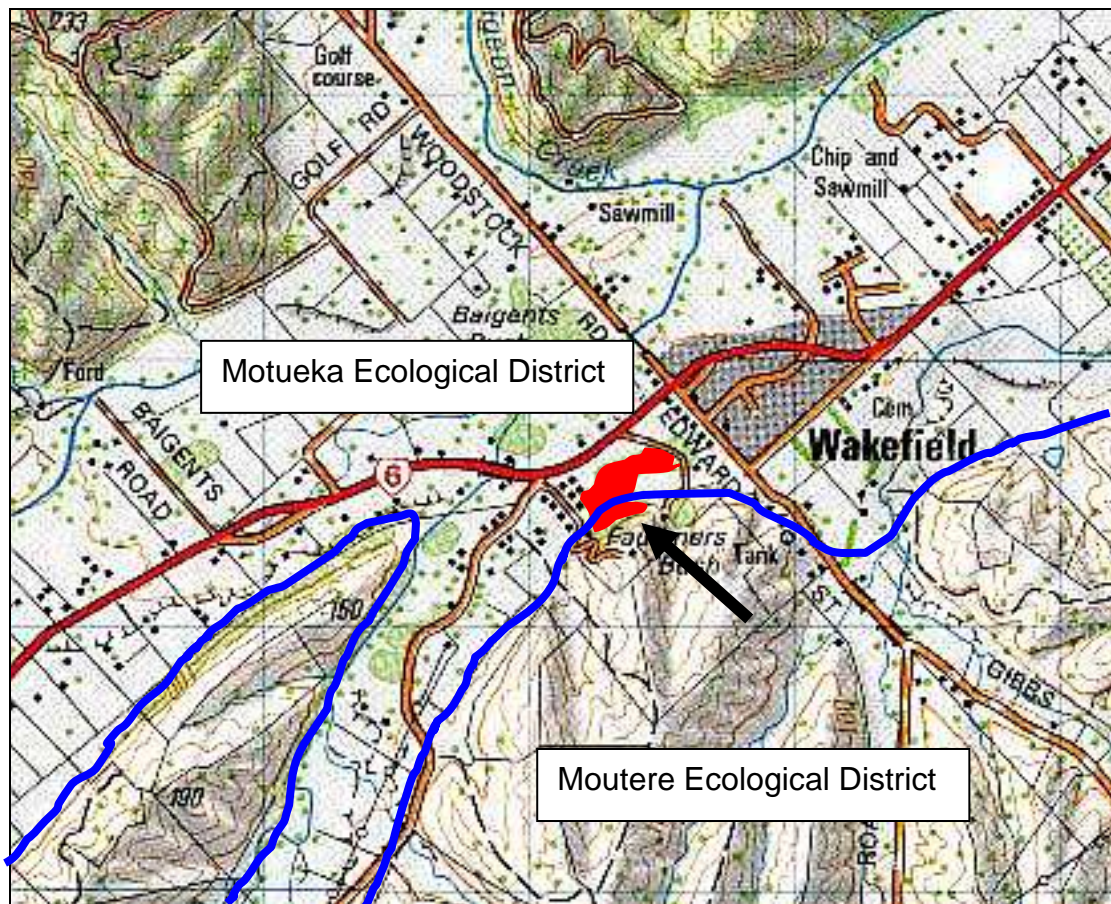


Native Habitats Tasman Site Assessment Report

Site No MO21
Property Name Faulkner Bush
Landowners/Occupiers Tasman District Council
Ecological District Motueka
Surveyed By Michael North
Date 8 October 2008
Time on site 3 hrs



The Setting

This site straddles two ecological districts, with the alluvial flats and terraces in Motueka ED and the hill-slope in Bryant ED. These are described in turn below with the information copied from the TDC report 'Tasman District Biodiversity Overview' (2004)

1 Motueka Ecological District

Location and physical description

This small ecological district is in two parts, the western one where the Motueka River flows into Tasman Bay and the eastern where the Wairoa and Wai-iti Rivers come together to form the Waimea River before entering the bay. It comprises lowland and coastal alluvial plains and remnants of the Moutere Gravels. It has a coast of fertile deltas, large estuaries, sand islands and bluffs. Soils from the Moutere Gravels are clayey and not very fertile, those on stony terraces and sand are shallow and prone to drought, and alluvial soils are generally well drained and fertile. The climate is sunny and sheltered, with very warm summers and mild winters. The land is mostly in private ownership and is used for pastoral farming, forestry, horticulture and residential and commercial settlement. Tasman District Council has considerable land holdings in this district.

Ecosystem types originally present

Formerly the ecological district apart from the waterways would have been almost entirely covered in forest. The alluvial plains and terraces supported towering podocarp forests of totara, matai and kahikatea. On the low hills was mixed forest of black beech, hard beech, rimu, totara, kamahi, titoki and tawa. Along the coastal bluffs and fringing the estuaries, ngaio, cabbage tree, kowhai and totara would have been common. The estuaries were alive with wetland birds, fish and invertebrates. They had vegetation sequences grading from eelgrass and saline turf into rushes, sedges, harakeke (lowland flax) and shrubs (mainly saltmarsh ribbonwood, mingimingi and manuka), and finally into forest. Freshwater wetlands would have included fertile lowland swamps with kahikatea, harakeke, cabbage tree, tussock sedge (*Carex secta*) and raupo. Rivers and streams, including riparian ecosystems (trees, shrubs, flaxes, toetoe, etc.) and some braided river beds, would have made up a significant portion of the district. The tabulation gives estimates of the extent of these original ecosystems.

