15.10: INDIGENOUS VEGETATION AND HABITATS OF INDIGENOUS FAUNA DISTRICT WIDE ACTIVITY

15.10.1 INTRODUCTION

The Resource Management Act requires Council to recognise and provide for the protection of areas of significant indigenous vegetation and habitats of indigenous fauna as a matter of national importance. In addition, Council is required to have regard to the intrinsic values of ecosystems, the maintenance and enhancement of the environment and has a responsibility to safeguard the life-supporting capacity of eco-systems.

Historically, human habitation has resulted in most of Hastings District's natural landscape being modified, mainly through the clearance of large areas of indigenous vegetation for pastoral farming. This increases the importance of protecting those remaining areas of native forest and wetlands. Many significant areas within the Hastings District are already in the ownership of the Department of Conservation and therefore legally or physically protected by way of covenants, reserves or forest parks. However, of the remaining areas of remnant native forest and wetlands outside of the Conservation Estate, the majority do not have any legal or physical protection and there is therefore little certainty of protection for these relatively few remaining significant natural areas.

A number of activities have the potential to adversely affect remaining indigenous vegetation and fauna habitats, and geological sites. Such activities and their effects include uncontrolled stock grazing which thin out the forest, and compact peat land surrounding wetlands, and the fragmentation of remnant native forest and wetland areas through clearance or reclamation. Other threats include feral animals, domestic stock grazing, invasion of weeds, continuing drainage, erosion and farming. The majority of the areas of remnant forest and wetlands in the District are not being actively managed in a way that would ensure their continued existence and enhancement. As a result, a number of areas may be becoming degraded, with the loss of habitats for indigenous fauna.

The Department of Conservation identified 58 Recommended Areas for Protection (RAP) within the Hastings District under the Protected Natural Areas Programme carried out through the 1980's and 1990's. These areas are the most representative of indigenous flora and fauna, distinctive ecosystems and landscape within each of the ecological districts in the District. RAP sites are selected based on criteria such as rarity, diversity, representativeness, naturalness, size, fragility and significance.

In the more eastern and lowland areas of the District, few natural areas remain and these areas are generally unprotected in a formal sense but are protected largely based on voluntary efforts of landowners. In particular natural areas in the lowland, semi-coastal and coastal areas are generally, small, fragmented and rare.

The Heretaunga Ecological District is an example of a part of the Hawke's Bay Region where almost all of the original vegetation has been removed, and the landscape converted into pastoral or horticultural uses. Little has been retained for conservation. Most of the native vegetation that remains is restricted to relatively small and isolated pockets or to riparian strips on steep stream gullies unsuited to agriculture. The Heretaunga ecological district is an area of approximately 310,000ha encompassing much of the lowlands of Hawke's Bay. It is estimated that only 3% of that land is now covered in native vegetation.

In the Eastern Hawke's Bay Ecological District less than 6% of land cover is native vegetation, which is dominated by lowland forest types, but non-forest vegetation types are also present. The 7 Recommended Areas for Protection located in the eastern Hawke's Bay ecological district and identified in the Hastings

District Plan have an average size of 143ha, indicating that of the few remaining remnants in the Eastern Hawke's Bay ecological district, they are of a considerable size.

Another ecological district that makes up the Hawke's Bay ecological region is the Mangaharuru ecological district. This is an area of mountainous and rolling hill country, with steep bluffs and deep gorges, situated in western Hawke's Bay. Vegetation in the Mangaharuru Ecological District ranges from lowland podocarp-broadleaved forests of matai, rimu, tawa and titoki, through to alpine shrublands and grasslands of monoao and red tussock. This ecological district has fared more lightly than the rest of Hawke's Bay, in that approximately 10% of its natural vegetation is protected in reserves already.

The above statistics highlight the importance of protecting those remaining areas of native forest and wetlands. Many significant areas within the Hastings District are already in the ownership of the Crown and managed by the Department of Conservation and are therefore legally or physically protected by way of conservation areas, reserves or forest parks. Of the remaining remnant native forest areas and wetlands on private property, many do not have legal or physical protection. There is therefore little certainty for protection for these relatively few remaining significant natural areas.

The District Plan recognises the need to remedy adverse effects on District biodiversity values, indigenous vegetation and habitats of indigenous fauna, with a view to enhancing biodiversity as well as maintaining existing values. Provisions included in this section of the Plan are, a combination of voluntary measures directed towards avoiding the further loss or degradation of the natural environment and regulatory measures. Landowners are encouraged to protect areas of indigenous vegetation and habitats of indigenous fauna, motivated by a range of tangible incentives to do so, such as rates relief and subdivision opportunities, as well as grants and schemes offered by other agencies such as the Hawke's Bay Regional Council, Department of Conservation and the Queen Elizabeth II National Trust.

