

Belmont Regional Park Management Plan

Part 2 : Resource Statement



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Background

1. **Wellington Regional Parks and Recreation Areas**

Belmont Regional Park is one of five regional parks in the Wellington Region (Figure 1). It complements Kaitoke Regional Park (Upper Hutt), Battle Hill Farm Forest Park (Pauatahanui), Queen Elizabeth Park (Paekakariki) and East Harbour Regional Park (Wainuiomata/Baring Head). These regional parks are primarily managed for outdoor recreation and conservation.

A series of recreation areas have also been developed in forests, along rivers and river floodplains (Figure 1). They serve to enhance the diverse range of recreational opportunities and experiences available to the public within the Wellington Region.

2. **A History of Management**

2.1 **Park Origins**

The Belmont Regional Park concept was initiated in the early 1970s. The concept was modelled on the national parks of England. These parks comprise tracts of countryside which are recognised nationally for their scenic and recreational value. They comprise both public and privately owned land, and contain farms, forests and defence establishments. The application of this principle to the hill country between Lower Hutt and Porirua, through the establishment of Belmont Regional Park, was seen as a means of protecting and managing the landscape values and recreational opportunities of this area while providing for its continued use and occupation by private landowners. The Belmont Regional Park concept was innovative and unique in New Zealand.

2.2 **Early Management Years : 1970s-mid 1980s**

An outline report on the proposed Belmont Regional Hill Park was considered by the Wellington Regional Planning Authority in 1974. This document was distributed to all agencies and local authorities owning land in the park or having an interest in the management of the park. This included Department of Lands and Survey, Porirua City Council, Lower Hutt City Council, Petone Borough Council and The Hutt County Council.

In 1976, two important publications relating to the park were produced. They were *Survey of the Proposed Belmont Regional Hill Park* prepared by Victoria University of Wellington and *Regional Parks for the Wellington Region* prepared by the Wellington Regional Planning Authority. Belmont Regional Park was noted in the later publication as containing some 2,000 hectares, the vast majority of which was in public ownership. Information and recommendations from these two publications formed the basis of the *Belmont Regional Park Management Plan (draft)*, August 1977.

New opportunities emerged in 1977 in relation to the Waitangirua Farm Settlement block owned by the Department of Lands and Survey. On 26 April 1977, the Minister of Lands agreed in principle to the inclusion of the 895 hectare Waitangirua block into the Belmont Regional Park. Although not formally stated at this time, it was implied that the land would become part of the park provided that farming operations remained viable.

The philosophy for the Regional Council's regional parks' policies was embodied in statements in the *Regional Planning Scheme Review* 1981, a report to Council in the same year, and two associated statements on *Regional Parks Policies* and *Criteria for Establishment of Regional Parks* (see Appendix 1). The listing of Belmont Regional Park in the objectives and policies of the Regional Planning Scheme gave the park standing under the Town and Country Planning Act 1977 as a regional planning objective.

The second draft management plan for Belmont Regional Park was prepared in 1983. Section 41 of the Reserves Act 1977 was used to guide the preparation of this management plan and the revised 1989 management plan.

Following the completion of the 1983 draft management plan, meetings were held by the Regional Council with the local authorities of the Region with the aim of seeking their co-operation and co-ordination in the future management of the park. At these meetings, it was proposed that the Regional Council be the authority responsible for the overall co-ordination, development and management of the park. Land ownership arrangements would not alter. There was no response from the local authorities.

2.3 Progress and Change : Mid 1980s-Present

(1) *Land Ownership and Management*

The State Owned Enterprises Act 1986 established, amongst other SOE's, the Land Corporation of New Zealand (Landcorp). Landcorp took over ownership of the Waitangirua Farm Settlement block from the soon to be disestablished Department of Lands and Survey.

Purchase of part of the Waitangirua Farm from the Crown by Landcorp was conditional on providing for covenants "to protect forest and shrubland remnants, walking access". (Sale and Purchase Agreement, 1 August 1987.) (Refer to Section 3.2 *Reserves Act*, following.)

From this commitment has developed the current implied partnership of management and ownership for Belmont Regional Park between Landcorp (and more recently, its subsidiary company, Landcorp Farming Limited) and the Wellington Regional Council.

In 1983, the ownership of the 532 hectare Dry Creek block (Haywards Hill), acquired for state housing purposes four years earlier, was transferred to the Department of Lands and Survey. A further four years later Dry Creek became the responsibility of the Department of Conservation. Soon after it was incorporated into Belmont Regional Park.

In 1989, Dry Creek was designated as a recreation reserve under the Reserves Act 1977. In 1991, the Regional Council was appointed by the Department of Conservation to control and manage Dry Creek Recreation Reserve under the Reserves Act 1977 by a notice published in the New Zealand Gazette of 30 May 1991, No. 80, page 1765.

Local government re-organisation in 1989 altered land ownership of Belmont Regional Park. There were now new local authorities to consult with on park management and development matters.

(2) *Planning Documents*

Several area-specific documents were prepared during the 1980s for different parts of the park. These included: *Dry Creek Belmont Regional Park Development Concept* 1989, *Stratton Street Property Belmont Regional Park* 1988 and *Proposals for Cannons Creek Entrance Belmont Regional Park* 1987.

In November 1988, Boffa Miskell Partners, a landscape consultancy firm, prepared a landscape assessment of Belmont Regional Park. This document provided for the delineation of a “core” Belmont Regional Park area, and a wider “Belmont Regional Park Identity Area” encompassing the core area **and** a large portion of surrounding private land between the Hutt Valley and Porirua urban corridors. The findings of the landscape assessment supported the view of the park’s landscape setting embodied in the original concept for the park; that its essential landscape extended beyond the boundaries of the land held by public agencies and State Owned Enterprises in the park area.

The landscape assessment was incorporated into the *Belmont Regional Park Draft Management Plan* 1989, including policies for the Belmont Regional Park and Belmont Regional Park Identity Area. The principle and standing of the Identity Area, as shown in the landscape assessment and recent park management plan, was accepted by The Hutt City Council and the Porirua City Council and incorporated in their former district planning schemes through the creation of a Belmont Regional Park Zone.

In response to the release of the 1989 draft plan to the public, submissions were received from the Porirua City Council and Upper Hutt City Council stating the Regional Council should have primary responsibility for the promotion and management of Belmont Regional Park. A similar statement came from The Hutt City Council several years later.

The official opening of Belmont Regional Park was held early in April 1989.

(3) *National Awards*

Soon after the public release of the *Belmont Regional Park Draft Management Plan* 1989, two national awards were presented to the Wellington Regional Council.

- (a) New Zealand Planning Institute’s “Award of Merit” - in recognition of the meritorious contribution made to the theory and practice of planning through the concept, planning and development of Belmont Regional Park.
- (b) New Zealand Institute of Parks and Recreation Association Inc.’s “National Project Award” - for a project of outstanding merit in the field of park and recreation administration in New Zealand.

(4) **Legislation**

The enactment of the Local Government Amendment Act 1992 and Resource Management Act 1991 created a very different legal setting for the review and preparation of the current management plan. The Local Government Act set out specific powers of the Wellington Regional Council in relation to regional parks, including provision for the Regional Council to continue to have responsibility for Belmont Regional Park (see Section 3. "Legislation", following).

(5) **Review of Concepts**

The changes in land ownership in the Belmont Regional Park and Belmont Regional Park Identity Area, and in planning and environmental law, recently required a review of the concept of the Identity Area. To assist this review, external legal advice was sought. Received in May 1995, the advice stated:

In my opinion, the Belmont Regional Park identity area has no legal status of any consequence (and that) the Management Plan (this one) can only be prepared in respect of lands which are properly within the park itself and plainly, the identity area was not intended to comprise part of the park... Restrictions on the use of land within the identity area adjoining the park would have to be justified by reference to district plans and rules approved under the provisions of the Resource Management Act 1991.

(J W Tizard, Oakley Moran, letter to the Wellington Regional Council dated 26 May 1995, Regional Council's Files.)

The future relationship of the Belmont Regional Park and Belmont Regional Park Identity Area has been established through the preparation of this management plan for the park - refer to Section 4 of the Introduction, Part 1, and of a separate document entitled, *Wellington Regional Council, Belmont Regional Park Identity Area Policy Document*, 1995.

3. **Legislation**

The primary Acts which affect the management and development of Belmont Regional Park are:

- Local Government Act 1974 (and subsequent Amendments)
- Reserves Act 1977
- Resource Management Act 1991
- Treaty of Waitangi Act 1975

(Refer also to Section 6 - "Relationship between Local Government Act, Reserves Act and Resource Management Act", in the Introduction, Part 1 : Aim, Objectives

and Policies of this Management Plan.

3.1 Local Government Act 1974

Section 619 of the Local Government Act 1974 (as inserted by section 61 of the Local Government Amendment Act 1992), specifically provides for regional parks in the Wellington Region and generally reinforces the mandate for a regional park system for the enjoyment of the people of the Region. It is the Local Government Amendment Act 1992 which gives Belmont Regional Park legal status.

Section 619C makes provision for the Wellington Regional Council to continue to have responsibility for Belmont Regional Park. The preparation of a management plan for each regional park is a mandatory requirement on the Regional Council (section 619D). Guidelines for the content and preparation of management plans is set out in sections 619E-619H.

3.2 Reserves Act 1977

The Department of Conservation administers the Reserves Act 1977. In the management of reserves in the park, the Wellington Regional Council must respect the provisions of the Reserves Act.

In addition to the Dry Creek Recreation Reserve, there are several other areas of the park legally protected under the Reserves Act. These include recreation reserves in the lower Normandale Road area, Korokoro Valley and Cannons Creek and local purpose (esplanade) reserves and scenic reserves in the Korokoro Valley.

Landcorp Farming Limited, in accordance with commitments made when purchasing part of the Waitangirua Farm from the Crown, has placed conservation covenants across 82.55 hectares of their land in the park. (Table 1) The conservation covenants have been made pursuant to section 77 of the Reserves Act 1977. Details of the covenanted areas are as follows. Their exact location is illustrated on Figure 4 in this Resource Statement.

Table 1 : Schedule of Covenants

Reference on Survey Plans	Purpose	Description	Area (ha)
A (Takapu Road)	Conservation Covenant	Sec. 1, SO 36634	29.20
B (Cannons Creek)	Conservation Covenant	Sec. 1, SO 36634	11.30
C (nr, Round Knob)	Conservation Covenant	Sec. 1, SO 36634	9.00
D (Belmont Road)	Conservation Covenant	Sec. 1, SO 36634	0.37
E (Hill Road)	Conservation Covenant	Sec. 8, SO 36637	0.46
F (Hill Road)	Conservation Covenant	Sec. 8, SO 36637	1.57
G (Hill Road)	Conservation Covenant	Sec. 8, SO 36637	7.45
H (Hill Road)	Conservation Covenant	Sec. 8, SO 36637	23.20

3.3 Resource Management Act 1991

The purpose of the Resource Management Act (RMA) is to *promote the sustainable management of natural and physical resources*. The Act requires the preparation of regional policy statements and regional and district plans to assist in the implementation of the Act's stated purpose and principles.

The RMA statements and plans relevant to the management and development of Belmont Regional Park are the Wellington Regional Policy Statement, Proposed Porirua City District Plan, The City of Lower Hutt Transitional and Proposed District Plans and Wellington City Transitional and Proposed District Plans. The boundaries and areas of jurisdiction of the territorial authorities as they relate to Belmont Regional Park are represented on Figure 2 (attached to Part 2 of this Management Plan).

