertility, receiving nutrients and sediment from surface run-off and groundwater.</p> <p><u>Marsh wetlands</u>[^] are mineral wetlands[^] with good to moderate drainage that are mainly groundwater or surface water[^] fed and characterised by fluctuation of the water[^] table.</p>	Threatened	<p>Substrates within swamp and marsh wetlands[^] are generally a combination of peat and mineral substrates. Standing water[^] and surface channels are often present, with the water[^] table either permanently, or periodically, above much of the ground surface.</p> <p>Swamp and marsh wetlands[^] can usually be found on plains, valley floors and basins. Marsh wetlands[^] can be differentiated from swamp wetlands[^] by having better drainage, generally a lower water[^] table and usually a more mineral substrate and higher pH. Exotic species are frequently present in both wetland[^] types.</p>
Saltmarsh wetland	<p><u>Saltmarsh wetlands</u>[^] support <i>herbfield*</i>, <i>rushland*</i> and <i>scrub*</i>, form within areas of tidal intertidal zones, and are fed from groundwater and estuary waters[^]. Saltmarsh wetlands[^] occur in association* with mudflats.</p>	Threatened	<p>Water[^] within a saltmarsh wetland[^] can be saline or brackish. Substrates are typically mineral.</p> <p>Saltmarsh wetland[^] can comprise a mosaic of <i>indigenous*</i> species and bare substrate (mudflats). Exotic species can be present. In some places the mudflats can be extensive and are characteristic of estuarine wetland[^] systems.</p>

Habitat Type Label	Defined As	Classification	Further Description
Lakes and lagoons and their margins	<p>Lakes and lagoons support <i>indigenous*</i> aquatic plants (emergent, floating, submerged or rafted), and <i>indigenous*</i> rushes, reeds, sedges, <i>sedgeland*</i>, <i>flaxland*</i>, <i>reedland*</i> turf (< 3 cm tall), <i>herbfield*</i>, <i>scrub*</i> and <i>shrubs*</i> on the margins. <i>Indigenous*</i> terrestrial vegetation (such as <i>scrub*</i>, <i>shrub*</i> species, <i>shrubland*</i>, <i>treeland*</i> and <i>forest*</i>) can also be found in association* with lake and lagoon margins.</p> <p>Lakes are areas of standing (non-flowing) water^A. Lagoons are shallow lakes, connected to, or independent of, a river^A, lake or the sea.</p>	Threatened	<p>Lakes and lagoons in the Region are associated with dune, <i>river^A</i>, and volcanic landforms and include dune lakes, ox-bow lakes and tarns.</p> <p>Lakes and lagoons can exist in isolation, be entirely within, or have elements of, other <i>wetland^A</i> habitat types.</p> <p>Exotic species (aquatic, <i>wetland^A</i> or terrestrial) may also be present.</p>
Naturally Uncommon Habitat Types Classified as Rare			
Cliffs, scarps and tors	<p>Where bare substrate, or <i>indigenous*</i> <i>lichenfield*</i>, <i>tussockland*</i>, <i>herbfield*</i>, <i>shrubland*</i> or <i>scrub*</i>, occurs on cliffs (including coastal cliffs), scarps or tors of any rock type.</p> <p>OR</p> <p>Where bare substrate or <i>herbfield*</i> dominated* by <i>indigenous*</i> species occurs on flat land^A at the top of coastal cliffs.</p>	Rare	<p>Vegetation types typically found in this habitat include <i>indigenous*</i> lichen species, non-woody or low-growing semi-woody herbs, tussocks, <i>shrubs*</i> and <i>scrub*</i>. Species characteristic of these vegetation types include, for example, <i>Pimelea</i>, sea primrose, <i>Selliera</i>, <i>Myosotis</i>, shore puhā, flax, toetoe, <i>Astelia</i>, <i>Hebe</i>, daisy species, kawakawa, mahoe and broadleaf. Exotic species may also be present.</p>
Karst systems	Bare substrate or <i>indigenous*</i> <i>shrubland*</i> , <i>tussockland*</i> , <i>flaxland*</i> , or <i>herbfield*</i> , occurring in sinkholes, cave entrances, caves and cracks in karst systems.	Rare	<p>Karst systems are found on limestone, marble, dolomite or calcareous rock, and can be subterranean or semi-subterranean.</p> <p>Karst systems provide habitat for highly specialised <i>indigenous*</i> species (often <i>endemic*</i>) that are adapted to subterranean environments.</p> <p>Karst systems are known in the Region from the Whanganui and Pohangina Valleys.</p>