Council also recognises alternative methods of protection such as education and the provision of information. Regulatory methods are considered to be appropriate as a 'safety net' for the protection of indigenous biodiversity where voluntary or non-regulatory methods are not effective in improving or maintaining current biodiversity levels.

15.10.2 ANTICIPATED OUTCOMES

It is anticipated that the following specific outcomes will be achieved:

OUTCOME IN1 Improved protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna, and significant geological sites.

OUTCOME IN2 Maintenance and enhancement of the biodiversity of indigenous plant and animal species within Hastings District and the natural habitats and ecosystems that support them.

OUTCOME IN3 A greater public awareness of the type, location, significance and vulnerability of indigenous vegetation, habitats and geological sites and available methods of protection.

OUTCOME IN4 Practical recognition of areas of significant indigenous vegetation, significant habitats of indigenous fauna, and significant geological sites and their importance to the community.

OUTCOME IN5 Improved awareness and recognition of mana whenua concerns and values regarding indigenous biodiversity.

15.10.3 OBJECTIVES AND POLICIES

OBJECTIVE IN1
Relates to Outcomes 1 & 2

To protect and encourage the protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna and significant geological sites.

POLICY IN1

Encourage the protection of areas of indigenous vegetation, habitats of indigenous fauna (including wetlands), and geological sites by providing a range of incentives for their protection.

Explanation

The Council will encourage the voluntary setting aside and protection of areas of indigenous vegetation, habitats of indigenous fauna and geological sites within the District, particularly those areas identified as Recommended Areas for Protection (RAP) included in Appendix 15.10-1 and significant Geo Preservation sites identified in Appendix 15.10-2. The subdivision of Conservation Lots will enable landowners to develop additional houselots where land identified in these Appendices is protected. (See Section 16.1 of the District Plan). In addition Council will consider under the Rating Powers Act 1988 to postpone or remit rates where land is voluntarily set aside or protected.

POLICY IN2

Maintain and protect areas of significant indigenous vegetation and habitats of indigenous fauna (including wetlands) from being adversely affected by vegetation clearance activities.

Explanation

The District Plan contains rules that seek to protect areas of significant indigenous vegetation and habitats of indigenous fauna identified in Appendix 15.10-1 from activities, which may adversely affect their significant status.

Because an area is 'significant', does not automatically mean that no activity can take place on site. Council is required to exercise its statutory obligations and may place conditions on an activity and the use of a significant area through the resource consent process, in order to maintain and protect the significant indigenous vegetation and habitats of indigenous fauna (including wetlands) in the District.

Areas which may be considered significant but not listed under Appendix 15.10-1 may be identified through the Resource Consent process using the significance criteria identified under 15.10.7.1 (k) 1-9 as a guideline.

Council will make decisions on Resource Consent applications which recognise and provide for the protection of:

1. Significant indigenous vegetation and indigenous habitat;
2. Natural values associated with riparian margins

OBJECTIVE IN2 **To maintain and enhance the biodiversity of indigenous species and their natural habitats and ecosystems that support them.**

POLICY IN3 *Include rules to protect areas of significant indigenous vegetation and habitats of indigenous fauna (including wetlands) not identified in Appendix 15.10-1 from being adversely affected by vegetation modification activities.*

Explanation

Clearance of areas of indigenous vegetation that are not listed under Appendix 15.10-1 is controlled through district plan rules. It is recognised that Appendix 15.10-1 does not list all sites of significance within the District. Sites listed in Appendix 15.10-1 are based largely on the Department of Conservation's Recommended Areas for Protection Programme, which was undertaken in the 1980's and 1990's.

These areas are the most representative of indigenous flora and fauna in the District. RAP sites are selected based on criteria such as rarity, diversity, representativeness, naturalness, size, fragility and significance.

Being that the RAP areas only identify the most representative areas within the District they do not cover all sites of significance. Council has therefore included a set of provisions applicable to the modification or clearance of all areas of indigenous vegetation. These provisions will enable an activity in an unscheduled area to be assessed on a case by case basis in order to establish whether the vegetation concerned is 'significant' and, if it is significant, whether or not the effects of an activity should be allowed.

POLICY IN4 *Control the adverse effects of feral and introduced species of fauna on the indigenous vegetation and fauna within the District.*

Explanation

Exotic species are frequently the source of feral pest populations, both as a result of farmed escapes and from illegal liberations. Deer, goats, feral cats, rats and other introduced species can pose a significant threat to the long term viability of ecosystems and indigenous flora and fauna within the District if not properly controlled adequately. The provisions within the Plan will work alongside the provisions in the Wild Animal Control Act 1977 and the efforts and programmes administered by the Regional Council and Department of Conservation to ensure that the adverse effects of exotic or feral species on the environment are avoided, remedied or mitigated.

POLICY IN5 *To ensure no net loss in the biodiversity of areas of significant indigenous vegetation and significant habitats of indigenous.*

Explanation

Where the adverse effects of an activity on an area of significant indigenous vegetation or habitat of indigenous fauna cannot be avoided, avoided ensuring remediation, or remedied ensuring mitigation, consideration shall be given to the use of biodiversity 'off-setting' options to ensure no net loss of biodiversity.