Every attempt has been made to ensure descriptions of the relevant district plans are as up-to-date as possible.

3.3.1 ***Regional Policy Statement and Regional Plans***

The *Regional Policy Statement for the Wellington Region*, May 1995, Wellington Regional Council, sets out the policy context for the integrated management of resources in the Wellington Region. Relevant policies in the Statement deal with freshwater, soils and minerals, ecosystems, landscape and heritage, natural hazards and energy.

Currently under preparation by the Regional Council are a Regional Freshwater Plan, a Regional Soil Plan and a Regional Landscape Plan.

3.3.2 ***Proposed Porirua City District Plan, 1994***

That portion of Belmont Regional Park which lies within the Porirua City boundary comprises part of the Waitangirua Farm and the Cannons Creek Lake Reserve.

The District Plan accords “Rural Zone” status to its portion of Belmont Regional Park, recognising the principal activity within this zone as pastoral farming. The objectives and policies of the District Plan recognise the need for the Rural Zone to continue to be farmed, and for a variety of farm related activities to be allowed in order to maximise both the present viability and future potential of the area (Porirua City Council, 1994, 59). Planting of forests is a permitted activity within the Rural Zone. Harvesting of forests is a controlled activity. Recognition is also given to a range of recreational resources in the Rural Zone, such as reserves which are developed for a range of active and passive recreational activities (ibid, 64).

3.3.3 ***Proposed District Plan - City of Lower Hutt, 1995***

At the time of writing this section, submissions had closed on the Proposed District Plan. Requests had been made by the Regional Council for changes to provisions in the Plan, including strengthening the policies of the General Recreation Activity Area with respect to the park, changing the status of the park’s Kilmister Block from General Rural to General Recreation and the inclusion of several significant natural and cultural resources noted in this management plan. The following description, however, is based on the Proposed District Plan as notified in December 1995.

Land in Belmont Regional Park located within Lower Hutt City has been categorised into the following activity areas:

- General Recreation

- General Rural

General Recreation Activity Area

This activity area includes the majority of Belmont Regional Park, except for the Kilmister Block.

Belmont Regional Park is specifically recognised in the objectives and policies of the General Recreation Activity Area (section 6A 1.1.3). Permitted activities included:

- recreation activities and ancillary services;
- any farming activity in the Belmont Regional Park, including grazing, cropping, market gardens, orchards and nurseries, but excluding intensive farming;
- plant propagation, and associated office functions and buildings; and
- landscape furniture (e.g., picnic tables, seating).

Forestry and all buildings and structures, in the park are restricted discretionary activities. The Proposed District Plan states all forestry must be carried out below the 250 m contour level. The density of stands of tree planting should be reduced towards the higher elevations in order to create a transition from forest to grasslands.

General Rural Activity Area

The Proposed District Plan gives the status of General Rural Activity Area to the park's Kilmister Block. Permitted activities are: any activity complying with the conditions and not specified as a restricted discretionary, discretionary on non-complying activity. Conditions apply to commercial forestry (no access to Liverton Road, requirement for a 10 m amenity strip) and recreation (no motorised recreational activity, no buildings used for or in association with a recreation activity).

Commercial recreation is a restricted discretionary activity.

Significant Natural, Cultural and Archaeological Resources

The Proposed District Plan recognises significant natural resources within Belmont Regional Park, such as Belmont Bush, Belmont Road and Saddle Bush, Boulder Hill Bush, Haywards Shrubland and the Korokoro Stream Bush. The WWII Belmont Magazine area is recognised in the Plan as a significant archaeological resource. Activities and works associated with the protection, preservation, enhancement and conservation of significant natural, cultural and archaeological resources is a permitted activity.

3.3.4 *Proposed Wellington City District Plan, 1994*

The Proposed Wellington City District Plan makes no specific mention of Belmont Regional Park in terms of a separate zone. The park - Horokiwi and Takapu areas - is part of the "Rural Area" Zone. However, the policies below are specific to the Horokiwi area only. There appear to be no policies for the Takapu portion of Belmont Regional Park.

Rural Area Objective 14.2.3 - *To maintain and enhance the amenity values of rural areas.*

The corresponding policies to the above objectives state that the City Council will:

14.2.3.3 Acknowledge the natural and cultural landscape of the Belmont Hills in recognition of their scenic and recreational values.

Methods:

- *Rules*
- *Other mechanisms (Belmont Regional Park Management Plan)*

This policy is taken into account when assessing activities within areas that are part of the Regional Park (specifically the land to the east of Horokiwi Road). The environmental result will be the establishment of activities that support the intention of the Belmont Regional Park Management Plan.

Permitted Activities in the rural area include the following:

- Rural activities (excluding factory farming) and residential activities, provided that they comply with stated “Noise” and “Discharge of Pollutants” conditions.
- Temporary activities and uses.
- Signs (subject to stated conditions).
- The relocation of earth within the site, provided that it complies with stated conditions.

Restricted Discretionary Activities include:

- The removal, relocation or deposit of earth (except for earthworks on ridgelines and hilltops) that does not comply with the conditions for Permitted Activities. (Earthworks on ridgelines and hilltops is an Unrestricted Discretionary Activity.)

The Korokoro-Takapu track is noted in the “Schedule of Maori Precincts and Sites” as a “Landcare Track” of “medium” significance to tangata whenua. Policy 20.2.2.1 of the District Plan states that Council will “identify, define and protect sites and precincts of significance to tangata whenua and other Maori”. Research efforts of Wellington City Council staff have not been able to establish the precise route of this track. It has, however, been shown on the District Plan maps as crossing Horokiwi Road and continuing in a southeast direction towards the boundary of Belmont Regional Park Identity Area. From here, the track enters land under the jurisdiction of The Hutt City Council (see Figure 5 in this Resource Statement).

3.4 Treaty of Waitangi

The Treaty of Waitangi Act 1975 and its amendment of 1985 provide for the hearing of Maori grievances dating back to 1840 by the Waitangi Tribunal. Maori land claims are lodged with the Tribunal against the Crown. As such, areas under claim do not include land in private ownership. Although the Wellington Regional Council is not a Crown entity, Maori land claims have a direct bearing on the management of land held, or managed as with Belmont Regional Park, by the Council. Landcorp's Waitangirua Farm property is subject to section 27B of the State Owned Enterprises Act 1986, which provides for the resumption of land on the recommendation of the Waitangi Tribunal.

To our knowledge, claims filed with the Waitangi Tribunal, as at 1 May 1996, concerning Belmont Regional Park land are as follows:

(1) WAI 145

Claimant: M Love
Concerning: Wellington Tenths Claim
Locality: Wellington
Received: 23 December 1987
Action: In hearing

(2) WAI 207

Claimant: A Wineera and Others (Ngati Toa Rangatira)
Concerning: Ngati Toa Lands
Locality: Cook Strait
Received: 1 June 1991
Action: Under claimant research

The Regional Council acknowledges the place of the Treaty of Waitangi in the management and development of Belmont Regional Park. In addition to noting Tribunal decisions with respect to park management, the Council is bound by provisions under the Resource Management Act (RMA) 1991 concerned with Maori involvement in resource management. Section 8 of the RMA states that:

... all persons exercising functions and powers under it (the Act), in relation to managing the use, development and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The Regional Council is committed to effective on-going consultation with the tangata whenua. Te Runanganui O Taranaki Whanui Ke Te Upoko O Te Ika A Maui have been appointed to the Advisory Committee to assist preparation of this draft management plan and have an important role in park management.

Maori principles in respect of resource management, or "The Iwi Environmental Management System" are explained in the Draft Regional Policy Statement and where possible the specific objectives have been reflected in the policy of this management plan.

3.5 **Other Statutes**

Other relevant statutes which impact on the management of Belmont Regional Park include the following:

- Soil Conservation and Rivers Control Act 1941
- State Owned Enterprises Act 1986
- Walkways Act 1990 - (at the time of writing this plan, walkways agreements across the park were under negotiation.
- Crown Minerals Act 1991
- Gas Act 1992
- Biosecurity Act 1993
- Historic Places Act 1993

Resources

4. Geology

The following description of the geology of Belmont Regional Park is summarised from the Report, *On Shaky Ground : A Geological Guide to the Wellington Metropolitan Region*, 1991, (Graeme Stevens). Comments have also been added by Regional Council staff. For further additional material consult *Rugged Landscape* by G R Stevens 1974.

Geological features of the park include:

- bedrock exposures including sandstone block fields
- peneplain remnants
- evidence of past fault movement
- solifluction debris

4.1 Basement Rocks

Greywacke rocks - sandstones, siltstones and argillites - form the basement material of Belmont Regional Park.

Weathering of rock on the hills in the Belmont area has left residual mounds or “block fields” of resistant rock lying on the surface. These block fields are evident around Boulder Hill (442 m), ITA (362 m), northeast of Hill Road (362 m) and Belmont Road Trig (382 m) (Figure 3 in this Resource Statement). Boulder Hill and Belmont Road Trig areas are good examples of *in situ* blocks, whilst transported blocks can be seen to the southwest of Hill Road.

4.2 Peneplain Remnants

Flat areas crown the tops of many hills in the Hutt Valley. These features date back to the time when the rocks of the Wellington Region were worn down to produce a vast erosion plain (known as a peneplain). This wearing down occurred between about 110 and 35 million years ago. An excellent impression can be gained of the summit peneplain surface - with rolling country extending in all directions - on top of the Belmont Hills.

Peneplain remnants in and adjacent to the park (see Figure 3 in this Resource Statement) are:

- Magee Trig (373 m)
- Belmont (457 m)
- Cannons Head (390 m)
- Belmont Road Trig (382 m)
- Round Knob (408 m)
- Northeast of Hill Road (362 m)
- ITA (362 m)

4.3 Faulting

Belmont Regional Park lies between the Wellington and Ohariu Faults, both of which are active (Figure 3 in this Resource Statement). Associated with these active faults is a network of smaller secondary faults crossing or in proximity to the park.

As the secondary faults were only active during the initial stages of faulting, they have not moved for a considerable period of time, perhaps almost a million years or more. However, subsequent erosion has defined them on the landscape. Three types of secondary faults - splinter faults, subsidiary faults and tensional faults - are readily identifiable.

The shatter zones accompanying splinter faults evident on the Western Hutt Hills are occupied by large stream systems, e.g., Korokoro, Belmont and Haywards. A broad zone of small individual faults make up the Korokoro Fault system. These small individual faults show up in the landscape as notched spurs, linear streams and gullies. One part of the Korokoro Fault extends up the western branch of the Korokoro Stream (behind Belmont Trig), whilst another part curves off to the northeast passing along the eastern branch of the Korokoro Stream and traversing the eastern flanks of Belmont Trig.

Subsidiary faults - aligning parallel to the Wellington Fault - occur in the Liverton Road area, continuing westwards and appear to intersect the Speedy's Stream valley. Tensional faults, apparently less numerous than the splinter faults, are seen in the Maungaraki area.

The Takapu Fault is a secondary fault off the Ohariu Fault. A major component of the Takapu Fault appears to extend along Duck Creek, with a broad "tectonic corridor" apparently continuing the line of the fault along the Takapu Valley.

4.4 **Solifluction Debris**

During the cold phases of the Ice Age, most of the forest vegetation in the Wellington Region was killed off by intense cold and fierce winds. In many areas hillsides were mantled with screes and extensive glacier-like flows of mud and rock rubble (solifluction debris). Numerous flows of solifluction debris streamed down off the flanks of the Belmont Hills, mantling the landscape of the lower areas of the Western Hutt.