Existing ecosystems

Most of the natural terrestrial ecosystems have been lost. What remains is mostly in small fragments of forest and freshwater wetland. The estuaries are still surprisingly intact, although their fringing vegetation sequences have largely gone. The tabulation gives estimates of the proportions of the original ecosystems that remain.

Degree of protection

There is little protected land within the ecological district. However, there are significant remnants protected in reserves and covenants. These include important tall forest remnants at Motueka, Brightwater and Wakefield, kanuka forest on alluvial flats at Brightwater, estuarine shores and sand islands. It also includes some small freshwater wetlands and hillslope forest patches.

The tabulation gives estimates of how much of the original and remaining ecosystems have formal protection.

| INDIGENOUS ECOSYSTEMS - MOTUEKA ECOLOGICAL DISTRICT | | | | |
|--|---------------------------|---|--|--------|
| Ecosystem type | Original extent (% of ED) | Proportion of original extent remaining (%) | Proportion of original extent and remaining area protected (%) | |
| | | | Original | Remain |
| Coastal sand dune and flat | 10 | <5 | <5 | 100 |
| Estuarine wetland | 10 | 30 | ?12 | ?40 |
| Fertile lowland swamp and pond | 3 | <1 | <1 | ?40 |
| Infertile peat bog | - | - | - | - |
| Upland tarn | - | - | - | - |
| Lake | - | - | - | - |
| River, stream and riparian | 3 | 50 | ?5 | ?10 |
| Lowland podocarp forest | 50 | <1 | <1 | 90 |
| Lowland broadleaved forest | 5 | <1 | <1 | 90 |
| Lowland mixed forest | 12 | <1 | <1 | 90 |
| Lowland beech forest | 5 | <1 | <1 | 90 |
| Upland beech forest | - | - | - | - |
| Subalpine forest | - | - | - | - |
| Lowland shrubland | 2 | <1 | <1 | 50 |
| Upland/subalpine shrubland | - | - | - | - |
| Frost flat communities | - | - | - | - |
| Tussock grassland | - | - | - | - |
| Alpine herbfield and fellfield | - | - | - | - |

2 Bryant Ecological District

Location and physical description

This ecological district is made up of steep hill country, rising to over 1600m and draining to the NW. It has complex geology, including Permian sandstone and argillite, nationally important areas of ultramafic rocks, volcanic rocks, greywacke and fossil-bearing marine and non-marine sedimentary rocks spanning a considerable age range. Soils vary greatly in structure and fertility accordingly. The climate is generally sunny and sheltered, with very warm summers, mild winters and moderate rainfall, although it is cooler and wetter in the south. Lower slopes are typically farmed or in exotic forestry. The northern part of the ecological district has a coastal portion featuring Nelson City, the Nelson Boulder Bank, its associated estuary and hilly hinterland, but this part is not within Tasman District. Tasman District Council has some land holdings in this ecological district.

Ecosystem types originally present

Formerly the ecological district below the bushline (about 1200-1300m) would have been almost entirely covered in forest apart from the waterways. The alluvial valley flats and terraces supported towering podocarp forests of totara, matai, rimu, miro and kahikatea. On the hills was mixed beech-podocarp forest, in which black beech was dominant in drier sites and hard beech in wetter lowland places, whilst red beech and silver beech occupied most cooler and mid-altitude slopes. Mountain beech was dominant on upland slopes, along with southern rata, Hall's totara and pahautea (mountain cedar). In sheltered coastal gullies were pockets of lush broadleaved forest containing tawa, titoki, pukatea, nikau, hinau and tree ferns, accompanied by large podocarps. On the ultramafic areas was distinctive forest and shrubland, stunted by the unusual soil conditions and containing species found nowhere else. Above the bushline was tussock grassland, subalpine shrubland, herbfield and fellfield. Freshwater wetlands occurred in the valleys and would have included fertile lowland swamps with kahikatea, harakeke, cabbage tree and tussock sedge (*Carex secta*). Rivers and streams, including riparian ecosystems (trees, shrubs, flaxes, toetoe, etc.), would have made up an appreciable though not large portion of the district. The tabulation gives estimates of the extent of these original ecosystems.

Existing ecosystems

Most of the lowland forests and wetlands have been lost. What remains are fragments of beech forest, tiny remnants of lowland broadleaved forest and podocarp forest, and a few small freshwater wetlands. There are considerable tracts of mid-altitude forest still, accompanied by regenerating native vegetation where the former forest has been cleared or burnt. The upland forests and ecosystems at higher altitude are still present, though much diminished in ecological quality by exotic animal impact. The tabulation gives estimates of the proportions of the original ecosystems that remain.

Degree of protection

Mt Richmond Forest Park protects much of the indigenous ecosystems that remain. A little of the rest is protected within reserves and covenants. There are still considerable opportunities for further protection. The tabulation gives estimates of how much of the original and remaining ecosystems have formal protection.