Off-setting may be considered as any action (work, services or restrictive covenants or environmental compensation) to avoid, remedy or mitigate adverse effects on activities on a relevant area or environment as compensation for unavoided and unmitigated adverse effects of the activity for which consent is being sought.

Biodiversity offsetting means measurable conservation outcomes resulting from actions which are designed to compensate for more than minor residual adverse effects on biodiversity, where those affects arise from an activity after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets shall be to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure and ecosystem function.

No net loss *means no overall reduction in:*

(a) the diversity of (or within) species.
(b) species' population sizes (taking into account natural fluctuation), and long-term viability.
(c) area occupied and natural range inhabited by species.
(d) range and ecological health and functioning of assemblages of species, community types and ecosystems.

OBJECTIVE IN3 **Recognise that the economic, social and cultural well-being of people and in particular the rural community, depends on, amongst other things, making reasonable use of land.**

POLICY IN6 *Provide for activities which have a minimal effect on indigenous biodiversity and promote land owner assistance programmes for the retention and enhancement of natural areas.*

Explanation

Council recognises there is a need to balance the needs of protecting and enhancing the districts indigenous biodiversity while allowing for rural landowners to effectively and efficiently farm their land

Except where there are very high conservation values present, a wide range of activities can be accommodated, with appropriate standards to ensure the effects of these activities are avoided, remedied or mitigated.

The clearance of regenerating or re-growth kanuka, manuka and bracken is provided for as a permitted activity subject to performance standards to allow for the opening up of pasture and grazing land once considered un-economic or marginal.

There are a number of management tools which enable the protection of natural areas without resulting in an undue financial loss or burden to the landowner. These include private and public covenanting and purchase, for example via the Nature Heritage Fund, Nga Whenua Rahui and the Regional Council's regional landcare scheme, which provides financial grant assistance for erosion control and protection works (planting, retirements and structures) and biodiversity protection of bush, on farm wetland and stream retirements through covenanting.

15.10.4 METHODS

The Anticipated Outcomes set out in Section 15.10.2 will be achieved and the Objectives and Policies set out in Sections 15.10.3 will be implemented through the following methods:

HASTINGS DISTRICT PLAN

Indigenous Vegetation and Habitats of Indigenous Fauna DWA (Section 15.10): The Indigenous Vegetation and Habitats of Indigenous Fauna District Wide Activity identifies the areas of significant indigenous vegetation and habitats of indigenous fauna in the District where Council has identified that it will provide incentives and rules for the protection of them.

Subdivision and Land Development (Section 16.1)

Conservation Lots: These rules provide for the creation of a separate title containing significant areas of indigenous vegetation and/or wildlife habitat (including wetlands on land identified in the List of Significant Vegetation, Habitats and Geological Sites - See Appendix 15.10-1) and an associated house site in return for the legal and physical protection in perpetuity of the nominated vegetation or other significant feature.

Rural, Plains, Rural Residential and Special Character Zones (Sections 5.0, 6.0 and 8.0): Rules are included in these Zones to ensure that the farming of mustelids with recognised pest potential is controlled to prevent escaped animals impacting on the indigenous flora and fauna of the District.

HASTINGS DISTRICT COUNCIL ANNUAL PLAN

For Council initiated and funded works for the provision of reserves and the maintenance, improvement or development of them.

RESERVES ACT 1977 AND RESERVE MANAGEMENT PLANS

These determine the scope of activities that can be established on reserves which are approved by the Minister of Conservation and outline the management regime necessary to provide for the ongoing use and enjoyment of the reserve.

HASTINGS DISTRICT RESERVES DEVELOPMENT STRATEGY

This identifies requirements in the District for the establishment, development or improvement of reserves over the next 10-20 years

RESERVES ACT 1977, QUEEN ELIZABETH NATIONAL TRUST ACT 1977

Both of these pieces of legislation provide for the voluntary setting aside of land by private individuals. The Council will endeavour to make the community more aware of these opportunities particularly landowners in areas identified by Appendices 15.10-1 and 15.10-2 of the District Plan.

RATING POWERS ACT 1988

Where land is voluntarily protected for natural, historic or cultural conservation purposes, set aside and legally and physically protected or classified as an esplanade reserve, Council may utilise its powers under the Rating Powers Act 1988 to grant rates relief.

VOLUNTARY MECHANISMS

Council will facilitate and promote the voluntary protection of areas of indigenous vegetation and habitats of indigenous fauna within the District. Existing and prospective landowners will be identified and informed of the voluntary methods available for protecting these areas and the benefits of retaining and enhancing these areas to maintain the biodiversity within the District.