Habitat Type Label	Defined As	Classification	Further Description
Scree and boulderfields	Bare substrate or <i>indigenous*</i> <i>lichenfield*</i> , <i>shrubland*</i> , <i>scrub*</i> or <i>forest*</i> occurring on screes or <i>boulderfields*</i> of any rock type.	Rare	<p>Includes slopes covered in shingle, cobbles or rock (of any rock type) which may or may not support vegetation. Bare substrate is a characteristic feature of this habitat type.</p> <p><i>Scree and boulderfields*</i> are often found associated with a larger cliff or slope. They provide habitat for lizards including the threatened small scaled skink (<i>Oligosomia microlepis</i>).</p> <p>Exotic species may also be present.</p>
Active duneland	<i>Indigenous*</i> <i>grassland*</i> or <i>sedgeland*</i> occurring on active <i>duneland*</i> formed on raw coastal sand.	Rare	<p><i>Active duneland*</i> is characterised by unstable sands. This continual instability of sand prevents the formation of soil and therefore the vegetation type that an active <i>duneland*</i> can support is limited. Examples are Spinifex <i>grassland*</i> and pingao <i>sedgeland*</i>. Other <i>indigenous*</i> species can also be present eg., Sand convolvulus and sand Carex. Exotic species will also be present.</p> <p>The instability of the sand provides constant disturbance and therefore creates environments within which species can establish. Continual change of the mosaic of bare sand and vegetation is an important component of active <i>duneland*</i>.</p>
Stable duneland	<i>Indigenous*</i> <i>grassland*</i> , <i>tussockland*</i> , <i>herbfield*</i> (including <i>Pimelea actea</i> and <i>P. arenaria</i>), or <i>shrubland*</i> occurring on stable <i>duneland*</i> formed on recent coastal sand.	Rare	<p>Vegetation types typically occurring on stable <i>duneland*</i> include tussocks, low-growing or semi-woody herbs and <i>shrubs*</i>. These vegetation types characteristically support, for example, toetoe, <i>Selliera rotundifolia</i>, sand Gunnera, native spinach, sand Coprosma, sand daphne, coastal tree daisy, pohuehue, tauhinu, Coprosma species and hangehange. Exotic invasive species are also a feature of stable <i>duneland*</i>.</p> <p>The threatened species <i>Pimelea actea</i> is known from the Tura 1b, West 5, and Whau 4 Water Management Zones*.</p>
Inland duneland	<i>Indigenous*</i> <i>scrub*</i> , <i>tussockland*</i> , <i>herbfield*</i> or <i>forest*</i> occurring on inland <i>duneland*</i> formed on raw or recent sands inland.	Rare	<p>Vegetation types typically found on inland <i>duneland*</i> include tussock, low-growing or semi-woody herbs, <i>shrubs*</i>, and <i>trees*</i>. These vegetation types characteristically support, for example, toetoe, flax, native spinach, manuka, kanuka, mahoe, lancewood, five-finger, hangehange, cabbage trees, titoki, akeake, ngaio, tawa, pigeonwood and mahoe. Exotic species may also be present.</p>

Table E.2(a):

An area of any habitat type described in Table E.1 must meet at least one of the following criteria that apply to the relevant habitat type before it qualifies as a *rare habitat**, *threatened habitat** or *at-risk habitat** for the purposes of this Plan.