Solifluction activity was particularly vigorous in the Hill Road area (Figure 3 in this Resource Statement). Immediately to the west, at the intersection of Hill Road and Sweetacres Drive, is an excellent cross section through a typical deposit of the solifluction debris that streamed down off the tops of the Western Hutt Hills. Large boulders of sandstone transported from block fields and outcrops on the hilltops are present in the cross section.

In the heads of many of the valleys draining the higher parts of Waitangirua Farm, the solifluction debris and the overlying loess have smoothed out all irregularities, forming saucer-shaped features called "dells". Similar smoothing out of the topography has occurred elsewhere, producing a characteristic dimpled topography.

4.5 **Important Geological Features, Sites and Landforms of the Wellington Region**

4.5.1 ***1985 Geological Features Report***

In 1985, the Wellington Regional Council published a second edition of the report *Geological Features of the Wellington Region*. The report identified examples of geological features which occur in the Region and which are judged to be of high

scientific or educational value. A three tier ranking system was used to indicate the level of management considered appropriate for their value or necessary to protect their essential characteristics.

The report indicated there were no geological features of Rank 1 importance (features which should be fully protected) within Belmont Regional Park. Features within the park which should be “conserved”, i.e., permitting recreation, scientific study or other use to the extent that the natural character of the features might be modified but not destroyed, were given Rank 2 status. Features of geological significance not warranting any level of protection or management were assigned to Rank 3. Ranks 2 and 3 are represented in the park.

Table 2 is an extract from the *Geological Features of the Wellington Region* report, listing features relevant to Belmont Regional Park. Many of these features have been described in the above paragraphs.

Table 2 : Geological Features of Belmont Regional Park

Map No.*	Feature and Locality	Grid Reference	Rank
	Penepplain Remnants and Summit Concordance		
8l	Trig 160915 - Magee	R27/651994-655004	3
8s	Round Knob	R27/686035	2
8t	Belmont Road Trig	R27/695014	2
8u	Cannons Head	R27/680024	2
8v	Belmont	R27/672009	2
8x	Northeast of Hill Road, Belmont (Boulder Hill)	R27/700031-703027-707027	2
	Periglacial Climate Features		
12a	Solifluction debris tongue, Hill Road, Belmont	R27/705008-695030	2
13a	Shaved surface, top of Hill Road, Belmont	R27/692034	2
14	Transported block field, southwest side Hill Road, Belmont	c.R27/704010-697022	2
15a	Autochthonous block field, Belmont Road trig	c.R27/695013	2
15b	Autochthonous block field, east of old ordnance depot, Belmont	c.R27/700030	2
17a	Iron pan succession, track cutting near top of Hill Road, Belmont	R27/701039	2
17b	Iron pan succession, Hill Road, Belmont	R27/695032	2
	Fault Related Features		
	<i>Fault Guided Drainage:</i>		
25h	Korokoro Stream	c.R27/660965-682000	3
25i	Speedy's Stream	c.R27/715003-725028	3

* Refers to maps contained in the source document.

Source : Turner, M, 1985 (2nd Ed), *Geological Features of the Wellington Region*.

4.5.2 *1993 Geological Sites and Landforms Report*

In 1993, the Geological Society of New Zealand published its report *Inventory of Important Geological Sites and Landforms in the Manawatu and Wellington Regions*. The Inventory listed 134 landforms and geological sites for their scientific educational or aesthetic values, under one of three categories; international, national or regional importance. Each site, in addition, was given a vulnerability classification (1-5) depending on its perceived vulnerability to human activities. The three sites listed within Belmont Regional Park (see below) all had a vulnerability classification of “3. - unlikely to be damaged by humans”. These sites are:

(1) *Belmont Block Field*

Significance: Autochthonous block field. Classified as an extremely well defined landform of scientific/educational value.
Locality: Belmont plateau. R27/697022
Classification: Importance = regional
Vulnerability = 3

(2) *Belmont Solifluction Lobes*

Significance: Classified as an extremely well defined landform of scientific/education value.
Age: Pleistocene
Locality: Belmont. R27/700019
Classification: Importance = regional
Vulnerability = 3

(3) *Hill Road Block Fields*

Significance: Autochthonous block field. Classified as an extremely well defined landform of scientific/education value.
Locality: Mantling slopes to the southwest of Hill Road, Belmont. R27/700016
Classification: Importance = regional
Vulnerability = 3

5. Soils

The following description of the soils of Belmont Regional Park is derived mainly from information in the *Interim Report of Soils of Wellington Region, New Zealand* by J C Heine (compiler), 1975. For general information on the relationship between soils and landscape in the region, refer to the chapter *Rugged Axis* in the book, *The Living Mantle* by Les Molloy (1988).

Key soil features within the park include:

- Type area for Belmont soils, which are important regional yellow-brown earths.
- Makara steepland soil/native forest relationship.
- Major area of relatively high altitude loess, related slope deposits and soils derived from these sources.

5.1 Soil Characteristics

Most of the soils covering the Belmont Regional Park are yellow-brown earths. Originally formed under forest, these are well drained, structured soils with yellowish-brown subsoil colours and low natural fertility. A few of the soils in valley bottoms, gully heads and concave sites are imperfectly drained, evident in their mottled colour patterns. These are structureless or weakly structured subsoils and also of low fertility. Areas of rock outcrop occur where steepland soils have been mapped and some soil mapping units contain the block fields described in the previous section on "Geology".

Six major soils (Table 3) have been identified by generalised soil mapping in the park area. Distinction between soil types is generally a reflection of differences in parent materials. The named soils are:

- Belmont hill soils - from loess and solifluction deposits.
- Judgeford silt loam - from deep loess and solifluction deposits (lower altitude than Belmont). Apparent only in the north-east corner of Dry Creek Recreation Reserve, close to State Highway 58.
- Korokoro hill soils - from greywacke slope deposits.
- Makara steepland soils - from greywacke rock, with some slope deposits.
- Ngaio silt loam - from loess and greywacke slope deposits (imperfect drainage).
- Ruahine steepland soils - similar to Makara but more strongly leached and with localised spilite in association with greywacke parent material.

The most common soils are the Korokoro hill soils on the moderate to steep slopes and ridges, and the Makara steepland soils on the steep to very steep slopes. Belmont hill soils are also extensive at higher altitudes in the park.

5.2 Soil as a Resource

The specific soils of the park have varying potential for use because of their intrinsic characteristics, landscape diversity and climatic factors.

Korokoro hill soils are well suited to pastoral production but require appropriate fertiliser input. They are also suitable for forestry in the more sheltered areas. Slight erosion (slip or sheet) may occur. There is potential for urban use on the easier slopes.

Makara steepland soils require very careful management (as do Ruahine steepland soils) because of steep slopes and shallow soil profiles. Together, these soils have severe limitations for urban use, grazing and forestry production because of their erosion potential. Some less steep areas may have the potential for long-term exotic forestry but detailed soil survey would be necessary to ascertain effective rooting depths. These steepland soils have the potential for native forest regeneration, education in soil/forest relationships and recreation. Track siting and maintenance will need to take account of erosion potential. Maintenance costs are likely to be high, if track usage is high and the track is poorly constructed.

Belmont hill soils are among the most versatile soils of the Region, their only limitations being slight erosion potential and exposure (winds, low temperature, high altitude, rainfall). They are well suited to pastoral production but require appropriate fertiliser.

Ngaio silt loam soils only occur to a very limited extent in the park but they illustrate a management aspect that will occur within other mapped soil areas. Imperfectly drained soils commonly occur in gully heads and concave sites. They tend to have a weak structure and suffer damage leading to erosion from repeated treading, either by cattle or by people. Careful track siting, formation and maintenance will overcome such problems.

Table 3 : Soils of Belmont Regional Park

Soil Type	Classification	Soil Profile	Parent Material	Slope/Landform	Pre-European Vegetation	Other Characteristics
Belmont Hill Soils (BH)	Yellow-brown earths and related steepland soils, moderately to strongly leached.	(As for Belmont Silt Loam but profiles are shallower). A thin, dark brown friable topsoil overlies one or more dark yellowish brown firm subsoil horizons. Profile becomes paler with depth to pale yellowish-brown and pale yellow. Strongly developed nut structure in the topsoil, moderately to weakly developed blocky structure in the upper subsoil and the lower subsoil is massive.	Moderately weathered windborne and solifluction drift and greywacke.	Moderately steep to very steep slopes above 300 m : 18-23 degrees. Broad convex ridge tops and upper steep hill slopes.	Rimu-rata/hinau/kamahi forest.	Well drained. Negligible to low sheet erosion. Present and potential land use : grazing.
Judgeford Silt Loam (J)	Yellow-brown earths and related steepland soils, moderately leached.	A thin friable dark greyish-brown silt loam topsoil with granular structure, overlies a dark yellowish-brown silt loam horizon that is firm and has a nut structure. Lower down pale olive-brown silt loam from loess and drift.	Moderately weathered greywacke loess and drift.	Undulating and rolling land : most slopes < 12 degrees, Broad convex crests of spurs and treads of older terraces.	Rimu-rata/hinau/tawa forest.	Moderately well drained. Low erosion potential. Potential land use : dairying, fattening, market gardening, housing.

Soil Type	Classification	Soil Profile	Parent Material	Slope/Landform	Pre-European Vegetation	Other Characteristics
Korokoro Hill Soils (KoH)	Yellow-brown earths and related steepland, soil moderately leached.	(As for Korokoro silt loam but horizons are shallower). A thin dark brown silt loam or sandy loam topsoil with granular to nut structure and firm, overlies a brownish-yellow clay loam with strong nut structure and slightly compact. Lower down: angular fragments of moderately weathered greywacke. The soils are gravelly where the loess or colluvium is thin.	Greywacke drift (colluvium or angular screen from greywacke) on weathered greywacke.	Moderately steep to steep slopes of ridges : 12-30 degrees, below 300 m : 18-23 degrees. Mid to upper slopes of hilly land, also on some narrow crests of spurs adjacent to greywacke outcrops.	Rimu-rata / hinau / tawa or rimu-rata / tawa / kohekohe forest.	Moderately well to well drained. Low sheet erosion potential. Present and potential land use : grazing, housing.
Makara Steep Land Soils (MkS)	Yellow-brown earths and related steepland soils, weakly leached.	A dark greyish-brown silt loam topsoil that has some stones, is friable and has a granular and nut structure, overlies a thin brownish-yellow stony silt loam horizon that is firm with a nut structure. Lower down: weathered greywacke.	Weathered greywacke.	Steep to very steep slopes : >30 degrees, below 300 m : >23 degrees. Sharp ridge crests with greywacke outcrops, scree. Mid slopes of valley sides of stream and some toe slopes.	Rimu-rata/hinau/tawa or rimu-rata / tawa / kohekohe forest.	Well drained. Moderate to low slip and scree erosion potential. Present and potential land use : grazing.