15.10.5 RULES

The activity status and Performance Standard requirements provided for this District wide Activity section of the District Plan may be modified by the specific provisions of the Waahi Tapu, Heritage, or Landscapes District Wide Activity sections of this Plan. It will be necessary to check first whether the activity is located within one or more of these DWA's. Any activity must first comply with the DWA provisions before applying the following rules.

RULE	ACTIVITY	STATUS
RULE IN1	Indigenous vegetation modification outside of any area identified in appendix 15.10-1 which meets the performance standards and terms in 15.10.6.	P
RULE IN2	Indigenous vegetation modification within any area identified in appendix 15.10-1.	RD
RULE IN3	Any indigenous vegetation clearance activity that fails to meet one or more of the general performance standards and terms in section 15.10.6.	RD

15.10.6 GENERAL PERFORMANCE STANDARDS AND TERMS

The following General Performance Standards and Terms apply to all activities.

15.10.6.1 INDIGENOUS VEGETATION MODIFICATION

Indigenous Vegetation Modification may not take place in an area which:

(a) Within a contiguous* 5 hectare area or greater which has an actual or emerging predominance of indigenous tree species (excluding manuka, kanuka and bracken) of any height; or
(b) Any area of woody indigenous vegetation (excluding manuka, kanuka and bracken) containing tree species, which attain at least 30 cm diameter at breast height at maturity, and is either;
    (i) over 1 Ha and with an average canopy height over 6 metres; or
    (ii) over 5 Ha of any height
(c) Contains indigenous trees over 100 years old, unless the sum of all areas of modification is less than 1000m^2 in any 10 year period; or
(d) Is a wetland over 100m2 in area with an average width of at least 5m; or

(e) Is over 100m^2 in area within the coastal environment.

*The yellow area shown in Figure 1 indicates an area of indigenous vegetation modification.

Whilst this area of modification may be less than 5 hectares it forms part of a larger area of indigenous vegetation and is 'contiguous' with an of indigenous vegetation over 5 hectares in area.

Hence in this situation Resource Consent would be required in accordance with (a) above.

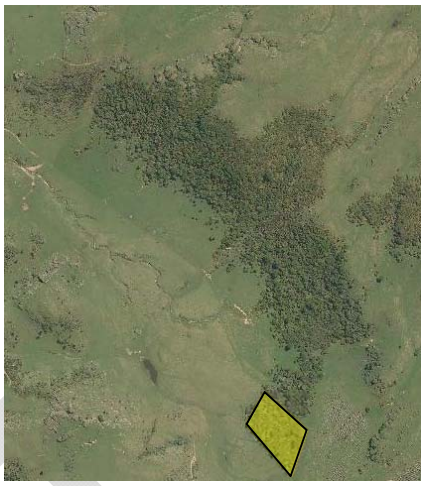

Figure 1: Contiguous Area

Indigenous Vegetation Modification shall be permitted where:

(a) The clearance of indigenous vegetation consists of understorey beneath exotic and/or plantation forest areas.
(b) The clearance of indigenous vegetation is for the maintenance of existing farm tracks and stock crossings.
(c) The clearance of indigenous vegetation is incidental to the control of gorse, broom, or other exotic plant pests as identified by the Hawke's Bay Regional Plant Pest Management Strategy prepared under the Biosecurity Act 1993.
(d) The clearance of indigenous vegetation is necessary for the safe and efficient operation of any formed public road, private accessway or walkway.
(e) The clearance is necessary for the ongoing operation, maintenance and upgrading of any lines for conveying electricity or for the current operation and maintenance of existing infrastructure including, drains, fire water points and network utility structures.
(f) The removal is for a new fence, where the purpose of the fence is to exclude stock and/or pests from the area provided that the clearance does not exceed 3.5m in width either side of the fence line.
(g) Dead, dying or diseased vegetation that creates an environmental or ecological risk.
(h) Actions undertaken for flood control purposes undertaken by or on behalf of the Hawke's Bay Regional Council.
(i) The disturbance is of individual / scattered trees or shrubs amongst pasture/horticultural crops.

15.10.6.2 MODIFICATION AND CLEARANCE OF KANUKA, MANUKA AND BRACKEN

Indigenous Vegetation Modification or Clearance of manuka, kanuka and bracken shall be allowed where:

(a) The vegetation clearance or modification consists of manuka, kanuka and bracken only and is 1ha or less in area.

(b) The vegetation clearance consists of manuka, kanuka or bracken only (in areas which have been substantially cleared of indigenous vegetation in the previous 20 years) which is greater than 1ha in area but does not exceed 10ha per site over any continuous three year period, subject to provision of notice to Council at least 20 working days prior to the proposed clearance including:

I. Details of the location of the proposed clearance.
II. Dimensions of the proposed clearance area.
III. Existing vegetation cover.

IV. Verification by documentary, photographic or other means that the area of proposed clearance has seen substantially cleared of indigenous vegetation within the previous 20 years.