| INDIGENOUS ECOSYSTEMS - BRYANT ECOLOGICAL DISTRICT | | | | |
|--|---------------------------|---|--|-----------|
| Ecosystem type | Original extent (% of ED) | Proportion of original extent remaining (%) | Proportion of original extent/remaining area protected (%) | |
| | | | Original | Remain |
| Coastal sand dune and flat | - | - | - | - |
| Estuarine wetland | - | - | - | - |
| Fertile lowland swamp and pond | <1 | <5 | <2 | <20 |
| Infertile peat bog | - | - | - | - |
| Upland tarn | <1 | 100 | 100 | 100 |
| Lake | - | - | - | - |
| River, stream and riparian | 1 | 40 | ? | ? |
| Lowland podocarp forest | 5 | 1 | <1 | 70 |
| Lowland broadleaved forest | 2 | <5 | <1 | 20 |
| Lowland mixed forest | 20 | 5 | 2 | 40 |
| Lowland beech forest | 25 | 15 | 8 | 50 |
| Upland beech forest | 35 | 30 | 25 | 80 |
| Subalpine forest | 2 | 70 | 70 | 100 |
| Lowland shrubland | 1 | <10 | <5 | 50 |
| Upland/subalpine shrubland | 2 | 70 | 70 | 100 |
| Frost flat communities | - | - | - | - |
| Tussock grassland | 3 | 100 | 100 | 100 |
| Alpine herbfield and fellfield | 2 | 100 | 100 | 100 |

Site description

The 5ha site (2.8ha in Motueka ED and 2.2ha in Bryant ED) lies in the vicinity of the Wai-iti River/Eighty Eight Valley Stream confluence on the SW margins of Wakefield. It lies at 80m asl on recent alluvium of the modern flood plain (Q1a), the terrace above of the lowest aggradation surface of Holocene clay-bound gravels (Q2a), and on the adjoining west-facing hill-slopes of Pliocene Moutere Gravels (Ptm) composed of clay-bound gravels.

Vegetation

The site is complex because of the range of landforms that it occupies and the variation in the associated vegetation communities. The recent flood plain is largely dominated by densely packed kahikatea forest with an area where lowland totara is dominant. The narrow scarp that rises to the terrace above is largely of lowland totara as is the terrace itself. Much of the hill-slope above the terrace is dominated by younger second growth lowland totara. A small band of kanuka forest occurs along the uppermost margin. Matai is scattered throughout the canopy of the forest, with black beech locally. A sub-canopy and tall understorey is lacking through a long history of grazing that has now ceased. Consequently low understoreys are quite dense with recent regeneration.

Areas of restoration buffer plantings of a range of ages are extensive around forest margins.

A) Motueka Ecological District

1 Kahikatea forest on recent alluvium

Towering and densely-packed kahikatea dominates the canopy in the western section of this community, with occasional lowland totara and matai. No sub-canopy is present, with a 3-5m tall understorey that is of open to moderately dense mahoe, with swamp mahoe common, scattered round-leaved coprosma and young small-leaved milktree, and native jasmine common. Ground cover varies with moisture. Wet channels hold patches of the native buttercup *Ranunculus amphitrichus/glabrifolius*, *Isolepis* sp., and water starwort. Margins of such wet areas, where light is sufficient are lush with sedges – notably *Carex virgata* with some *Carex dissita*, and swamp kiokio. Remaining areas variably bereft of ground cover, to others where *Carex lambertiana*, *Carex forsteri*, *Uncinia uncinata*, and the ferns *Diplazium australe*, hen&chickens fern and *Lastreopsis glabella* are locally common. One area of wandering willy was noted.

The eastern section of this community is far more modified with much more mature and spaced kahikatea trees over exotic grassland and scattered low open broadleaved regeneration.

2 Lowland totara forest on recent alluvium

A discrete area of totara forest, with occasional kahikatea lies beside the western kahikatea forest described above, with a distinct boundary between the two. Understorey vegetation includes very occasional 4-8m trees of young totara and kohuhu, with a lush 1.5-3m understorey of dense mahoe regeneration, amongst which young kohuhu, lemonwood and narrow-leaved lacebark are scattered. Swamp mahoe is moderately common, and there is a patch of native germander growing occasionally to over 2m, forced up by the regenerating mahoe. Round-leaved and thin-leaved coprosma are scattered. Old man's beard vines are scattered through as are the occasional Japanese honeysuckle. Ground cover is absent under dense mahoe, with areas where plants have clearly just recently died for lack of light. Other areas support a low cover of wild strawberry, *Hydrocotyle elongata*, wall lettuce, blackvine seedlings, with occasional hen&chickens fern, lowland shield fern, Jerusalem cherry, privet, and lemon balm. *Uncinia laxiflora* is occasional and there are patches of *Carex lambertiana* and *Arthropodium candidum*.

3 Lowland totara forest on scarp slope

The very well drained scarp slope between the terrace and the current floodplain is largely clad in lowland totara, with open areas in places thick with the exotic grass false brome, and locally, tradescantia and periwinkle. Mahoe regeneration is struggling in these open areas due to summer droughts. Elsewhere where there is more canopy shelter mahoe regeneration <4m is prolific, with occasional swamp mahoe and round-leaved coprosma, and a sparse ground cover of *Astelia fragrans*, *Pteris tremula*, hen&chickens fern and lowland shield fern.

4 Lowland totara forest on aggradation terrace

This well-drained terrace supports lowland totara forest, with forest opening out diffusely into grassland/young revegetation along its eastern boundary.

The mahoe understorey of 3-4m is moderate to open, with areas where it is clearly struggling with summer droughts, as their canopies have thinned allowing high light levels into the forest floor in some areas. Round-, thin- and large-leaved coprosmas, and mapou are scattered. Lowland shield fern is common and necklace fern and *Pellaea rotundifolia* moderately so in the ground layer where a flush of very young mahoe regeneration is locally present. Of the troublesome weed species, arum and stinking iris are moderately common, with false brome in some areas.