Soil Type	Classification	Soil Profile	Parent Material	Slope/Landform	Pre-European Vegetation	Other Characteristics
Ngaio Silt Loam (N)	Yellow-brown earths and related steep land soils, weakly gleyed.	A dark greyish-brown silt loam topsoil that is friable and has a granular to blocky structure overlies a thin brownish-yellow to yellow wilty clay loam with block structure and reddish yellow mottles. Lower down : compact yellow silty clay loam with stones.	Silty loess and slope deposits from greywacke, over greywacke rock.	On rounded ridge crests, easy rolling valley sides mainly east facing and heads of valleys : <12 degrees.	Hard beech or black beech or rimu-rata/hinau/tawa forest.	Moderately well drained. Low erosion potential. Present and potential land use : housing, recreation, grazing.
Ruahine Steep Land Soils (RuS)	Podzolised yellow-brown earths and related steep land soils, strongly leached.	A thin dark brown silt loam topsoil that is friable and has a granular to nut structure that overlies a dark yellowish-brown stony silt loam which is massive and firm.	Strongly jointed greywacke.	Steep to very steep slopes : >30 degrees - 300-600 metres. Steep lower valley sides and spurs.	Rimu - rata / hinau / kamahi forest.	Imperfectly drained. Severe sheet, slip, soil creep and scree erosion potential, especially if vegetation cover is disturbed. Present and potential land use protection.

Sources

- Heine, J C (Compiler), 1985, Interim Report on Soils of Wellington Region, New Zealand
 Heine, J C and Jarman, 1984, Soils of Block 16, Porirua, Wellington, New Zealand
 Heine, J C and Mew, G, 1988, Characteristic Features for Recognition and Rating of Soils of the Wellington Region.

6. Topography/Hydrology

The Belmont Hills have a varied topography due to glacial influences, faulting, weathering and erosion. Altitude varies from approximately 20 metres above sea level at Cornish Street, Petone to 457 metres at Belmont Trig. The steep gullies associated with the Korokoro Stream contrast with the moderately steep to very steep slopes in the majority of the park. (For further comment on slope and landform refer to the previous Section 5 "Soils", and for further comment on peneplain remnants refer to Section 4 "Geology".)

Approximately six major watercourses radiate out from the central park ridge system, draining the park and flowing in to the larger Porirua/Pauatahanui and Hutt Valley systems (see Figure 4 Conservation Areas). To the northwest, the three tributaries of Duck Creek flow into Pauatahanui Inlet. Cannons Creek and Takapu Stream on the western boundary flow into the Porirua Stream which in turn feeds into the Porirua Harbour. The Korokoro Stream, draining the southern portion of the park, terminates at the Wellington Harbour on the Petone foreshore. Feeding into the Hutt River to the east are Speedy's Stream, Belmont Stream and Dry Creek.

The Korokoro Stream Catchment (1585 hectares) is the main area of concern during extreme rainfall due to its very steep aspect and restrictions on flood channel capacity imposed by industrial development and motorway, railway and water main construction in the Cornish Street/State Highway 2 areas. Major damage to industrial, commercial and some residential properties in the Cornish Street area resulted during the floods of December 1976.

Flow data obtained for the Korokoro Stream between 1980 and 1993 by the Regional Council, is shown in Table 4.

Table 4 : Korokoro Stream Flows - Mill Weir (29901)

Location: R27:660972
Catchment Area: 15.9 km²
Start of Record: 09/12/80
Hydrological Statistics:

Year	Minimum Discharge (L/s)		Mean Discharge (L/s)	Maximum Discharge (L/s)	
1981	32	19 Feb	222	7483	09 Dec
1982	89	24 Aug	228	9048	21 May
1983	55	02 Mar	364	10892	04 Nov
1984	72	01 Mar	240	9209	17 Mar
1985	27	12 Mar	222	3396	03 Dec
1986	86	24 Dec	326	5135	06 Jul
1987	43	20 Jan	202	4465	05 May
1988	26	29 Apr	175	2718	08 Sep
1989	43	27 Apr	195	3952	19 Jun
1990	62	08 Mar	298	17051	13 Mar
1991	79	05 Apr	252	5131	07 Aug
1992	72	06 May	263	4198	30 Nov
1993	109	18 Mar	296	6306	13 Jun
1994	20	11 Apr	211	30893	15 Aug
1995	78	29 Mar	278	12270	11 Apr

Year	Minimum Discharge (L/s)	Mean Discharge (L/s)	Maximum Discharge (L/s)
Min	20	175	2718
Mean	60	251	8810
Max	109	364	30893

Median Flow: 173 L/s

Return Periods - Minimum and Maximum Instantaneous Flows (L/s)

	Minimum (L/s)	Maximum (L/s)
5 Year	41	41000
50 Year	21	83000
100 Year	18	95000

Source: 1994/95 Annual Report, Hydrological Services Group, WRC.

7. Climate

The Belmont area has an average annual rainfall of between 1200 - 1350 mm. Mean monthly rainfalls for February and June are 65.5 mm and 132.5 mm respectively. On approximately 125 days per year there is at least 1 mm of rainfall, mainly in association with southerly winds and particularly between June and August.

Sunshine averages 1850 - 1900 hours per year. A strong seasonal fluctuation in sunshine is evident from a minimum of 91 hours in winter to a maximum of 225 hours in summer. The varied topography of the area will give deviations from these values in sheltered valleys and gullies.

Wellington's proximity to Cook Strait leads to frequent strong winds. On exposed hills and ridges gusts of up to 60 knots occur on average about 40 days per year. Northwesterly winds are experienced 50 percent of the year and southerly winds 30 percent of the year on the exposed hilltops of the park. In sheltered areas of lower altitude however, mean wind speeds are around 8-10 knots. Maximum wind flows occur in late Spring (October). Average annual temperatures on lower slopes are around 12.5°C and perhaps 10.5°C on higher slopes (400 metres). Relatively frequent fogs are experienced above 200 metres, usually in association with weak southerly flows which bring stratus and fog north into the harbour and up the Hutt Valley. They can also occur after a clearing southerly change. Fogs are particularly prevalent between November and May.

During March 1994 - January 1995, a climate station was in operation at the top of Hill Road, Belmont, within the park. It was part of a Masters project of a student from Victoria University of Wellington. The station recorded data at 15 minute intervals. Table 5 is a summary of mean climatic conditions recorded at the climate station. Note that precipitation (rain) is **total** not **mean**.

Table 5 : Mean Climatic Conditions (1994-95)

Month	Air Temp °C	Relative Humidity %	Solar Radiation KW/m ²	Solar Radiation KJ/m ²	Rain mm (Total)	Wind Speed m/s	Wind Direction N°
Mar 94	13	84	.23	3.37	40	4.83	167
Apr 94	13	84	.17	2.65	65	6.58	157
May 94	12	85	.09	1.42	106.3	7.32	191
June 94	8	89	.07	1.09	156	6.21	166
July 94	8	85	.08	1.24	96.3	5.59	150
Aug 94	10	86	.12	1.79	75.6	7.12	173
Sept 94	9	85	.17	2.52	122.8	6.99	173
Oct 94	10	84	.26	3.86	66.2	6.32	161
Nov 94	12	86	.23	3.42	132.6	10.55	195
Dec 94	14	87	.34	5.11	34.9	7.58	161
Jan 94	15	81	.37	5.63	46.4	6.76	154
Mean	11.57	85.09	.19	2.91	847.7	6.89	168

Source: Steve Wilkes, employee, Wellington Regional Council.

Poor weather conditions frequently restrict the recreational use of the Belmont hilltops. Highest levels of use for the exposed ridges occur during calmer weather.

The relatively low altitudes of the lower Korokoro Catchment and dam, Dry creek and Cannons Creek areas, give them greater visitor potential as they do not experience the same harsh winter conditions and fog as the Belmont ridge tops.

8. Vegetation

8.1 Pre-European Vegetation

Before clearing, most of which occurred in the late 19th Century, Belmont Regional Park was covered by forest. The forest was dominated by northern rata with scattered rimu. The canopy (tawa and hinau) varied in height from over 30 metres on the sheltered slopes to five metres on the exposed upper ridges such as those of Belmont Trig. Beneath the canopy was a subcanopy, mainly of tawa but including many other species such as kohekohe, nikau palm, mamaku, matai, hinau and miro. Climbers and epiphytes were abundant, and there was a dense undergrowth of small trees, shrubs, saplings, ferns and seedlings. In gullies and valleys pukatea and kahikatea were dominant in the canopy. On stony ground totara was common in the canopy, while on steep slopes and old slip faces rewarewa was common. In the lower Korokoro Valley, tawa gave way to kohekohe with titoki and totara in addition to the species already mentioned.

8.2 Present Day Vegetation

The vegetation of Belmont Regional Park comprises a mix of pasture/grassland, exotic and native forest/bush and regenerating native species. The native forest of the park is of predominantly broadleaved types. Radiata pine constitutes the main species of exotic forest in the park.

The park's four management zones have been used as reference for the following detailed vegetation description. It should be read in conjunction with the following section on "Significant Areas of Native Vegetation".

Much of the information in section 8.2 comes from observations made by the Lower Hutt Branch, Royal Forest and Bird Protection Society of New Zealand. A list of common and scientific names of plants in the park is given in Appendix 3.

8.2.1 *Zone 1 - Korokoro Valley*

The predominant vegetation of the slopes on the true left bank of Korokoro Stream (eastern) is a mixture of tawa, hinau, kohekohe, rewarewa and titoki. Scattered rimu, miro and rata are present on the higher country, with kahikatea, pukatea, nikau, karamu, mamaku and kawakawa in gullies. There is also black and thin-leafed maire, tarata (lemonwood), ramarama, rohutu, pigeonwood and karaka. On the more exposed tops, species present include koromiko, harakeke, rangiora, heketara, mahoe, hange hange, fivefinger and pate, with the odd ti kouka (cabbage tree). Climbers represented in this section of the valley are aka (red rata vine), kohia, karo, kiekie and native clematis.

The vegetation of the more exposed tops and of the slopes on the true right bank (western) of Korokoro Stream are similar to those on the true left bank. It is mostly kohekohe with less tawa. There is some large, elderly rimu with good scatterings of young rimu, miro, and hinau. Further up the slopes to Belmont Trig is mostly broadleaved native vegetation: rangiora, karamu, kohuhu, mahoe and hange hange. On windier slopes and on the hill tops the vegetation is dominated by red-leafed horopito. However, there are extensive areas of manuka, kanuka and tauhinu

(tawene).

On the valley floor and more gentle slopes, the vegetation includes kamahi, makomako and several species of native orchid, e.g., green hooded, spring and autumn. Understorey vegetation present includes putaputaweta and toru.

It is interesting and pleasing to observe kiekie with fruit and an increase in flowers on kohekohe. Also, good regeneration of natives is occurring over a saddle towards Tregear Falls (a feeder stream on the true right of Korokoro Stream, downstream from Korokoro Forks).

At the Korokoro Stream Forks is a 15 hectare radiata pine block which includes a few macrocarpa on the lower slopes. This plantation is over 40 years old and will become prone to wind throw and damage as it ages further. It is planned to carry out a harvesting feasibility study in 1995/96, with a view to harvesting the pines in 1996/97. The area will be replanted in local native species to encourage native regeneration in the Korokoro Valley.

8.2.2 *Zone 2 - Stratton Street*

Areas of grazed pasture contain a diversity of herbaceous plants and various fungi. Regenerating shrub/bush is present in stream catchments; species represented include rangiora, wineberry, fivefinger, mahoe, karamu, manuka and gorse.

The Regional Council owns a 24 hectare block of radiata pine on the eastern side of Stratton Street, part of which is located within the park. In 1996, this block was 17 years old. It is managed for amenity and production purposes.

8.2.3 *Zone 3 - Waitangirua/Kilmister*

The majority of this zone comprises pasture/montane grassland vegetation. There are several notable areas of regenerating native vegetation which have been recently protected through conservation covenant status - see section 3.2 - Legislation - Reserves Act 1977 in the Background of Part 2 : Resource Statement. Herbfields are also present in this zone.