(c) The vegetation clearance consists of manuka, kanuka and bracken only (in areas which have been substantially cleared of indigenous vegetation in the previous 20 years) and exceeds 10ha per site over any continuous three year period, subject to:

I. An area of at least 5,000m^2 of indigenous species, wetland or other biological or scientific significance, shall be clearly defined on aerial photographs, topographic maps and District Plan maps submitted and nominated for protection.

II. The whole of the feature shall be physically and legally protected in perpetuity. An agreement regarding an encumbrance, bond or covenant must be entered into. Such instrument is to be registered on the Certificate(s) of Title of the relevant lot(s). The covenant, bond or encumbrance shall be in accordance with the terms of the Reserves Act 1977 or Queen Elizabeth II National Trust Act 1977 to the effect that the stand of native bush or other feature of significance be fenced with a stock proof fence where appropriate, kept free of livestock, be protected in perpetuity, and shall include enforcement and penalty provisions.

The covenant or encumbrance is to be prepared by a Solicitor at the applicant's expense.

15.10.7 ASSESSMENT CRITERIA – RESTRICTED DISCRETIONARY ACTIVITIES

For Restricted Discretionary Activities, the following criteria identify those matters which Council has restricted its discretion over in assessing resource consent applications.

15.10.7.1 INDIGENOUS VEGETATION MODIFICATION

The significance of the affected indigenous vegetation or habitat of indigenous fauna in terms of ecological, intrinsic, cultural or amenity values;

(a) The extent to which an area of affected indigenous vegetation or habitat of indigenous fauna and its inter-relationship with other habitats or areas of indigenous vegetation represents or exemplifies the components of the natural diversity of a larger reference area. For example, the representation of the current natural diversity of an ecological district, or representation of the original natural landscape.

(b) The sustainability of the habitat or area of vegetation proposed to be modified or damaged or of any adjoining habitat of vegetation to an area proposed to be affected;

(c) Whether any affected area of indigenous vegetation is naturally occurring or has been artificially created;

(d) The degree to which the vegetation or habitat is threatened or is uncommon in the ecological district within which it is located.

(e) Whether any affected area contains a vegetation type of species of flora or fauna that is regionally rare or threatened as identified in Appendix 15.10-2.

(f) Location and dimensions of areas to be cleared and vegetation type.

(g) Effects on archaeological, cultural or historic sites.

(h) Effects on waterbodies and riparian margins.

(i) Clearance methods.

(j) Any modification of indigenous vegetation or habitat of indigenous fauna outside of a Recommended Area for Protection identified in Appendix 15.10-1 shall be assessed for its significance using the criteria below as a guideline:

1. *Representativeness: The area is one of the best examples of an association of species which is typical of the ecological district.*
2. *Distinctiveness: The area has indigenous species or an association of indigenous*

species which is unusual or rare in the ecological district, or endemic, or reaches its distribution limit.

3. *Intactness: The area has a cover of predominantly indigenous vegetation, is little modified by human activity, and is not affected in a major way by weed or pest species.*
4. *Size: The area of indigenous vegetation or habitat is 5ha or more in size or together with adjacent indigenous habitat is larger than 5ha; or in the case of natural wetlands is larger than 1ha in size.*
5. *Protected Status: The area has been set aside by statute or covenant for protection or preservation.*
6. *Connectivity: The area is connected to one or more other significant areas in a way (through ecological processes) which make a major contribution to the overall functioning of those areas.*
7. *Threat: The area supports an indigenous species or community of species which is threatened within the ecological district or ecological region or threatened nationally.*
8. *Migratory Habitat: The area is important as habitat for significant migratory species or for feeding, breeding or other vulnerable stages of indigenous species, including indigenous freshwater fish.*
9. *Scientific or Cultural Value: The area is a scientific reference area, is listed as a geopreservation site, or has significant amenity value.*

** Note – Any significance assessment must be carried out by a suitably qualified ecologist or forester.*

APPENDIX 15.10-1

SIGNIFICANT VEGETATION, HABITATS AND GEOLOGICAL SITES
Recommended Areas for Protection (RAPS) under the Protected Natural Areas (PNA) Programme