Forest*, Treeland*, Scrub* or Shrubland* Habitat Types Classified as Threatened or At-risk

- i. Areas of *continuous* indigenous** vegetation where:
 - (a) if it is habitat type classified as Threatened then the habitat must cover at least 0.25 ha, or
 - (b) if it is habitat type classified as At-risk then the habitat must cover at least 0.5 ha where:
 - 1. it supports *indigenous** understorey vegetation, or
 - 2. it is present within a gully system, or
 - (c) if it is habitat type classified as At-risk the habitat must cover at least 1 ha unless (b) above applies.
- Or
- ii. Areas of *discontinuous* indigenous** vegetation where:
 - (a) if it is habitat type classified as Threatened where it occurs as *treeland** it covers at least 1 ha, or
 - (b) if it is habitat type classified as At-risk where it occurs as *treeland** it covers at least 2 ha, or
 - (c) if it is habitat type classified as either Threatened or At-risk other than *treeland** it covers at least 1 ha except if it is present within 50 m of an area of *continuous* indigenous** vegetation it covers at least 0.5 ha.
- Or
- iii. Areas containing *Olearia gardnerii*, *Pittosporum obcordatum*, *Coprosma obconica*, *Coprosma wallii*, *Melicytus flexuosus*, *Pseudopanax ferox* or *Discaria toumatou* covering at least 0.1 ha.
- Or
- iv. An area of *indigenous** vegetation of any size containing *Powelliphanta* land snails.
- Or
- v. An area of *woody vegetation** of any size or species composition (including exotic vegetation) within 20 m landwards from the top of the river[^] bank adjacent to an area identified in Schedule AB as being a Site of Significance - Aquatic.
- Or
- vi. Areas of *indigenous** vegetation that have been established for the purpose of habitat manipulation including habitat creation, restoration and buffering, where such an area covers at least 1 ha as a discrete site* or at least 0.5 ha where it is adjacent to an existing area of *indigenous** habitat.
- Or

Tussockland* Habitat Type Classified as At-risk

- vii. An area of *indigenous** tussockland* covering at least 0.5 ha.
- Or

Wetland[^] Habitat Types Classified as Threatened

- viii. Areas of naturally occurring *indigenous** wetland[^] habitat covering at least 0.1 ha.
- Or
- ix. Areas of *indigenous** vegetation that have been established in the course of wetland[^] habitat restoration.
- Or
- x. Areas of artificially created *indigenous** wetland[^] habitat covering at least 0.5 ha.
- Or

Naturally Uncommon Habitat Types and Wetland[^] Habitat Types Classified as Rare

- xi. Habitat type that is classified as Rare that covers at least 0.05 ha.
- Or
- xii. Areas of *indigenous** habitat created at some time in the course of dune habitat restoration (including dune stabilisation).

Table E.2(b):

If an area of any habitat type described in Table E.1 meets any of the following criteria it must not be *rare habitat**, *threatened habitat** or *at-risk habitat** for the purposes of this Plan.

Forest*, Treeland*, Scrub*, or Shrubland* Habitat Types Classified as Threatened or At-risk

- i. Areas of *indigenous** tree* species planted for the purposes of timber harvest.
Or
- ii. *Indigenous** vegetation planted for landscaping, horticultural, shelter belts, gardening or amenity purposes.
Or

Wetland^ Habitat Types Classified as Rare or Threatened

- iii. Damp gully heads, or paddocks subject to regular ponding, *dominated** by pasture or exotic species in *association** with *wetland^* sedge and rush species.
Or
- iv. Ditches or drains supporting raupo, flax or other wetland species (eg., *Carex* sp., *Isolepis* sp.), or populations of these species in drains or slumps associated with road reserves or rail corridors.
Or
- v. Areas of *wetland^* habitat specifically designed, installed and maintained for any of the following purposes:
 - (a) *stock watering* (including stock ponds), or
 - (b) *water^ storage* for the purposes of fire fighting or irrigation (including old gravel pits), or
 - (c) *treatment of animal effluent* (including pond or barrier ditch systems), or
 - (d) *wastewater treatment*, or
 - (e) *sediment control*, or
 - (f) *any hydroelectric power generation scheme*, or
 - (g) *water^ storage* for the purposes of *public water supplies**.
 Or
- vi. Areas of *wetland^* habitat maintained in relation to the implementation of any *resource consent^ conditions^* or agreements relating to the *operation** of any hydroelectric power scheme currently lawfully established.
Or
- vii. Open *water^* and associated vegetation created for landscaping purposes or amenity values where the planted vegetation is predominately exotic, or includes assemblages of species not naturally found in *association** with each other, on the particular landform, or at the geographical location of the created site*.