On the Kilmister Block, important areas of regenerating vegetation exist in the gullies (e.g., Speedy's Stream). Species represented include manuka, pukatea, hinau, tawa, kamahi, mahoe, rangiora, hange hange and mingimingi. Northern rata are present in Speedy's Bush. These gullies also support several species of ferns and undergrowth (e.g., putaputaweta, toru).

Within Cannons Creek Lake Reserve, a small area has been planted in eucalyptus with the assistance of a local school. A 25 hectare lowland tawa/kohekohe forest remnant exists on the slopes behind Brandon Intermediate School. The lowland forest association is uncommon in the Wellington Region. It forms one of the larger pockets and is the largest on the eastern side of the Porirua Basin.

8.2.4 *Zone 4 - Dry Creek*

On the valley floor, near the Dry Creek park entry area, there are good examples of

large matai, tawa, hinau, kahikatea, pukatea, kaikamako, kotukutuku (fuschia) and karaka. Invasive exotic species present at the valley entrance are barbary, Himalayan honeysuckle, buddleia and gorse.

Upstream, on both banks of Dry Creek are good stands of tawa, pukatea, rewarewa, titoki, kaikamako, mahoe, makomako, hinau, hohere, with beech on the higher slopes. Lower storey trees include kawakawa, karamu, rangiora, kotukutuku, makomako, koromiko, hange hange, pigeonwood, tarata, heketara, rohutu, ramarama, fivefinger, mamaku and wheki-ponga. Ground cover consists of various fern species, ongaonga, dianella, and some native orchids and sedges.

Scattered pockets of good nikau, lancewood (horoeka), rewarewa and red matipou are evident.

The valley displays a very good example of many juvenile and mature kaikamako, and the flats further upstream from the valley floor have an abundance of pukatea seedlings and large mature trees.

Climbers throughout the valley include rata vine, supplejack, kiekie, kohia (very prevalent), and tataramoa (lawyer).

On the higher slopes of Boulder Hill are red horopito, manuka, mingimingi, mahoe and tauhinu (tawene). On the more open ridge tops are native grasses and gorse.

Significant areas of native vegetation associated with the Dry Creek Recreation Reserve are detailed below in Section 8.3.

8.3 Significant Areas of Native Vegetation

Table 6 lists the significant areas of native vegetation within Belmont Regional Park. It is derived from several sources, including the Department of Conservation's *Site Data Base, Biological Resources of the Wellington Region* (1984), G. Stephensen's *Map of the Vegetation of the Hutt Catchment* (1974), *Dry Creek Belmont Regional Park Development Concept* (1989) and G R Parrish's *Wildlife and Wildlife Sites of the Wellington Region* (1984).

Table 6 : Significant Areas of Native Vegetation

Site Name	Area (ha)	Significant Values	Vegetative Types	Tenure / Protection Status	Map Reference
1. Cannons Creek Bush	10	Large variety of ferns. Some young and large Kahikatea. Good regeneration	Lowland Tawa - Kohekohe forest remnant and gorse scrubland	Covenant / Protected	R27:6004700E/2667200N
2. Belmont Hills Bush (north of Round Knob)	10	Nikau forest is not common in Region. Maintains a bird habitat in an area lacking forest cover.	Lowland Mahoe - Kawakawa - pate forest, nikau forest.	Covenant / Protected	R27:6004200E/2668700N
3. Hill Road Bush	70		Mahoe - gorse	Covenant and private land / Partial protection	R27:2669800E/6002000N
4. Korokoro Stream Bush	400	Vegetative association : lowland forest on hill country (regionally significant). Species: Reptile - <i>hoplodactylus</i> , <i>granulatus</i> , rare Giant Kokopu, forest gecko. Part of Hutt Valley bird "corridor".	Mahoe - mamaku - ngaio - karaka. Broom - gorse - tauhinu scrub - manuka - mahoe. Rimu - miro - kohekohe - rata - rewarewa - pukatea - hinau - titoki - tawa - kamahi.	Reserve, Public and private land / partial protection.	R27:2666500E/5999000N
5. Belmont Bush	60	Species: Bird - NZ Pigeon. Vegetative association: lowland forest on hill country. Part of Hutt Valley bird "corridor".	Hard beech Black beech Rimu-rata-hinau-tawa.	Reserve / Protected	R27:2674500E/6004500N
6. Boulder Hill Bush	200	Species: Bird - NZ Pigeon Vegetative association: lowland forest on hill country. Part of Hutt Valley bird "corridor".	Rewarewa - tawa - pukatea - hinau. Tawa - pigeonwood - miro - mahoe - supplejack.	Reserve, Public and private land / Partial protection.	R27:2673500E/6003500N

Site Name	Area (ha)	Significant Values	Vegetative Types	Tenure / Protection Status	Map Reference
7. Speedy's Bush	40	Vegetative association: lowland forest on hill country.	Pukatea - hinau - tawa. Northern rata - Kamahi - hinau. Manuka - mahoe - rangiora - kamahi - hangehange - mingimingi.	Reserve and private land / Partial protection.	R27:2671500E/6000500N
8. Haywards Shrubland	200	Vegetative association: shrubland on hill country.	Manuka	Reserve and private land / partial protection.	R27:2675000E/6005000N
9. Belmont Saddle Bush	15	Vegetative association: lowland forest on hill country.	Rimu - rata - hinau - tawa.	Public land / Partial protection.	R27:2671200E/6004500N
10. Belmont Road Bush A	5	Vegetative association: lowland forest on hill country.	Rimu - rata - hinau - tawa.	Public land / Partial protection.	R27:2670800E/6003600N
11. Belmont Road Bush B	5	Vegetative association: lowland forest on hill country.	Rimu - rata - hinau - tawa.	Public land / Partial protection.	R27:2670800E/6003000N

9. Wildlife

9.1 Animals

The animals of the park are all introduced species. They include sheep, cattle, possums, hedgehogs, rabbits, hares, rats, mice, stoats, weasels, pigs, feral cats and feral goats. Possums and goats are of most significance. The high numbers of possums, concentrated in native bush, are having a severe effect on some trees. Damage to pasture by wild animals is insignificant, however rabbits have been a localised problem in the Horokiwi-Johnsonville area and there is an increasing problem with rabbits and goats in the Stratton Street area. Goats have been sighted in Korokoro Valley. There are wild animal pest management programmes carried out in the park.

A series of joint fencing projects between Landcorp Farming Limited and the Wellington Regional Council has been recently undertaken to protect blocks of native bush from stock and assist in the regeneration of native vegetation. Sheep and cattle have unfortunately made inroads on some bush edges, especially at high altitudes on Boulder Hill where plant growth is lower, slower and already hampered by wind. (See also Section 13 - "Farming".)

9.2 Freshwater Biota

The Korokoro Stream supports, at times, good numbers of small (up to 1 kg), introduced brown trout (*Salmo trutta*). The most common species of freshwater fish found in the Korokoro Stream however, is the long-finned eel (*Anguilla dieffenbachii*). Short-finned eels (*Anguilla australis*) are also present in good numbers. The two barriers of the lower and upper spillways hinder the migration of most native fish species from the sea to the middle and upper stretches of the Stream, though native eels can climb the wet dam faces.

Other freshwater fish present include the rare giant kokopu (*Galaxias argenteus*), koaro (*Galaxias brevipinnis*), banded kokopu (*Galaxias fasciatus*), inanga (*Galaxias maculatus*), goldfish (*Carassius auratus*) - present at a single site, koi carp (*Cyprinus carpio*) - again one site, common bully (*Gobiomorphus cotidianus*), giant bully (*Gobiomorphus gobioides*), red-finned bully (*Gobiomorphus huttoni*) and koura (*Paranephrops spp.*).

(Source of above information: NIWAR, 1995, *Freshwater Fish in the Wellington Region*, Freshwater Fish Database, NIWAR, Wellington. Data collection exercise carried out in May 1995.)

Duck Creek supports a moderate fishery which includes the short and long finned eels, red finned bully, common bully, inanga, giant kokopu and banded kokopu. The galaxid species make up a good recreation whitebait run. The fishery is enhanced by areas of good quality habitat and, in particular, by the saltmarsh wetland area at the stream mouth. Limitations to the fishery include occasional very low flows, limited availability of cover and a high silt loading (Beca Carter Hollings and Ferner Limited, 1995 - 2809133).

The Belmont Stream appears to be in good condition but supports only about one

quarter the density of trout found in the Korokoro Stream.

In excess of 50 species of animals living in stream bottom habitats of the Korokoro Stream, Belmont Stream and Duck Creek were sighted in the Belmont Regional Park Survey of 1976. Most of the animals were the aquatic immature stages of winged insect species. They included mayfly, caddis, dobsonfly, stonefly, riffle beetles, ostracods, snails, worms and hydra. The most diverse and dense freshwater animal fauna in the Korokoro Stream occurred immediately below the reservoir.

9.3 Birds

The following description on the birdlife of Belmont Regional Park is sourced from Dr Tony Beauchamp, Wellington Ornithological Society, who conducted bird counts in the park between July 1989 and July 1990.

Belmont Regional Park supports a wide variety of bird species (Table 7). The forest in the lower Korokoro Valley is the southernmost ecological “island” on the western side of the Wellington Fault and is large enough to support a significant population of native forest birds. These include fantail, grey warbler, morepork, New Zealand kingfisher, wood pigeon, rifleman, shining cuckoo, Silvereye, tui and bellbird.

Dr Beauchamp’s bird counts showed that higher numbers of dunnock, blackbird, grey warbler and house sparrow present in spring represented increased visibility due to higher call rates rather than numerical increase. Kereru form into flocks in nearby gardens, going after tawa berries in the autumn. The finches are found in lower area along the Hutt River in winter. Silvereye flock in autumn and winter. Kingfisher and tui are summer breeders in the area.

There were, in the late 1980s, a population of at least six Sulphur-crested cockatoos known to be in the Korokoro area. However, they did not figure in the 1989-1990 bird counts. It is understood these birds have since become more mobile.

Table 7 : Bird Life of Belmont Regional Park

Habitat (Generalised)	Species
A. Bushland (11 sites)	Silvereye Grey Warbler Pig Kereru Kingfisher (NZ) Chaffinch Blackbird Greenfinch House Sparrow Tui Fantail Dunnock Black-backed Gull Shining Cuckoo Song Thrush

Habitat (Generalised)	Species
B. Open Country (8 sites) (Farmland and upper open reaches near the Belmont Trig)	Dunnock Greenfinch Starling Yellow Hammer Blackbird Goldfinch Chaffinch White-backed Magpie Skylark Pipit (NZ) Silvereye Paradise Duck Rock Pigeon Black-backed Gull Grey Warbler Song Thrush House Sparrow Fantail

Birds noted in the previous management plan, but absent from the above 1989-90 counts were: morepork, New Zealand falcon, New Zealand pigeon, rifleman, Australian harrier, Grey duck, little black shag, little shag, pukeko, red billed gull, spotless crane, spur-winged plover, welcome sparrow, Californian quail, mallard duck, redpoll. The total population of birds across the park, however, is expected to continue increasing, especially in the Korokoro Valley, as pockets of native vegetation are fenced off.

10. **Landscape**

Belmont Regional Park is part of Wellington's natural landscape setting, providing a backdrop to the surrounding urban areas. The landscape offers valuable recreational opportunities to the local community and the wider region.