B) Moutere Ecological District

5 Lowland totara forest on toe-slope and lower side-slope

A dense, largely secondary stand of lowland totara forest cloaks the hill-side above the terrace and flats, with very scattered canopy black beech (primary canopy relics) and matai. On the lower slopes, there is a moderate 4-6m sub-canopy of mahoe, with occasional hawthorn and pole totara and (now) rare yew. Scattered are round- and thin-leaved coprosma, small-leaved milkwood and swamp mahoe. Occasional young mapou and lemonwood are present. No podocarp regeneration <3m was noted. Ground cover includes much lowland shield fern, with hen&chickens fern and *Pellaea rotundifolia* moderately common locally. Up-slope, ground cover is sparse other than for lowland shield fern and small leaved shrubs are sparse.

6 Kanuka forest on mid-sideslope

A narrow band of young kanuka forest occurs along the top margin of the hill-slope totara forest. Conditions are very dry. Mahoe has a significant canopy, sub-canopy and understorey presence. Yew have been felled and poisoned. Kohuhu is scattered in the canopy. There is good matai regeneration <3m with some totara more locally. Shrubs include rare scrub coprosma, and occasional thin- and thick-leaved coprosma, and mapou and kohuhu regeneration. Ground cover includes much lowland shield fern, but otherwise scattered *Pellaea rotundifolia*, *Asplenium hookerianum*, wall lettuce, false brome, and in open glades, wild strawberry, old man's beard seedlings, foxglove and wall lettuce.

Botanical Values

Communities

Alluvial podocarp forest, regardless of its condition is extremely rare in Motueka ED, with <1% of its original cover remaining. It once covered around half of the ED (over 12000ha), whereas today there is <100ha remaining. These figures highlight the extreme significance of such communities. This is one of the few remnants that is not grazed and is therefore of the highest ecological value.

Lowland hill-country podocarp forest is now very rare in Bryant ED with an estimated 1% of its original cover remaining. It once covered about 5% of the district (about 3000 ha) but only c30ha of this remains today – according to the TDC Biodiversity Overview. It is probably higher than this figure, but perhaps still <100ha. Regardless, it is vanishingly rare and is accorded the highest significance.

This site is also remarkable in having (partially) intact sequences of forest communities spanning valley floodplain, scarp, terrace and hill-slope.

Species

84 indigenous species were recorded as naturally occurring at this site (the full documented list is no doubt rather larger). The following species are noteworthy:

Nationally 'at risk-declining':

Alepis flavida (Reported)

Native germander

Coprosma obconica (Reported)

Regionally rare:

Narrow-leaved lacebark

Rare in Motueka ED: (This list is provisional pending fuller survey of this ED)

Cabbage tree

Pokaka

Rimu

Scrambling fuchsia (reported)

Carex lambertiana (a sedge)

Ranunculus amphitrichus/glabrifolius (a buttercup)

Uncinia laxiflora (a hookgrass)

Rare in Bryant ED:

Uncinia leptostachya (a hookgrass)

Fauna

Kereru, tui, bellbird, grey warbler, waxeye and fantail were noted, none in any notable number at the time of survey.

The site is very important in the ecological district context as a seasonal food source (podocarp fruit) for mobile forest birds in the broader area.

Weed and animal pests

The site has a large number of serious weeds, some of which have been heavily managed for some time. The following were noted:

Yew – most trees have now been felled and poisoned but seedlings still coming up in hill-slope forest.

Tradescantia – occasional patches.

Periwinkle – occasional patches.

Privet – very occasional.

Chinese Privet – very occasional.

Arum – commonly scattered through totara terrace forest.

False brome – locally abundant on scarp and margins of terrace forest; scattered elsewhere.

Japanese honeysuckle – dense patches on the interface of the western kahikatea forest and recent revegetation, running through wetland vegetation; scattered occasionally elsewhere especially in the alluvial totara forest.

Old man's beard – occasional vines through the site.

Jerusalem cherry – common throughout in all but the wettest areas.

Hawthorn – occasional in hill-slope forest.

The North Island lacebark species *Hoheria populnea* and *H.sextylosa* have been planted and are beginning to invade the bush.

No pest animal impacts were noted

Other threats

Some damage to well established cabbage tree plantings was noted, and no doubt such vandalism occurs from time to time, - something that is difficult to plan for or manage. Fencing has been successful in generally keeping visitors to established paths and reducing damage to vegetation through trampling.

The dense flush of mahoe regeneration that is an artefact of suddenly ceasing stock grazing is having a detrimental impact in some localised areas through dense shading killing lower growing plants. This is probably not too much of an issue in the context of the whole site, other than around the stand of native germander that may yet get shaded out. This should be monitored.

General condition

Overall the site is in reasonable condition. Forest regeneration has been good since grazing ceased (in the 1970s?), however there is a marked lack of podocarp regeneration under mature podocarp canopies (which is typical of many other such sites in the ED), and no black beech regeneration, with adult trees dying out – again typical of most sites in the lower rainfall areas of the region.

Weed impacts are high to moderately low depending on location. No pest impacts were noted.

The forest is much used by the community for recreation, which is fully compatible with forest restoration as people by and large keep to the formed tracks, guided by fencing, and so trampling damage is only very minimal.

Landscape/Historic values

Faulkner Bush is a significant feature of the local landscape, forming part of the tapestry of native forest remnants that are characteristic of the Wakefield area.

Assessment of ecological value

The following criteria are assessed:

Representativeness: *How representative is the site of the original vegetation?*

Rarity: *Are there rare species or communities?*

Diversity and pattern: *Is there a notable range of species and habitats?*

Distinctiveness/special features: *Are there any features that make the site stand out locally, regionally or nationally for reasons not addressed by the above criteria?*

Size/shape: *How large and compact is the site?*

Ecological Context: *How well connected is the site to other natural areas, to what extent does the site buffer and is buffered by adjoining areas, and what hydrological services to the catchment and critical resources to mobile species does it provide?*

Sustainability: *How well is the site able to sustain itself without intervention?*

Site Significance

The technical assessment of significance is tabled in the Appendix. Although the site straddles two ecological districts, it is assessed as one site as it makes no sense to split the site on this basis due to it being ecologically one integrated whole spanning ecological gradients associated with the range of landforms.