REF. NO	SITE NAME	MAP NO.	DESCRIPTION	MODIFIERS/ THREATS	FRAGILITY THREAT RANK
RAP1	Summerlee	18	Ecological Island Kanuka Forests. Native/exotic birds. Rich in invertebrates.	Development forestry, farming, grazing.	Medium
RAP2	Rangaiika-Ocean Beach	18, 19	Largest/most intact sand dune system on East Coast N.Z.	Feral animals, domestic sheep/cattle, off-road vehicles, weeds.	High
RAP3	Waingongoro Stream	21	Karaka, titoko, mahoe forest, coastal steep limestone face (only combination like this in Ecol.Dist).	Grazing, trampling to pa sites, possums, weeds.	Medium-High (unfenced areas)
RAP4	Hapua	21	Forest remnants in meandering stream.	Flooding, grazing, felling, exotics, erosion.	High
RAP5	Kahuranaki Road Bush	21	Mixed broadleaved - podocarp forest.	Grazing, erosion.	High
RAP6	Puhokio Valley	21	Cabbage trees stands on pastureland.	Grazing stock trampling pa site.	High
RAP7	Maraetotara Plateau	21	Best remnant forest on plateau, mature tawa, rewarewa forest, giant podocarps, rimu, kaihihakea, matai, population of riflemen in 100 acres bush.	Possums, feral animals, domestic cattle, storms, drought.	Medium
RAP8	Eland	12	Tall kanuka/mixed kanuka-manuka forest, most rep/least fragmented blocks in locality.	Domestic stock, goats, fire cutting at edges, wilding pines.	Low
RAP9	Peninsular Stream/Mangaone River	11	Kanuka mixed broadleaved forest, buffered by other protected areas.	Goats, wilding pine, surrounding plantation forests.	Low
RAP10	Mangahina No 1	11	Kanuka mixed, broadleaved forest, green gecko present.	Radiata pine, invasion, goats, possums, domestic stock, firewood extraction.	Low
RAP11	Mangahina No 2	11	Kanuka mixed broadleaved forest.		Low
RAP12	Waiiti Stream	11	Kanuka forest, largest intact area of native vegetation in Heretaunga District, good population pied tit/kiwi.	Radiata pine, goats, domestic stock.	Low
RAP13	Whirinaki Lagoons	12	Wetland surrounded, covered raupo, dune lake system, presence bitten, spotless crake, dabchick.	Raupo control by dredging, SH2.	High
RAP14	Okawa Stream	14	Upper/lower gorge, kunuka/mixed broadleaved forest upper gorge pockets kowhai.	Domestic stock/goats.	High
RAP15	Runanga Lake	14	Lake surrounded by raupo, waterfowl, breeding/moulting site, common waterfowl, bittern/spotless crake, best wetlands in Heretaunga.	Pussy willow, fire, grazing stock.	Medium

REF. NO	SITE NAME	MAP NO.	DESCRIPTION	MODIFIERS/ THREATS	FRAGILITY THREAT RANK
RAP16	Oingo Lake	14	Band raupo surrounds lake, lake important nesting/moulting site, waterfowls, dabchick, buttern, spotless crake, swamp.	Pussy willow, fire in raupo, grazing stock modified marginal reg.	Medium
RAP17	Waitangi Estuary	15	Estuary imp nesting/feeding area, wetland, coastal birds, white-fronted terns/black billed gulls nest on spit, white herons winter over, bitterns/spotless crake.	Disturbance modification development/recreat. use, upstream land use, effects water quality.	High
RAP18	The Pigsty	14	High quality wetland, oxbow formation, fernbird, bittern, spotless crake add significance to this wetland.	Pussy willow flooding from Ngaruroro River.	Medium
RAP19	Ngaruroro Riverbed	14, 17	Best example braided river system in Hawke's Bay, black fronted and backed dotterol. South Island pied oyster catcher.	Perennial weed encroachment, shingle extraction and flood control work (nesting season), off road vehicles.	Medium
RAP20	Ohara	13	Mixed totara-kanuka-broadleaved trees forest.	Surrounding land.	Low
RAP21	Tukituki Esturay	15, 36, 43	High wildlife rate, bittern and spotless crake present in back waters, white heron winter area.	Channeling/stopbanking, rubbish dump, high public use.	High
RAP22	Te Awanga	18, 51	Only known occurrence threatened plant Muchlenbeckia ephedroides in the Ecol.Dist	Housing development or recreation, vehicle use, exotic shore plants.	Medium
RAP23	Clifton	18	Coastal kanuka treeland and forest.	Seeding surrounding pine plantation, natural erosion, fire, firewood, grazing goats, stock.	Medium
RAP24	Poporangi Stream	16	Podocarp-broadleaved beech forest, diversity, canopy/widestory species, large size.	Weed stock	High
RAP25	Pekapeka Swamp	17	Large wetland willow/raupo dominant, provides nesting/feeding habitat, waterfowl/waders including bittern, spotless crake, marsh crake, dabchick, fish from Pekapeka stream habit swamp.	Maintenance water levels, control of willows.	Medium
RAP26	Haronga Road	20	Treeland ecosystem titoki dominated treeland	Possums, wind damage, grazing animals, firewood.	High
RAP27	Lake Poukawa	20	Largest shallow lake, outstanding wildlife value, supporting high numbers migrating - dabchick, water fowl, wader birds, bittern, dabchick, spotless crake, mute swan black fronted dotterol.	Willow spread, water level, water flow manipulations, agricultural development, peak shrinkage.	Medium
RAP28	Castle Rock Road Bush	10	Island of natural area amongst Carter Holt forest plantations. Diverse bird life. Pterostylus orchid.	Disturbance through pine harvesting. Invasion of weeds in margins of kanuka unit. Deer have opened up the understorey in the beech-unit.	