10.1 **Belmont Regional Park's Role as a Component of the Wider Landscape**

Belmont Regional Park lies along the watershed between the Hutt River and the Porirua and Pauatahanui Streams. The high ridges of this watershed is the park's most prominent feature - a system of open grassed hilltops that extends through the length of the park between Belmont Trig and Boulder Hill. The pasture which clads this ridge gives it visual coherence, enabling it to be seen as a single landscape feature. At present the central ridge is comparatively free of engineering structures such as pylons and telecommunication masts, preserving its natural character as a component of the urban area setting.

The high points along the central ridge are visible from many points beyond the park's boundaries and are prominent components of the Wellington urban area's natural landscape setting. The conical form of Belmont Trig is visible from Wellington City, Wellington Harbour, the eastern bays and the eastern side of the Hutt Valley. The ridge line between Belmont Trig and Round Knob is visible from the harbour and the eastern bays, the eastern parts of the Hutt Valley, Tawa, parts of Porirua and parts of Plimmerton. The gently domed form of Boulder Hill is prominent from the Hutt Valley, Pauatahanui and Whitby.

From many places the central ridge is seen above the lower hills that flank it, adding to its sense of remoteness. The lower parts of the park lie within basins and valleys and are screened from view beyond the park boundaries by these lower hills.

10.2 **The Landscape Experience of the Park**

The park's landscape is the source of its value as a recreation resource - an extensive tract of relatively natural country within easy reach of the urban areas that surround it.

(1) ***Coherence and Complexity***

The park is characterised by its rugged topography. The bold hills and deep valleys of this topography extend throughout the park, giving it a coherent overall landscape character.

Within this overall landscape of hills and valleys the landscape character of the different parts of the park varies, providing a complexity to the overall park landscape which contributes to its interest and recreational value. These landscape character areas broadly correspond to the park's management zones. The different character of these zones reflect their differing management and use.

The central ridge that extends through the length of the park between Belmont Trig and Boulder Hill provides a backbone that unites the different parts of the

park. High hilltops along this ridge provide local focus points. The distinctly different character of these hilltops help define the character of the different parts of the park.

(2) ***Korokoro Valley - Zone 1***

A landscape of relatively simple form and homogenous character. The landscape character of this zone is largely determined by landform - the deeply cut, steep-sided lower Korokoro Valley. The hillsides that enclose the valley are clad in gorse and regenerating indigenous vegetation. Between Belmont Trig and Maungaraki, stands of the original podocarp/tawa forest remain. Visually isolated, the lower Korokoro Valley has a remote bushland character that is an important part of its value and appeal for recreation.

Stands of pine trees at the Korokoro forks and at the Oakleigh Street park entrance provide local interest and land marks. The remains of the former Petone Borough water supply provide historical interest and detail.

The lower Korokoro Valley is overlooked from the ridges that enclose it - Horokiwi Road, Maungaraki and Belmont Trig. Away from the park boundaries, the valley is largely hidden from view by the enclosing hills, except for the upper slopes and summit of Belmont Trig which are visible from Wellington and the Hutt Valley.

Developments in the valley will have low visual impact on the character of the park as a component of Wellington's wider landscape setting. However, they have the potential for considerable impact at close quarters where they will impinge on peoples' experience of the park setting as a natural landscape.

Developments on the higher slopes and summit of Belmont Trig have the potential to have impacts both on the natural character of Wellington's landscape setting and on the recreational value of this part of the park as a natural landscape.

(3) ***Stratton Street - Zone 2***

The landscape character of this zone is determined by landform and land cover. Steep hills enclose the narrow valleys that form the head waters of the Korokoro Stream. Variations in land cover provide complexity to the landscape character of this valley landscape. Open grassed ridges, areas of regenerating indigenous vegetation on steeper hillsides, an area of pine forest and grassed flats in the valley floor add detail and interest. The valley floor comprises a series of sub-spaces that enables a variety of uses and activities to be accommodated within this zone.

Mixed land uses on neighbouring properties that are visible from within the park add to the complexity and interest of the landscape of this zone.

This zone is hidden from the surrounding urban areas by the enclosing land forms, except for the high ridge along the western boundary. This ridge is part of the central ridge that runs the length of the park and is a skyline feature of

the Hutt Valley and Tawa urban areas.

Because of the visual isolation and complexity of the lower part of this zone, it has quite a high visual absorption capacity. The visual impacts of developments in this area will be confined to park landscape without detriment to its appeal and value for recreation.

Developments on the high western ridge, however, have the potential to have a major impact on the natural character of the park and its contribution to the setting of the surrounding urban areas.

(4) ***Waitangirua/Kilmister - Zone 3***

Zone 3 is a landscape of homogenous character that is given complexity by land-form. This zone encompasses the central park ridge and valleys on either side of it. A rural landscape of high rolling hills falling away to deeply cut valleys. The central ridge is lower and less distinct here than elsewhere in the park.

Landform and land cover both contribute to the character of this zone. The principal land cover of this zone is pasture, reflecting its use for farming. Farm woodlots and small remnant patches of indigenous forest and scrub contribute complexity. Farm buildings, roads, the Belmont magazines and scattered boulder fields add local detail and interest.

The upper parts of this zone are visible from the surrounding urban areas, providing a rural backdrop to Porirua and the Hutt Valley. Internally, the landscape of this zone is highly visible, the lower lying areas being seen from the higher land.

Developments on the higher ridges and hill tops that are visible from the surrounding urban areas have the potential to have a significant impact on the natural character of this part of the park. Elsewhere, the complexity of this zone and the presence of existing structures make it possible for new developments to be accommodated with little adverse visual impact provided that they are designed and sited with care.

(5) ***Dry Creek - Zone 4***

Within the overall context of the park, the landscape of this zone is relatively complex and is determined by both landform and land cover. It comprises a single deep valley flanked by elevated terrace lands. Above the terrace lands on the southern side of the valley is the high rounded form of Boulder Hill.

The sides and head of the valley are clad in indigenous vegetation. This remnant forest area is botanically interesting as it contains black beech, marking the southern limit of beech forest along the western side of the Wellington fault. Open grassed spaces on the floor of the lower valley provide a sequence of subspaces enabling a variety of uses and activities to be accommodated within this part of the valley.

The elevated terrace lands and the southern flank of Boulder Hill are clad in retired pasture and manuka scrub. The upper slopes of Boulder Hill have an area of remnant indigenous forest. The boulder field on the top of Boulder Hill and scattered boulders on its slopes add local detail and interest.

The upper part of Boulder Hill is visible from the Hutt Valley and Porirua urban areas. Developments here have the potential to have major impacts both on the natural character of Wellington's landscape setting and on the recreational value of this part of the park as a natural landscape.

The lower parts of the Dry Creek zone, including the elevated terrace lands, are hidden from view from outside the park by landforms. These areas have the capacity to absorb developments without affecting the natural character of the wider urban setting. With care in siting and design, developments on the terraces and in the valley could add to the interest and recreational value of the landscape character of this zone.

10.3 **The Landscape Surrounding the Park**

The park's wider landscape setting impinges on the recreational experience of people in the park. Activities on land adjoining the park have the potential to have a major impact on this experience. Areas where this influence is likely to be significant are discussed below.

(1) ***Land Adjoining the Park to the North***

Privately owned land in the Judgeford area adjoining the park's northern boundary is visible from the northern end of the park. Activities on this land such as the construction of buildings and roads close to the park boundary, afforestation of the higher hillsides, and harvesting of the boulder fields have the potential to affect the recreational experience of the park's landscape. Afforestation of the upper slopes of Boulder Hill, especially, would block views to the north from this hill and would obtrude on its visual qualities as a skyline feature.

(2) ***Quarrying at Dry Creek***

Zone 4 is bounded by quarries to the north and south. While these quarries are not visible from within the park, extension of the area of these quarries has the potential to have a major impact on the character of the land surrounding this part of the park.

(3) ***Privately Owned Farm Land to the West of Zones 1 and 2***

Privately owned farm land to the west of Zones 1 and 2 adjoins the central ridge and is very visible from the park. Afforestation of this land has the potential to block views to the north and west from this ridge and would obtrude on its visual qualities as a skyline feature.

(4) *Privately Owned Farm Land to the East and South of Zones 1 and 2*

Privately owned farm land to the east and south of Zones 1 and 2 is visible from the park and is part of the park's landscape setting. The character of this land influences the nature of the landscape experience which the park provides, just as the park is part of the wider landscape setting of these properties. The detail and complexity of properties to the east of Zone 2 complement the character of this zone. At present the properties on the slopes to the south of Zone 1 merge with the remote natural character of this zone. However, afforestation of these properties could bring a change to this character.

11. History

The history of Belmont Regional Park and surrounding areas may be divided into the following stages:

- Pre-European occupation.
- Early European land purchase and settlement, particularly in Korokoro, Horokiwi and along the Belmont - Pauatahanui Road.
- Farming and forestry operations during the nineteenth century.
- Intensified subdivision and expansion of the Western Hutt Hills residential areas.
- Water supply demands upon the Korokoro Stream.
- Crown take-over of Waitangirua lands for ammunition storage, housing and farming purposes.
- Crown administration of the “Dry Creek” block for farming and conservation purposes.

11.1 Pre-European History

Early Maori occupation of the Region was concentrated about Wellington’s coastline and the Hutt Valley. Small areas of the river banks of the Heretaunga (Hutt) River were used for gardening as early as the sixteenth century. During the same period Maori settlements expanded along the west coast at Mana, Paremata and Pauatahanui. The Ngati-Ira established two pa sites at Pauatahanui in the 1600s. They were subsequently destroyed and replaced with a palisade pa in 1840, following the arrival of the Ngati Toa in the Porirua Region.

(1) *History of Ngati Toa*

The following is an account of the history of the Ngati Toa, their arrival and settlement in the Wellington Region. Belmont Regional Park itself is not of any real significance to Ngati Toa, however, it does lie within the land allegedly confiscated from the Ngati Toa under the Porirua Lands Act 1847. The Wellington Regional Council acknowledges the assistance of Mr Matiu Rei and his fellow Ngati Toa Kaumatua in the preparation of this description.

The history of Ngati Toa settlement in the Wellington Region dates from around 1819 when a raiding party comprising Ngapuhi and Ngati Toa Chiefs set off on an expedition to glorify Tumatauenga, the Maori God of War. It was at Omere towards the end of the expedition that a Pakeha ship was sighted by the party, sailing out on Cook Strait or Te Moana o Raukawa. A beacon was lit to attract the sailing vessel, however the ship continued on its way.

It was this sighting that was to prove significant to Ngati Toa as the Ngapuhi Chief Tuwhare remarked to Te Rauparaha. “E Raha, haere mai ki te konei,

tangohia te whenua nei, hei kainga mou. Keireira hoki e rere ana te kaupuke o te Pakeha. Hei taonga mou”. This advice was given to Te Rauparaha, to return to Wellington to obtain land and to establish trade with the Pakeha.

It was also at this time that Ngati Toa were locked in bitter conflict with their relations of the Waikato including Ngati Maniapoto. On his return to Kawhia, bitterness erupted again and Ngati Toa were involved in a number of battles. It became apparent that the position of Ngati Toa and their allies of Ngati Koata and Ngati Rarua was untenable against the might of Waikato and Ngati Maniapoto under the leadership of Te Wherowhero. Te Rauparaha then decided to act on the advice of Tuwhare and so began Ngati Toa’s migration and conquest of the Wellington Region. On their movement south, Ngati Toa and its allies of Ngati Rarua and Ngati Koata were assisted by the tribes of North Taranaki, including Ngati Mutunga, Ngati Tama and Te Atiawa.