This site is significant for the following reasons:

The site is significant for supporting a remarkable sequence of forest types associated with the varied landform that includes mature alluvial and terrace podocarp forest (albeit grazed until c15 years ago). It has moderately high representativeness values and high rarity/distinctiveness and diversity/patterning values, which give this site great significance.

Management issues and suggestions

The site has a long history of sympathetic management with extensive buffer plantings having been put in over recent decades and a programme of weed management. This has been co-ordinated by the Wakefield Bush Restoration Society for the last decade, whose restoration achievements are very impressive. The weed issues at this site remain pressing however and it is suggested that weed management take as high a priority as any further revegetation efforts. It is acknowledged however that weed control has little of the glamour of planting native trees and it may be difficult to engage voluntary enthusiasm in this direction. It is critical that the smothering vines and the smothering ground plants are eliminated from the site – namely, Japanese honeysuckle, old man's beard, wandering willy and periwinkle. These should be the focus of any restoration efforts from this point, now that yew is effectively controlled, and it is encouraging to note the recent appointment of a part time weeding position.

It is unfortunate that North Island lacebark species have been used in revegetation, as these are highly invasive species and are beginning to impact at this site. Their removal should be a high priority. Recently North Island kowhai has also been planted. Though probably not invasive, this is not an appropriate species to introduce to such an ecologically valuable tract of forest.

There is an obvious lack of podocarp regeneration in all the forest away from the hill-slope totara. Although this often seems to be a natural characteristic of mature podocarp forest, nevertheless, due to the tiny size of the remnant compared to the vast extent of former podocarp forest cover, this could become a serious issue here where there isn't the scope for a tapestry of forest age classes to develop in a way that is possible with large tracts of forest. For this reason, podocarps should be being planted within the forest itself, not just on the revegetated margins.

Black beech is at the point of extinction due to dieback and regeneration failure – both situations being typical of lower rainfall areas of the region generally. Replanting within forest areas is important if this species is to remain a component of the existing forest and not just a feature of revegetated areas.

Photo Gallery



Faulkner Bush from above looking across to the privately owned Baigent Bush



View of the eastern section of alluvial kahikatea forest where trees are fully mature



The western section of alluvial kahikatea forest is composed of tightly-packed trees and is, the best example of its kind in Motueka ED and in the Nelson Ecological Region



Lowland totara forest on the alluvial terrace



Secondary lowland totara forest on the hill-slope above the terrace and floodplain



Young kanuka forest occurs as a band along the top margin of the site



The eastern section of kahikatea forest includes many impressive trees, but this part is highly modified with exotic grasses and a wide track running through it



A weedy section of the lowland totara clad scarp slope, here lush with false brome; the free-draining nature of this slope makes native regeneration problematic in this middle section, not helped by the swarding exotic ground cover



Restoration plantings are very extensive on the terrace and floodplain; this is the largest revegetation effort of alluvial/terrace forest in the Nelson Ecological Region known to the author



A small proportion of the replanting has struggled to get established, probably where soil moisture is naturally low; it is certainly not helped here with such vandalism (cabbage trees felled)



False brome and arum are abundant around the margins of the dry lowland totara terrace, where natural regeneration is struggling to get established; restoration plantings are visible to the left



Japanese honeysuckle is becoming well established in parts of the margins of the western kahikatea stand; it is important to now focus on such weeds for the successful restoration of this site



Native germander (nationally 'at risk – declining') occurs in the alluvial lowland totara forest, where there is an impressive stand – old man's beard is becoming well established only meters away



Yew control has been extensive, with this weed almost eliminated

APPENDIX

Technical Assessment of Site Significance

Each site is ranked by the following criteria, with these rankings combined to determine whether a site passes the threshold for significance. With regard to representativeness, it should be noted that each site is ranked according to the highest ranking vegetation community or habitat that occurs within it. However a site will be divided into more than one area with each area assessed independently if they vary markedly in character, size or condition. Some examples are:

- a core area of vegetation (say a podocarp gully remnant) is surrounded by/adjoins a much larger area of markedly different vegetation (say kanuka scrub).
- a core area of vegetation has markedly different ecological values to the surrounding/adjacent vegetation.
- where artificially abrupt ecological boundaries occur between an area of primary vegetation and a surrounding/adjacent area of secondary vegetation.

Where such division of a site into two or more separately assessed components occurs, adjoining components will also be considered in their buffering/connectivity roles to one another.

