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APPENDIX ONE: CRITERIA FOR ASSESSMENT OF AREAS OF ECOLOGICAL SIGNIFICANCE

A: MARLBOROUGH DISTRICT COUNCIL ECOLOGICAL ASSESSMENT CRITERIA

The following provides explanations or guidelines for the application of ecological significance criteria in the assessment of sites.

Rankings within each criterion are: H = High; M = Medium; L = Low. They collectively contribute to an overall ranking, indicating the degree of significance. Any site for which all criteria rank L is not ecologically significant. However, if any criteria rank M or H, the site is significant.

Representativeness

The site is significant if it contains a good example of one of the existing or former characteristic ecosystem types in the region or ecological district.

H: The site contains one of the best examples of the characteristic ecosystem types in the ecological district.

M: The site contains one of the better examples, but not the best, of the characteristic ecosystem types in the ecological district.

L: The site contains an example, but not one of the better or best, of the characteristic ecosystem types in the ecological district.

Rarity

The site is significant if it contains flora or fauna listed as nationally threatened; or the site contains flora or fauna of note in the region or ecological district because of scarcity, local endemism, specialised habitats or extreme/anomalous geographic distribution; or the site contains plant or animal communities that are rare nationally, regionally or in the ecological district.

H: The site contains nationally threatened or rare flora, fauna or communities; or the site contains several examples of regionally or locally threatened or rare flora, fauna or communities.

M: The site contains one or a few regionally or locally (but not nationally) threatened, rare or uncommon flora, fauna or communities.

L: The site is not known to contain flora, fauna or communities that are threatened, rare or uncommon in the ecological district, regionally or nationally.

Diversity and pattern

The site is significant if it contains a range of species and ecosystem types that is notable for its complexity (diversity of species and occurrence together of different communities) nationally, in the region, or in the ecological district.

H: The site contains a notably high diversity of species and ecosystem types.

M: The site contains a moderate diversity of species and ecosystem types.

L: The site contains a relatively low diversity of species and ecosystem types.

Distinctiveness/special ecological characteristics

The site is significant if it contains ecological features (such as species, habitats, communities, indicators, historical importance) that are outstanding or unique nationally, in the region, or in the ecological district.

H: The site contains any ecological feature that is unique nationally, in the region, or in the ecological district; or it contains several features that are outstanding regionally or in the ecological district.

M: The site contains ecological features that are notable or unusual but not outstanding or unique nationally, in the region, or in the ecological district.

L: The site contains no obvious ecological features that are outstanding or unique nationally, in the region, or in the ecological district; i.e. the ecological features are typical rather than distinctive or special.

Size and shape

The site is significant if it is moderate to large in size and is physically compact or cohesive.

H: The site is large in size for the ecological district and is compact in shape.

M: The site is moderate in size for the ecological district and is compact in shape; or the site is relatively large but not very compact or cohesive.

L: The site is small in size for the ecological district, or the site is moderate in size but not at all compact or cohesive.

Connectivity

The site is significant if it is physically connected or close to other natural areas, and/or is part of a larger natural ecosystem or a related sequence of natural ecosystems.

H: The site is close or well connected to a large natural area or several other natural areas.

M: The site is in the vicinity of other natural areas but only partially connected to them or at an appreciable distance.

L: The site is significantly isolated from other natural areas.

Sustainability

The site is significant if it is ecologically resilient, i.e. its natural ecological integrity and processes (functioning) are largely self-sustaining.

H: The site can maintain its ecological integrity and processes with minimal human assistance.

M: The site requires some but not much human assistance to maintain its ecological integrity and processes.

L: The site requires considerable human assistance to maintain its ecological integrity and processes.

B: DEPARTMENT OF CONSERVATION PROTECTED NATURAL AREAS PROGRAMME ASSESSMENT CRITERIA

The following selection criteria are based on those described for the PNAP selection criteria described by Myers, Park and Overmars (1987) and were used to assess each natural area for its suitability as a recommended area for protection (RAP):

Representativeness:

The extent to which an area represents or exemplifies the components of the natural diversity of an Ecological District.

Diversity and Pattern:

Natural diversity refers to the range of the natural physical and biotic components in the landscape including species, plant and animal communities, ecosystems, landforms, soil sequences and dynamic systems and processes. Pattern describes the arrangement of species, communities and habitats according to spatial and environmental gradients.