It was on Kapiti Island that the penultimate battle was fought which led to the entire area of what is known today as Manawatu, Horowhenua, Kapiti and Wellington falling to Ngati Toa. This battle is known as “Te Pakanga O Waiorua” and opposing tribes included Ngati Apa, Rangitane, Muaupoko, Ngati Ira, Ngai Tara and Ngati Kahungunu.

After the Battle of Waiorua, land was divided out among the various tribes. Land from the Rangitikei River to the Kukutaueki Stream (just north of Waikanae) was retained for Ngati Raukawa. The Waikanae area and Heretaunga (Hutt Valley) was given to the Taranaki tribes with the remainder being held by the Kawhia tribes (Ngati Toa, Ngati Koata and Ngati Rarua). However, the entire area was under the mana of Te Rauparaha and Ngati Toa.

More land was given to Te Atiawa after the Battle of Kuititanga. This battle was fought between Ngati Raukawa and Te Atiawa stemming from Te Atiawa’s jealousy over the extent and richness of the land given to Ngati Raukawa. Te Atiawa were also under pressure to provide lands for migrants arriving from Taranaki escaping the advance of the Waikato tribes into Taranaki. While the actual battle proved inconclusive it did result in Ngati Toa allocating more lands to Te Atiawa.

The advent of colonisation brought to the area a whole new set of laws and conditions to which the Maori tribes consented through their signing of the document known as the Treaty of Waitangi. However, the colonial government was under considerable pressure to obtain lands for the settlement of migrants arriving from England, land which was effectively under the control of Ngati Toa. While there were some genuine sales to Pakeha settlers, many of the claims of Pakeha land buyers such as the Wakefields were of a dubious nature.

As Sir George Grey discovered, the only way to loosen the grip of the Maori from land in the Wellington and the Nelson-Marlborough Regions was to prise it from the Ngati Toa people. It was then that Sir George Grey settled on his stratagem of capturing and detaining Te Rauparaha and using his detention as a lever to induce Ngati Toa to sell off their vast land holdings. For 18 months Te Rauparaha was held captive by Sir George Grey, 10 months on board the HMS

Calliope and eight months in Auckland. This resulted in an Act of Parliament known as the Porirua Lands Act 1847 which reduced Ngati Toa to three reservations in the Porirua-Paekakariki area. In return for the release of Te Rauparaha, Ngati Toa sold all their lands in the North Island and much of the Nelson-Marlborough Regions. It should be noted that at the time Te Rauparaha was never charged or arraigned in a court of law and was never offered the protection given to any ordinary British citizen, as he became on his signing of the Treaty of Waitangi.

(2) ***Hutt Valley-Pauatahanui***

Korokoro Valley received its name in the later 1820s from Te Mana, a Chief of Ngati Mutunga from Taranaki. Te Mana called it “Te Korokoro-o-te-Mana” (the throat of Te Mana) after he had successfully conquered the Wellington tribes by leading a raiding party through the Korokoro Gorge. The valley was named after him in order to tapu it and claim it as a possession for himself and his descendants.

Cross country routes between the Hutt Valley and Porirua/Pauatahanui iwi were established, traversing the land upon which Belmont Regional Park now lies. The first track proceeded from Korokoro west through the bush to the junction of the Kenepuru and Takapu Streams, continuing northwards alongside Kenepuru Stream to Porirua. (See Section 3.3.4 - “Proposed Wellington City District Plan, 1994”, and Figure 5 in this Resource Statement.) A second high track followed roughly the line of the present day Belmont-Pauatahanui Road from Hutt Valley to emerge just west of Judgeford at Pauatahanui (exact route unknown). This track was frequently in use during intertribal conflicts between the Heretaunga and Porirua Maori. Some cultivation, chiefly of potato crops, was carried out along the Belmont track by the Maori.

In July 1846, Governor Grey ordered a mixed force of militia and Ngati Awa totalling 213 men to move from Taita through the bush to destroy Te Rangihaeata’s pa at Pauatahanui. (The pa stood on the site where St Alban’s Church now stands). The route taken appears to have been along the Belmont track up the ridge between the Belmont and Speedy’s Streams, onto the summit ridge and then by a spur not far from the line of the descending Belmont-Pauatahanui Road. Upon reaching Pauatahanui, it was found that Te Rangihaeata had earlier escaped northwards up the Horokiwi Valley. The attack on the pa was abandoned, the pa later converted into a military post.¹

11.2 **Early European Settlement (1840 - 1905)**

In 1839 Colonel William Wakefield landed at Port Nicholson intending to buy land for settlement on behalf of the New Zealand Company. As part of the scheme of British colonisation, a series of Native Reserves were established. Under Colonel McCleverty, portions of these reserves were awarded to individual hapu and whanau, known as the “McCleverty Awards”. These lands were to be in exchange for the

¹ For further information the Wellington Regional Council has published material on the confrontation at Battle Hill and Maori history of the Porirua-Pauatahanui area. Suggested reading includes the *Battle Hill Farm Forest Park Management Plan, 1992*, Wellington Regional Council.

relinquishing to the British Government of all Maori cultivations on sections belonging to European settlers.

Deed No. 8, dated 13 October 1847, includes those reserves awarded to the Petone Maori which fall within Belmont Regional Park. The following table is an extract of Deed No. 8.

Table 8 : McCleverty Awards - Deed No. 8

Locality	Area	Section	District
Korokoro	1,241 acres (491.67 hectares)	3,4,5,6,7,8a,8b	Maungaraki
Horokiwi	102 acres (41.31 hectares)	11	Maungaraki

Source: Deed Register No. 1, page 299.

Available from : District Office, Department of Survey and Land Information, Wellington.

The Korokoro Award (see Figure 5 in this Resource Statement) covered an area which extended from just below Belmont Trig, southwards and down the Korokoro Valley to approximately Maori Point Trig. Section 11 (Horokiwi) is located on the eastern side of Horokiwi Road.

The first Pakeha use of the Korokoro Stream was made about 1845 by J H Percy who established a flour mill at what is now the top of Cornish Street. The mill site was moved on several occasions between the Korokoro Stream and "Percy's Stream" - presumably chasing the best water supply - and was finally settled at the Percy's Stream location in 1851 (now Percy's Scenic Reserve).

The exploration, survey and settlement of farm holdings in the Belmont hills appears to have commenced in 1857. Albert Beetham, a contract surveyor, surveyed a straight cut from Pauatahanui over the ridge and through the bush to Korokoro. At the southern end of what was known as "Beetham's Line" the McEwen-Galloway-Wallace-Welch acres were surveyed off, roughly across what is now Stratton Street, Korokoro Stream and the lower end of the Belmont - Pauatahanui Road. Further north in 1862, the frontages of fifty or so sections on both sides of the Beetham Line were surveyed off by E J Campion.

It is the old Belmont - Pauatahanui Road and the associated early settlers homestead sites, according to Bagnall (1976), which comprise the historical core of the park. At least 8-10 probable house sites can still be identified, particular from remnant stands of macrocarpa in the vicinity of the old road (Figure 5 in this Resource Statement). The occupiers of the houses shown on the map are listed in Table 9. In view of multiple ownership of several sections by the same persons over a period of time it is difficult to identify occupiers of house sites at the northern end of the Belmont - Pauatahanui Road with any certainty. "Glimpses into Early Normandale" (1993), by Rosemary McLennan, does however provide some interesting material on owners of land in the Belmont area, probably around the 1850s. This information largely

compliments information contained in the 1976 study “A Survey of the Proposed Belmont Regional Hill Park”, with one showing early landowners and the other land occupiers.

Table 9 : Probable House Sites and Occupiers of Sites on the Belmont- Pauatahanui Road

No.	Occupier	Location	Residence
I	Wm Golder	Hutt Sec. 301	The most likely site of his “Mountain Home”
II	Wm Gosling	Hutt Sec. 302	Known to have resided
III	J and R Scholes	Hutt Sec. 303-305	Known to have resided
IV	J Stratford and/or C McIntyre	Hutt Sec. 323	Both known to have resided
V	C Cottle	Hutt Sec. 324	Known to have resided
VI	John and Jessie Francis	Hutt Sec. 328	Known to have resided
VII-IX	S G Goss	Hutt Sec. 332, 337	Known to have resided

Source: Bagnall, R G (Ed), 1976, Survey of Proposed Belmont Regional Hill Park, page 30.

The 1976 Survey recommended:

the house sites shown on the plan...should be preserved, that is, there should be no bulldozing, surface burial or fossicking apart from a controlled archaeological exploration, the co-operation of owners should be sought in assisting with the interim preservation of these sites and any others which subsequently may be identified.

(1976, 12)

In 1872 the road between upper Belmont and Pauatahanui was completed. It served as the main linking highway between Hutt Valley and Pauatahanui until the completion of the Haywards - Pauatahanui Road (State Highway 58) in the late 1880s.

Hardships of farming in the area led to substantial aggregation of holdings between 1875 and 1900. Farming continued in the Upper Korokoro and Belmont catchments by freehold and lease in perpetuity settlers.

Rural sector activities extended beyond farming to include forestry. Cutting and milling of bush on a sizeable timber production basis in the Haywards/Pauatahanui area commenced in 1859, with the establishment of Carter’s and Hurly’s sawmill on the Thomas Stace property. A sawmill was operating on Francis Bradey’s property, “Duck Creek”, in 1863. In 1875 Messrs Jones and Woodman followed suit, building a mill on Belmont Road.

Forestry operations continued through the 1880s and 1890s in the Haywards/Pauatahanui area. By the turn of the century, the majority of the virgin forest located roughly between the ridge crest where Hill Road and Belmont - Pauatahanui Road intersect and Pauatahanui had been removed. A small sawmill still operates today on State Highway 58, west of Belmont Road.

The subdivision of large farm holdings at Korokoro, Maungaraki and Normandale between 1900 and 1903 heralded the start of more intensive residential development along the Western Hills of the Hutt Valley. Belmont Township followed in 1905.

11.3 **Water Supply Demands on the Korokoro Stream**

Two important historical components of Belmont Regional Park are the Wellington Woollen Manufacturing Company's mill near the mouth of the Korokoro Stream and The Hutt City Council's Korokoro Stream reservoirs (Figure 5 in this Resource Statement).

The foundation stone of the woollen mill building, located on and to the west of the Korokoro Stream, was laid down on 28 November 1885. Water from the Korokoro Stream was used by the Company to power their mill. In 1902, following Hutt Borough Council's unilateral purchase of Speedy's Stream rights for its own purposes, the Petone Borough Council settled on the Korokoro Stream for their water supply. This decision brought Petone Borough Council into conflict with the Woollen Company's claims to riparian rights over the Korokoro Stream. A complex arrangement with the Company was made, which saw the construction of a high level Korokoro dam and a lower reservoir in 1903-4, the latter for the exclusive use of the Company. A minimum daily flow into the lower reservoir had to be guaranteed by the Petone Borough Council.

Water from the Korokoro dam was pronounced unfit for human consumption in 1964 and its use discontinued. The dam and associated lake behind it however, have proven more recently to be a popular spot for swimming, picnicking and walking activities within Belmont Regional Park.