Using these guidelines, the site has been divided into the following areas for separate assessment:

- (a) Alluvial/terrace podocarp forest (Motueka ED)
- (b) Lowland totara forest on hill-slope (Bryant ED)
- (c) Kanuka forest on hill-slope (Bryant ED)

| SITE EVALUATION UNDER THE SIGNIFICANCE CRITERIA 1 Alluvial/Terrace Podocarp Forest (Motueka ED) | | |
|---|--------------|--|
| | Score | Example/explanation |
| PRIMARY CRITERIA | | |
| Representativeness | | |
| The site includes primary vegetation that moderately resembles its original condition. | MH | Vegetation characterised by original canopy species or climax plant species, which has been only moderately impacted by herbivores or direct human intervention eg. forest with past low to moderate impact selective logging or with no more than moderate apparent herbivore impacts on vegetation structure and diversity |
| Rarity | | |
| The site supports an indigenous species that is 'at risk' nationally | M | Three plant species are 'at risk' |
| The site includes a community that is nationally threatened under DoC/MfE National Priority 2 (dunes and wetlands) and retains functional indigenous components | H | Kahikatea swamp forest is classed as a wetland |

| | | |
|---|----------|--|
| The site includes a primary community depleted 5% or less of original pre-human cover in the Ecological District, unless in poor condition | H | Eg. Alluvial mixed podocarp forest in all Ecological Districts |
| Diversity and Pattern | | |
| The site contains one of the best known examples of its kind in the Ecological District of an intact sequence of ecological features or gradients | H | This community is an integral part of the sites vegetation patterning, showing sequences from floodplain through scarp face to terrace and then hill-slope |
| An exceptionally large number of indigenous plant communities, plant species or habitat types are present at the site | H | plant species and community diversity is exceptionally high in the context of the ecological district |
| SECONDARY CRITERIA | | |
| Ecological Context (highest score) | H | |
| Connectivity/Buffered by | | |
| The site is separated from other areas of indigenous vegetation but provides an important part of a network of closely lying sites | M | |
| Buffering | | |
| The site is moderately buffered | M | <1/3 of the site boundary is buffered by revegetation plantings or forest on adjoining titles but this is increasing steadily with revegetation efforts |
| Provision of critical resources to mobile fauna | | |
| The site provides seasonally important resources for indigenous mobile animal species and these species are present in the locality even though they may not have been observed at the site | H | Unusually important stands of podocarp, tawa, or kowhai trees that provide a seasonally important benefits for forest birds. |
| Hydrological services to the catchment | | |
| The site provides hydrological services to the catchment | L | |
| Size | | |
| The site is of large size for its plant community and Ecological District but is not compact | H | |
| OTHER CRITERION | | |
| Sustainability (average score) | M | |
| Physical and proximal characteristics | | |
| Size shape buffering and connectivity provide for a moderately low overall degree of ecological resilience | ML | Size ML Shape ML Buffering L Connectivity M |
| Inherent fragility/robustness | | |
| Indigenous communities are overall neither robust nor fragile | MH | Kahikatea forest inherently susceptible to the effects of drainage but remaining communities are resilient |
| Threats (lowest score taken; low score = high threat) | | |
| Ecological impacts of grazing, surrounding land management, weeds | M | Grazing H Surroundings H |

| | | |
|------------|--|--------------------|
| and pests* | | Weeds M Pests H |
|------------|--|--------------------|

*observed pest impacts only

| SUMMARY OF SCORES | Criterion | Ecological District Ranking |
|-----------------------------|-----------------------|-----------------------------|
| Primary Criteria | Representativeness | MH |
| | Rarity | H |
| | Diversity and pattern | H |
| Secondary Criteria | Size/shape | H |
| | Ecological context | H |
| Additional Criterion | Sustainability | M |

H=high MH=medium-high M=medium ML=medium-low L=low

If a site scores as highly as the combinations of primary and secondary scores in the table below, it is deemed significant for the purposes of this assessment.

| | Primary Criteria | | Secondary Criteria |
|---|---|---|---|
| | Any of the 3 primary criteria with a score at least as high as listed | & | Any of the 2 secondary criteria with a score at least as high as listed |
| 1 | H | | - |
| 2 | 2x MH | | - |
| 3 | MH + M | | - |
| 4 | MH | & | MH |
| 5 | 2x M | & | H |
| 6 | 2x M | & | 2x MH |
| 7 | M | & | H + MH |

Is the area 'significant' under the TDC SNA criteria? **YES**

Species List

r=rare o=occasional m=moderate numbers ml= moderate numbers locally c=common

lc= locally common f=frequent lf=locally frequent x=present but abundance not noted

| Species Name | Common Name | Status |
|---------------------------------|-------------------------------|----------|
| | | |
| | | |
| Trees Shrubs | | x |
| <i>Alectryon excelsus</i> | titoki | o |
| <i>Alepis flavida</i> | | R |
| <i>Aristotelia serrata</i> | wineberry | o |
| <i>Carpodetus serratus</i> | putaputaweta, marbleleaf | o |
| <i>Coprosma areolata</i> | thin leaved coprosma | ml |
| <i>Coprosma crassifolia</i> | thick leaved coprosma | o |
| <i>Coprosma grandifolia</i> | large leaved coprosma; kanano | o |
| <i>Coprosma obconica</i> | | R |
| <i>Coprosma pxr</i> | hybrid coprosma | r |
| <i>Coprosma rhamnoides</i> | scrub coprosma | r |
| <i>Coprosma robusta</i> | karamu | P |
| <i>Coprosma rotundifolia</i> | round-leaved coprosma | m |
| <i>Dacrycarpus dacrydioides</i> | kahikatea | lc |
| <i>Dacrydium cupressinum</i> | rimu | r P |
| <i>Elaeocarpus hookerianus</i> | pokaka | r |
| <i>Fuchsia excorticata</i> | tree fuchsia | r |
| <i>Fuchsia perscandens</i> | scrambling fuchsia | R |
| <i>Fuchsia exc x per</i> | | r |
| <i>Griselinia littoralis</i> | broadleaf; kapuka | P |
| <i>Hebe gracillima</i> | | P |
| <i>Hebe stenophylla</i> | | P |
| <i>Hoheria angustifolia</i> | small-leaved lacebark | r/P |
| <i>Kunzea ericoides</i> | kanuka | lc P |
| <i>Lophomyrtus obcordata</i> | rohutu; NZ myrtle | r |
| <i>Melicytus micranthus</i> | swamp mahoe | c |
| <i>Melicytus ramiflorus</i> | mahoe, whiteywood | f |
| <i>Myrsine australis</i> | mapou, red matipo | m |
| <i>Nestegis montana</i> | narrow leaved maire | P |
| <i>Nothofagus fusca</i> | red beech | P |
| <i>Nothofagus menziesii</i> | silver beech | P |
| <i>Nothofagus solandri</i> | black beech | o P |
| <i>Pittosporum eugenioides</i> | lemonwood; tarata | m P |
| <i>Pittosporum tenuifolium</i> | kohuhu | o P |
| <i>Plagianthus regius</i> | manatu; lowland ribbonwood | P |
| <i>Podocarpus totara</i> | lowland totara | f |
| <i>Prumnopitys ferruginea</i> | miro | P |
| <i>Prumnopitys taxifolia</i> | matai | m P |
| <i>Pseudopanax arboreus</i> | fivefinger | o |
| <i>Pseudopanax crassifolius</i> | lancewood | r |