Naturalness:

A measure of how close an area approximates its pre-human condition; associated with this is the degree to which exotic plant species are a component in the area.

Rarity and Special Features:

Rarity is a measure of the paucity of numbers or occurrences of elements of natural diversity (e.g. species, communities). The categories of nationally threatened plant and animal species used in this report are those currently used by the DoC (Molloy et al. 2002). Special features include additional biotic and abiotic features of significance such as species with limited distributions, local rarity, type localities, spectacular or unusual geological landform features.

Size and Shape:

The size and outline of a protected area may affect the ultimate success of maintaining viable community samples. Generally, large areas are more viable than smaller ones and the best shape is that with the smallest perimeter. These provisions need to be assessed against the provision of natural barriers present in the area such as waterways and ridges, and the requirement of buffering or edge effects.

Long-term Viability:

The degree to which an area is able to retain its inherent natural values over time. This includes its autonomy and self-regulating capacity, and an ability to resist direct and indirect human effects.

Fragility and Threat:

An assessment of the vulnerability of, and threats to, the significant features of an area. Fragile ecosystems in New Zealand include wetlands and sand dune systems.

Buffering:

The inclusion of perimeter barriers such as modified forest or scrub, may be beneficial for the long-term effective functioning of a natural] area by reducing external influences.

APPENDIX TWO: NOTABLE PLANTS OF SOUTH MARLBOROUGH

NOTABLE PLANTS OF SOUTH MARLBOROUGH: THREATENED PLANTS, DISTRIBUTION LIMITS, REMNANTS AND ANOMALIES

This is a selection of the key plant species that stand out in South Marlborough for their rarity, threatened status, unexpectedness, remnant status or representing extremes of geographic distribution. It is not meant to be a comprehensive distribution map for each species, rather a series of botanical highlights for the South Marlborough area. It is based on:

- North, M. 2004. Wairau Ecological Region – Blenheim, Grassmere, Flaxbourne, Wither Hills and Hillersden Ecological Districts. Survey report for the Protected Natural Areas Programme. Occasional Publication No. 60. Department of Conservation, Nelson (PNAP report).
- Simpson, P. 1991. The characteristics, condition and conservation needs of indigenous vegetation in the lower Wairau catchment, Marlborough. Department of Conservation & Nelson-Marlborough Regional Council.
- Other observations from the SNA surveys.

Threatened status shown in "inverted commas" taken from:

- de Lange, P.J. et al. 2004. Threatened and uncommon plants of New Zealand. NZ Journal of Botany 42: 45-76.

Plants are mapped with numerical symbols. Annotations for each species are given:

T: threatened plant

D: distribution limit

A: anomalous/unexpected occurrence

R: remnant

NOTABLE PLANTS OF MARLBOROUGH

	COMMON NAME	BOTANICAL NAME		
1	Kahikatea	*Dacrycarpus dacrydioides*	D, R	A rarity in South Marlborough
2	Climbing groundsel	*Brachyglottis sciadophila*	T	"Chronically threatened, gradual decline" - very rare in Marlborough
3	Swamp maire	*Syzigium maire*	R	A rarity in South Marlborough
4	Weeping tree broom	*Carmichaelia stevensonii*	T, R	"Chronically threatened, gradual decline" - Nationally rare South Marlborough endemic
5	Fierce lancewood	*Pseudopanax ferox*	T	"At risk – sparse" - regionally unusual
6	Native verbena	*Teucridium parvifolium*	T	"Chronically threatened, gradual decline" - Nationally rare, regionally unusual
7	NZ lilac	*Heliohebe hulkeana*	D	South Marlborough endemic, distribution limits (northern, inland)
8	Leafless clematis	*Clematis afoliata*	D	Distribution limits (northern, inland)
9	Small-leaved clematis	*Clematis quadribracteolata*	A, D	Regionally uncommon
10	Tarata (Lemonwood)	*Pittosporum eugenioides*	D	Common nationally, rare in South Marlborough
11	Narrow-leaved lacebark	*Hoheria angustifolia*	D, R	Common nationally, rare in South Marlborough
12	Lowland totara	*Podocarpus totara*	D, R	A rarity in South Marlborough though common in the past
13	Matai	*Prumnopitys taxifolia*	D, R	Uncommon in South Marlborough
14	Kaikomako	*Pennantia corymbosa*	D	Common nationally, rare in South Marlborough
15	Titoki	*Alectryon excelsus*	D	Common nationally, rare in South Marlborough
16	NZ passionvine	*Passiflora tetrandra*	D	Common nationally, rare in South Marlborough
17	Ngaio	*Myoporum laetum*	D	Common nationally, rare in South Marlborough
18	Rangiora	*Brachyglottis repanda*	D	Common nationally, rare in South Marlborough
19	Marlborough rock daisy	*Pachystegia insignis*	D	South Marlborough endemic, distribution limits (northern, inland and upland)
20	Indeterminate mapou	*Myrsine montana*	A	An uncommon plant
21	Wire plant	*Muehlenbeckia ephedroides*	T, D	"At risk, sparse" - A dryland plant, rare in South Marlborough
22	Shrubby tororaro	*Muehlenbeckia astonii*	T, R	"Acutely threatened, nationally vulnerable"
23	Hector's tree daisy	*Olearia hectorii*	T	"Acutely threatened, nationally vulnerable", very rare in South Marlborough
24	Red rock daisy	*Pachystegia rufa*	D	Found only in the Haldon Hills
25	Pink broom	*Carmichaelia carmichaeliae*	T, D	"Nationally vulnerable" - South Marlborough endemic, distribution limits
26	Coastal tree broom	*Carmichaelia muritai*	T, D	"Nationally critical" - South Marlborough endemic, distribution limits
27	Cockayne's daisy	*Celmisia cockayniana*	D	South Marlborough endemic, distribution limits

	COMMON NAME	BOTANICAL NAME		
28	Prostrate kowhai	*Sophora prostrata*	D	South Island dryland plant, distribution limits (northern, inland)
29	Coral shrub	*Helichrysum coralloides*	D	South Marlborough endemic, distribution limits
30	Grassy mat sedge	*Carex inopinata*	T	"Acutely threatened, nationally endangered"
31	Scented shrub daisy	*Olearia odorata*	D	Nationally common, unusual in South Marlborough
32	Nikau palm	*Rhopalostylis sapida*	D	Rare in South Marlborough though common nationally
33	Lowland ribbonwood	*Plagianthus regius*	D	Common nationally, rare in South Marlborough
34	Black beech	*Nothofagus solandri*	D	Common nationally, rare in South Marlborough
35	Hinau	*Elaeocarpus dentatus*	D	Common nationally, rare in South Marlborough
36	Tree hebe	*Hebe parviflora*	D	Reaches national southern limit on Kekerengu coast
37	Coastal mat daisy	*Raoulia* aff. *hookeri*	T, D, R	"Chronically threatened, gradual decline" - Regionally and nationally rare
38	Pingao (Golden sand sedge)	*Desmoschoenus spiralis*	T, D, R	"Chronically threatened, gradual decline", formerly very common
39	Sand tussock	*Austrofestuca littoralis*	T, R	"Chronically threatened, gradual decline"
40	Yellow mistletoe	*Alepis flavida*	T, R	"Chronically threatened, gradual decline" - very rare in Marlborough
41	Pate	*Schefflera digitata*	D	Common nationally, rare in South Marlborough
42	Puka	*Griselinia lucida*	D	Common nationally, rare in South Marlborough
43	Mamaku (Black tree fern)	*Cyathea medullaris*	D	Common nationally, rare in South Marlborough
44	Ponga, Silver fern	*Cyathea dealbata*	D	Common nationally, rare in South Marlborough
45	Slender coprosma	*Coprosma virescens*	D	Common nationally, rare in South Marlborough
46	Dwarf mistletoe	*Korthalsella lindsayi*	D, A	Rare in South Marlborough
47	Ranunculus macropus	*Ranunculus macropus*	T	"Chronically threatened, gradual decline"
48	Swamp nettle	*Urtica linearifolia*	T	"Chronically threatened, gradual decline"
49	Mazus novaezeelandiae ssp impolitus	*Mazuz novaezeelandiae* ssp *impolitus*	T	"Chronically threatened, serious decline"