REF. NO	SITE NAME	MAP NO.	DESCRIPTION	MODIFIERS/ THREATS	FRAGILITY THREAT RANK
RAP29	Moore Road Bush	10	Series of dissected gully-heads, gullies and spurs.	No major existing threats to the viability of site although control of possums and deer would increase the natural values of the site.	Medium
RAP30	Whittle Road Wetland	7	Wetland in shallow broad gully. Unusual range of plant species.	Browse and pugging from cattle and sheep. Probable top dressing - altered nutrient balance.	High
RAP31	Mangarakau Stream Bush	13	Steep sideslope with spurs and gullies in the valley of Mangarakau Stream. Birdlife reasonably diverse. Common gecko abundant. Unusual form of Hebe Parviflora.	Cattle and sheep browsing. Scrub-clearing	Medium
RAP32	Toronui Bush	5	Gentle sideslope with gullies. Just over half of the site is tall closed forest/red beech and broadleaf. Native birds.	Goats and possums. The canopy appears to have been damaged by heavy snowfalls.	
RAP33	Rangiora Station Road	5	One of the best unprotected examples of lowland rewarewa forest in Maungaharuru Ecol. Dist. Birds common and some waterfowl.	Goats and possums.	Medium
RAP34	Rangiora Station Treeland	5	Unusual range of species including the best example of a ngaio treeland left in Maungaharuru Ecol. Dist. Yellow & red admiral butterflies.	Goats and stock.	Medium-High
RAP35	Maori Stream Bush	5	Gentle sideslope, on nthern side a prehistoric slump has formed a series of wetland in a shallow valley.	Moderate damage to bush from goats	Medium
RAP36	Rimu Station Bush	7, 8	Sideslope and broad flat hanging valley. Mountain holly-broadleaf forest on sideslope which is the best unprotected example of this type of vegetation..	Goats. Snow appears to have caused damage to the canopy of the site. Fire. Selective logging.	Low-medium
RAP37	Otakowhai Stream Bush	8	Steep sideslopes with spurs, gullies and bluffs by Otakowhai Stream. Good diversity of forest types and mixed kanuka forest. Reasonably diverse birdlife.	Browse from goats and possums	Low
RAP38	Manganui Bush II	8	Sideslope transected by small gullies and spurs. Totara, Puka, unusual mix of montane and lowland species. Birdlife reasonably diverse.	Goats and blackberry.	Medium
RAP39	Titiokura Shrubland	7	Sideslope, gully bluffs and outcrops in a hanging valley. Uncommon assemblance of species.	Feral goats and sheep	Medium
RAP40	Titiokura Bush I	7	Sideslopes rising up from a hanging valley. Native birds.	Goats	Medium

REF. NO	SITE NAME	MAP NO.	DESCRIPTION	MODIFIERS/ THREATS	FRAGILITY THREAT RANK
RAP41	Titiokura Bush II	7	Titiokura summit area Rare ferns. Diverse range of birds.	Goats. Heavy snows on the site have damaged some canopy trees forming gaps. Cattle pugging.	Medium
RAP42	Carswell Bush	7	Small valley, gully and gully heads. Bird-life reasonably diverse. Site's natural values are high. Interesting range of lowland and montane species present in it.	Regeneration poor due to goat and sheep browsing.	High
RAP43	Mangaone Stream Bush	7	River flats in gorge. One of the few sites where Lophomyrtus obcordata has been found.	Goats	Medium
RAP44	Opau Stream Bush II	7, 11	Gully with wetland. Mistletoe "Tupeia Antarctica" is common.	Possums, gorse	Low-medium
RAP45	The Gorges Bush	11	Gully and gully heads in a series of gorges. The presence of limestone columns, stalagmites and stalactites is unusual in the Maungaharuru Ecol. Dist.	Goats - major threat to vegetation.	Medium-high
RAP46	Te Waka Bush I	7	Gentle sideslope dissected by small streams with steep gullies. A number of plants unusual for the ecol. district	Goats. Fire. Selective logging.	Medium
RAP47	Te Pohue Bush	7	Site has narrow deep gullies and spurs. Lack of beech trees makes this site different from other remnants in its vicinity.	Little regeneration due to large numbers of goats and sheep. Selective logging.	Medium
RAP48	Te Waka Bush II	7	Hanging Valley south west of Te Waka Trig. Rimu., lemonwood, and some mountain flax shrubland on outcrops.	Introduced mammals - severely reduced regeneration.	High
RAP49	Mangatutu Stream Bush	11	Site formed from steep sideslopes and bluffs on either side of the Mangatutu Stream Valley. Kawakawa noted on-site which is uncommon in Maungaharuru Ecological District. Black flounder noted - furthest inland record for this species in H.B.	Wandering jew noted on-site - plant is a serious threat.	Medium