| | | |
|---------------------------------|------------------------------|----------|
| <i>Sophora microphylla</i> | kowhai | P |
| <i>Streblus heterophyllus</i> | small leaved milkwood/turepo | ml |
| <i>Teucrium parvifolium</i> | native germander | r |
| Lianes | | x |
| <i>Clematis paniculata</i> | native clematis | P |
| <i>Muehlenbeckia australis</i> | blackvine | o |
| <i>Muehlenbeckia aus x com</i> | | m |
| <i>Parsonsia heterophylla</i> | native jasmine | c |
| <i>Ripogonum scandens</i> | supplejack | o |
| Dicot Herbs | | x |
| <i>Cardamine debilis agg</i> | | m |
| <i>Hydrocotyle elongata</i> | | o |
| <i>Hydrocotyle heteromeria</i> | | o? |
| <i>Ranunculus amph/glab</i> | | r |
| <i>Stellaria decipiens</i> | | r |
| Monocot Herbs | | x |
| <i>Astelia fragrans</i> | ground lily | o P |
| <i>Phormium tenax</i> | harakeke, swamp flax | P |
| Grasses Sedges Rushes | | x |
| <i>Anemanthele lessoniana</i> | gossamer grass | P |
| <i>Carex dissita</i> | | o |
| <i>Carex forsteri</i> | | ml |
| <i>Carex geminata</i> | | o |
| <i>Carex lambertiana</i> | | o |
| <i>Carex virgata</i> | pukio | o |
| <i>Cortaderia richardii</i> | toetoe | P |
| <i>Isolepis sp</i> | | r |
| <i>Luzula picta</i> | | r |
| <i>Microlaena stipoides</i> | | lf |
| <i>Uncinia filiformis?</i> | | r? |
| <i>Uncinia laxiflora</i> | | o |
| <i>Uncinia leptostachya</i> | | m |
| <i>Uncinia uncinata</i> | a hook grass | m |
| Ferns | | x |
| <i>Asplenium bulbiferum</i> | hen & chickens fern | ml |
| <i>Asplenium flabellifolium</i> | necklace fern | ml |
| <i>Asplenium flaccidum</i> | hanging spleenwort | r |
| <i>Asplenium hookerianum</i> | | o |
| <i>Asplenium oblongifolium</i> | shining spleenwort | r |
| <i>Blechnum discolor</i> | crown fern | r |
| <i>Blechnum fluviatile</i> | terrace hard fern | r |
| <i>Blechnum membranaceum</i> | | ml |
| <i>Blechnum minus</i> | swamp kiokio | r |
| <i>Hypolepis ambigua</i> | common hypolepis | o |

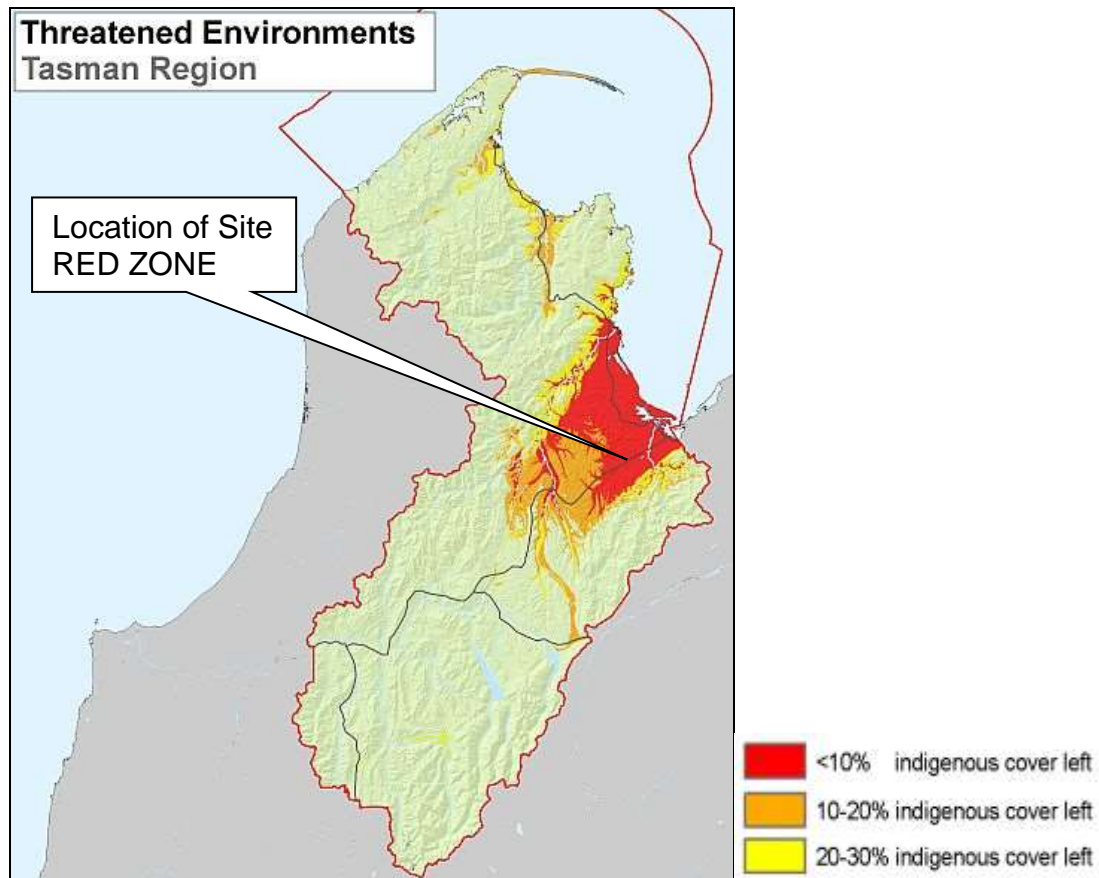
| | | |
|----------------------------------|-----------------------|----------|
| <i>Lastreopsis glabella</i> | | ml |
| <i>Pellaea rotundifolia</i> | | m |
| <i>Pneumatopteris pennigera</i> | gully fern | r |
| <i>Polystichum neozelandicum</i> | lowland shield fern | c |
| <i>Pteris tremula</i> | | o |
| <i>Pyrrosia eleagnifolia</i> | leather leaf fern | m |
| Weeds | | x |
| <i>Arum maculatum</i> | arum lily | lc |
| <i>Brachypodium silvaticum</i> | false brome | f |
| <i>Clematis vitalba</i> | old man's beard | o |
| <i>Conyza albida</i> | fleabane | r |
| <i>Crataegus monogyna</i> | hawthorn | r |
| <i>Digitalis purpurea</i> | foxglove | o |
| <i>Fragaria vesca</i> | wild strawberry | lc |
| <i>Galium aparine</i> | cleavers | o |
| <i>Hoheria populnea</i> | common lacebark | P |
| <i>Hoheria sextylosa</i> | long-leaved lacebark | P |
| <i>Iris foetidissima</i> | stinking iris | ml |
| <i>Ligustrum sinense</i> | Chinese privet | o |
| <i>Ligustrum vulgare</i> | common privet | o |
| <i>Mycelus muralis</i> | wall lettuce | c |
| <i>Solanum pseudocapsicum</i> | Jerusalem cherry | o |
| <i>Solanum chenopodioides</i> | velvety nightshade | r |
| <i>Tradescantia fluminensis</i> | wandering jew | ml |
| <i>Vinca major</i> | periwinkle | o |
| <i>Taxus buccata</i> | yew | r |
| Birds | | x |
| | tui | x |
| | bellbird/korimako | x |
| | fantail/piwakawaka | x |
| | waxeye | x |
| | grey warbler/riroriro | x |
| | pigeon/kereru | x |
| | blackbird | x |
| | chaffinch | x |

Land Environments of New Zealand (LENZ)

LENZ is a national classification system based on combinations of soil characteristics, climate and landform. These three factors combined are correlated to the distribution of native ecosystems and species.

When LENZ is coupled with vegetation cover information it is possible to identify those parts of the country (and those Land Environments) which have lost most of their indigenous cover. These tend to be fertile, flatter areas in coastal and lowland zones as shown in the map below for Tasman District.

Further information on the LENZ framework can be found at-
www.landcareresearch.co.nz/databases/lenz



National Priorities for Protecting Biodiversity on Private Land

Four national priorities for biodiversity protection were set in 2007 by the Ministry for the Environment and Department of Conservation.

| National Priorities | Does this Site Qualify? |
|--|--------------------------------|
| 1 Indigenous vegetation associated with land environments (ie LENZ) that have 20 percent or less remaining in indigenous cover. This includes those areas colored in red and orange on the map above. | Yes |
| 2 Indigenous vegetation associated with sand dunes and wetlands; ecosystem types that have become uncommon due to human activity | Yes |
| 3 Indigenous vegetation associated with 'naturally rare' terrestrial ecosystem types not already covered by priorities 1 and 2 (eg | No |

| | |
|---|----|
| limestone scree, coastal rock stacks) | |
| 4 Habitats of threatened indigenous species | No |

Further information can be found at -

www.biodiversity.govt.nz/pdfs/protecting-our-places-brochure.pdf

Significance of LENZ and National Priorities

What does it mean if your site falls within the highly depleted LENZ environments, or falls within one or more of the four National Priorities?

These frameworks have been included in this report to put deeper ecological context to the site. They are simply another means of gauging ecological value. This information is useful in assessing the relative value of sites within Tasman District when prioritising funding assistance. They otherwise have no immediate consequence for the landowner unless the area of indigenous vegetation is intended to be cleared, in which case this information would be part of the bigger picture of value that the consenting authority would have to take into account if a consent was required.



Faulkner Bush

- TDC
MO 21

Sec 1 SO 348765

1937027300

- 1 Karunka forest on road
- 2 LeuLAND totaa forest on
- 3 LeuLAND totaa forest on
- 4 LeuLAND totaa forest on
- 5 LeuLAND totaa forest on
- 6 Karunka forest on side slope