REF. NO	SITE NAME	MAP NO.	DESCRIPTION	MODIFIERS/ THREATS	FRAGILITY THREAT RANK
RAP50	Gorge Stream Bush I	11	An extremely interesting site of lowland vegetation with coastal elements well inland.	Regeneration poor under the kanuka on the steep sideslopes.	Medium
RAP51	Gorge Stream Bush II	11	This site is a good example of podocarp-titoki forest.	Few threats to site noted.	Medium
RAP52	Te Kowhai Bush	11	This site is typical of riparian vegetation In other parts of the country but is unusual in the Mangaharuru Ecological District.	Blackberry rampant on-site especially in "canopy gaps"	Medium

REF. NO	SITE NAME	MAP NO.	DESCRIPTION	MODIFIERS/ THREATS	FRAGILITY THREAT RANK
RAP53	Maniaroa Bush	7, 11	Site situated in a valley which is a rift of the Mohaka Fault. Wetlands are a feature. The diversity of the landforms in the site allows a correspondingly diverse number of species.	Cattle & sheep grazing.	Medium
RAP54	Rimu Station Herbfield	7	Gully floor, sideslope and topslope. This site is highly significant:	Mouse ear hawkweed is epidemic - considered to be a significant threat	High
RAP55	Rimu Station Tussockland	7	Site is in a large open hanging valley surrounded by footslopes and sideslopes. A healthy red tussock grassland unique to the Maungaharuru Ecological District.	Mouse ear hawkweed. If heather were to reach site - it could spell disaster for the natural values of the site.	High
RAP56	Hukanui Bush	7	Site consists of a spur and gully. The site has an unusual mix of lowland and alpine species present in it.	Weeds, Browse from sheep, cattle and possibly deer.	Low-medium
RAP57	Waitara Station Bush	7	The best example of a "flush wetland" left in the ecological district.	The major threat to site is presence of stock	High
RAP58	Ahuateatua	5, 8	Outstanding mountain toatoa forest unique to H.B. The alpine herbfields are distinctive, particularly in association with the forest.	Browsing mammals	High Threat/low fragility

APPENDIX 15.10-2

SIGNIFICANT VEGETATION, HABITATS AND GEOLOGICAL SITES

Geopreservation Sites

SITE	NZMS REF. NO.	CLASSIFICATION	SIGNIFICANCE
Cape Kidnappers Stack	W21/616656	Importance = C Vulnerability = 3	A pale grey pointed tooth of sandstone rock as an extension of Cape Kidnappers. Age: approximately 1M years BP
Cape Kidnappers Pleistocene sediments and sea cliffs	W21/542662	Importance = A Vulnerability = 3	Shear colourful and spectacular cliffs cut into clearly stratified mudstones and sandstones with prominent rock banding, including some prominent fault displacement. Age: Pleistocene.
Cape Kidnappers conjugate shears	W21/560650	Importance = C Vulnerability = 3	Excellent example of conjugate shears. Age: Pleistocene. Reserve Status: Wildlife Sanctuary.
Flat Rock, Hawke's Bay	V20/491998	Importance = C Vulnerability = 3	A large flat horizontal shore platform slightly above water level with a cave in one end.
Kidnappers Anticline	W21/589652	Importance = C Vulnerability = 3	Topographical anticline, bending moment faulting/last interglacial marine terrace offsets, and raised marine benches aged c.2320 and 2410 years.
Te Apiti thrust zones, Waimarama Beach	W22/522454	Importance = B Vulnerability = 3	Excellent exposure of a complex, amalgamated thrust zone system. Age: Cretaceous, Paleogene.
Waimarama raised marine benches	W22/525505	Importance = C Vulnerability = 3	Holocene raised marine platforms with dates of c.1570, 2280 and 2570 years.
Waipatiki Beach glacio-eustatic sequence	W20/527035	Importance = A Vulnerability = 3	This site is important for the preservation of rapid depth changes caused by glacio-eustatic sea level changes. Age: Pliocene.
Whakaari tombolo	V20/491999	Importance = C Vulnerability = 3	A large example of a tombolo. Classified as an extremely well defined landform of scientific/educational value.

KEY: ASSESSMENT OF IMPORTANCE AND VULNERABILITY IMPORTANCE

Sites are listed in this inventory under three levels (A-C) of significance. The importance assessment given to each site has been assessed by those informants familiar with the site:

A. **International** - site of international scientific importance.
B. **National** - site of national scientific, educational or aesthetic importance.
C. **Regional** - site of regional scientific, educational or aesthetic importance.

VULNERABILITY

Each site has been given a vulnerability classification (1-5) depending on its perceived vulnerability to human activities.

1. Highly vulnerable to complete destruction or major modification by humans.
2. Moderately vulnerable to modification by humans.
3. Unlikely to be damaged by humans.
4. Could be improved by human activity.
5. Site already destroyed (not necessarily by human activity).