In May 1968, the woollen mill closed. Machinery was shipped down to the Kaiapoi mill and in 1970 the site was sold to Cornish Investments Limited. This company was responsible for the naming of Cornish Street. Between 1970 and 1973 all the mill buildings were demolished except for the most recent additions - the boilerhouse and the northern extension. These buildings, together with a portion of the marble-faced wall built in 1920 along the highway frontage, are all that remains today of the woollen mill. An informal park track, from the end of Rahui Grove, Korokoro down to Cornish Street, however, still exists. This track was used by the local workers to access the former woollen mill.

11.4 **Belmont Magazines**

The following information on the Belmont magazines is derived largely from the Building Conservation Department, Consultancy Services, Wellington and Department of Defence World War II archives.

In September 1942, the War Cabinet decided to construct a series of magazines for

the storage of ammunition on rural land at Belmont. The site was chosen because of its proximity to Wellington Harbour whilst being away from built-up urban areas.

A total of 62 magazines were built between 1942 and 1944 in conjunction with a laboratory, offices, mess room and other camp facilities (Figure 5 in this Resource Statement). The camp housed staff employed with the operations of the magazines and upgrading of the site access via Hill Road.

The Belmont magazines are a significant element of the park in terms of their construction, aesthetic and historical values. The design selected for the magazines involved the use of pre-cast concrete structures with cast *in situ* foundation floor slabs and roof slabs. This is believed to be a very early use of the pre-cast structural system in New Zealand. There were two designs : type "P" and type "M", the former being 25 or 50 feet wide by 50, 60 or 100 feet long, while the latter were 20 feet wide with similar length dimensions.

As a group, the large number of simply designed masonry buildings in a rural setting is unique and contributes greatly to the experience of the area. They provide great architectural interest and probably comprise one of the few surviving examples of a large group of World War II military structures. The magazines are not classified by the New Zealand Historic Places Trust, although they have been notified to the Trust for consideration for classification.

Most of the magazines are unused at present. Landcorp uses a few for farm equipment and produce storage, and another is used by Natural Gas Corporation as a pressure valve station on the main gas supply pipeline. An application to use three of the magazines for dangerous goods storage was lodged with The Hutt City Council in 1988 but did not proceed further. The magazines and surrounding farm are now owned and managed by Landcorp Farming Limited.

While many of the buildings are sound with no major structural faults visible, their future use as part of wider park management philosophy requires clarification. Existing and intended uses of the Belmont magazines should be compatible with the aim and objectives of Belmont Regional Park. This would ensure the long-term conservation of the structures and allow for the preservation of a representative sample of the magazines.

Land Uses

12. Recreation

12.1 Recreation Opportunity Spectrum

The Recreation Opportunity Spectrum is a recreation management concept developed in the United States of America. It recognises that recreation experiences are composed of activities and settings. Recreation settings are the underlying recreation environments, e.g., urban fringe, back country drive-in, or remote.

Belmont Regional Park is a mix of “urban fringe” and “rural” settings. The characteristics of an “urban fringe” are: predominantly a cultural landscape with mixed urban-rural land uses and very accessible to urban/residential areas. The characteristics of a “rural” setting are: predominantly farming/landscape, a general network of services and facilities, and natural experiences may be significant if remnant areas contain unique or scenic, conservation or recreation values.

12.2 Activities

Recreational activities within the park are primarily informal and include walking/running, cycling (including mountain biking), horse riding, swimming, picnicking, camping and outdoor education. Some organised events occur in the park, such as mountain bike races and orienteering. Many of these activities require large, relatively undisturbed areas. Figures 6 and 6a in this Resource Statement illustrate where these activities are carried out in the park.

Permitted uses, and their popularity, within each zone of the park are as follows:

Zone 1 - Korokoro Valley : walking/running, horse riding (restricted access), mountain biking (restricted access), picnicking and camping.

The majority of visitors enter the park either through Oakleigh Street entrance or Cornish Street entrance, with many taking a one-way walk between the two. A bridle trail enters the park from Horokiwi Road giving access to Stratton Street via Belmont Trig. Usage of this trail is low, and is comprised of horse riders, mountain bikers and walkers.

Zone 2 - Stratton Street : walking/running, horse riding, mountain biking, picnicking and camping (toilets provided). The gathering of watercress also occurs.

This zone is popular for recreation, with access available from the northern end of Stratton Street to Belmont Trig and the Korokoro Valley. Access to Waitangirua Farm is available via the Old Coach Road, Hill Road or Middle Ridge. The Old Coach Road and Hill Road are popular with horse riders, runners and to a lesser extent, mountain bikers (see Figure 6a). A popular walk across the park is from Stratton Street to Waitangirua taking about four hours. A horse riding arena is situated on Regional Council land just off Stratton Street. This area is used by a local pony club. Horses are ridden from here into the park.

Zone 3 - Waitangirua/Kilmister : walking, horse riding, mountain biking, orienteering (see Figure 6a). All activities are restricted during lambing periods and may also be restricted for other management or public safety reasons (e.g., tree

felling, track maintenance).

This zone includes the Cannons Creek entrance, which is used predominantly for short walks, running, picnicking and camping, with outdoor education involvement by local schools. Canoeing occurs on the lower lake of the Cannons Creek Lake Reserve by a local school and kayak club. Orienteering most frequently occurs in the area of the Belmont magazines.

Zone 4 - Dry Creek : walking/running, horse riding (limited opportunities), mountain biking and camping (toilets provided).

The main recreational uses of this zone are walking and mountain biking. Most users follow the Loop Track, returning to the main car park, and others climb to Boulder Hill and down to Belmont Road. Camping, picnicking and short walks are popular on the valley floor behind the ACTS building.

12.3 **Visitor Use and Monitoring**

In 1990, two vehicle counters were installed in Belmont Regional Park to record visitor use; one at the Stratton Street entrance, the other at the Oakleigh Street entrance. The Oakleigh Street counter does not capture walkers and cyclists. Commencing in the summer of 1994/95, visitor use statistics were also being taken by a counter installed at the Cornish Street entrance. Other park entrances do not have counters. However, eventually all park entrances will be accounted for either by the placement of counters or by a calibration exercise which uses the recordings at the main entrances to predict the level of usage at secondary entrances to the park. These points should be borne in mind when reading the following statistics.

Visitor use of Belmont Regional Park peaks in the summer months, with December and February more than twice as busy as the winter months of June to September. However, this characteristic is much less noticeable at Belmont Regional Park when compared to Kaitoke Regional Park. At Kaitoke, camping, picnicking and swimming are popular. These are essentially summer activities. Kaitoke is also further from population centres and many visitors will only consider making the journey to the park during summer. Belmont, on the other hand, is used less for camping and picnicking and more for less weather-dependant activities such as horse riding, running and mountain biking. It is also close to large population centres, and short or spontaneous visits can be made at any time of the year.

Belmont Regional Park showed rapid growth in the number of visitors between 1991/92 and 1993/94, from an estimated total of 95,000 to 130,000 visitors. Since then, total park visitor numbers have remained relatively static at 130,000.

12.4 **1995 Visitor Survey Programme**

During 1995 a visitor survey programme was undertaken within the Wellington regional parks and recreation areas network. This programme comprised a summer survey carried out in February and a winter survey in August/September. The surveys were undertaken by Tourism Resource Consultants for the Regional Council. A report was subsequently prepared presenting the findings of the survey programme - "Summer and Winter Visitor Survey of Wellington Regional Parks and Key

Recreation Areas”, November 1995.

Three survey locations were used for Belmont Regional Park. These were Oakleigh Street, Stratton Street and Hill Road. These locations were chosen because of the high level of park use on its eastern (Lower Hutt) side.

Activities

Belmont Regional Park appears to be clearly favoured for active rather than passive-type recreational activities. Walking was the most popular activity amongst those surveyed (60 percent in both surveys). Approximately 40 percent of those who went walking stated they were accompanied by a dog. Mountain biking accounted for 17 percent of respondents in summer and nine percent in winter. Other activities recorded in summer were running (13 percent), with some horse riding, tramping and picnicking. Fewer other activities were recorded in the winter survey.

Visit and Visitor Characteristics

Korokoro Dam was a popular destination for both summer (34 percent) and winter (48 percent) respondents. A further nine percent of summer visitors and eight percent of winter respondents had spent some time in the car park/picnic areas. A further 14 percent of summer visitors and 16 percent of winter visitors had visited the Belmont Trig area.

Compared with other parks, Belmont is used by a high number of regular visitors. People who had visited the park more than 25 times in the past twelve months made up 35 percent of summer respondents and 30 percent of winter respondents. In both surveys, most visitors were residents of the Hutt City - 84 percent of the summer survey and 69 percent of the winter survey. Wellingtonians comprised 11 percent in the summer survey and 17 percent in the winter survey.

Many summer respondents had visited other regional parks and recreation areas. More than one third of respondents had been to East Harbour (42 percent), the Rimutaka Incline (41 percent), Queen Elizabeth Park (34 percent) and Kaitoke (33 percent). Of the winter survey respondents, half had been to East Harbour, 43 percent had visited Rimutaka Incline and 33 percent had visited Battle Hill.

Park Values

The quiet, peaceful, undeveloped and unspoilt aspects of the park were most often identified by summer survey respondents as the good things about Belmont Regional Park (41 percent of respondents). Other positive park values mentioned were the recreational opportunities offered within the park (39 percent), the general nature of the environment (36 percent), bush and/or trees (16 percent) and large, open spaces (11 percent).

Winter respondents most often mentioned location and accessibility (49 percent) and the recreational opportunities the park provided (44 percent) as the good things about the park. Flora and fauna were mentioned by 29 percent of respondents, environmental aspects by 25 percent and the peaceful, quiet, undeveloped nature of the park by 17 percent of respondents.

12.5 **Recreation and Farming Conflicts**

The management of recreational uses within farming areas of the park still provides conflict for farm management personnel, particularly where stock is frequently moved (e.g., Hill Road). Walkers and runners have generally proven themselves able to move through stock without disruption. However, cyclists (including mountain bikers), and, to a lesser extent, horses, pose more of a problem.

13. Farming

13.1 Historical Overview

In the 1950s, an area of 2,165 hectares of Crown land situated in the hills behind Porirua was vested in the former Department of Lands and Survey for the development of state housing. This area included the Maher Estate and the Waitangirua Block (704 hectares). The area farmed then decreased as housing development took place, leaving balance of the Waitangiroa Block.

In 1967, the Department of Defence land at Belmont was added to Waitangiroa. The name "Waitangiroa" was subsequently changed to its present day form of "Waitangirua".

The Kohurangi Block was purchased by the New Zealand Electricity Department (former owner Phil Verry) as compensation for the installation of transmission lines across farm land. The Department of Lands and Survey leased the area from New Zealand Electricity Department. On the formation of Land Corporation of New Zealand (Landcorp) in 1987, this block was held over as Crown land administered by the Department of Survey and Land Information (transferred to Land Information New Zealand on 1 July 1996 with the disestablishment of DOSLI). At the same time, the ownership of Waitangirua Farm was transferred from the Department of Lands and Survey to Landcorp.

The Lower Hutt City Council purchased the two separate properties of Kilmister and Gault. These blocks were subsequently leased for a short period of time, and then leased to the Department of Lands and Survey for farming purposes. This arrangement has continued with Landcorp Farming Limited, a subsidiary of Landcorp.

On 2 September 1991, the State-owned Enterprise (Landcorp Farming Limited Vesting Order No. 12) Order 1991 vested in fee simple the Waitangirua Farm in Landcorp Farming Limited.

13.2 Present Day Farming Operations

Waitangirua Farm is part of the Central Region (administration base in Rotorua) farming operation. The property is classified as a breeding unit supplying store lambs and weaner calves to the Region's growing and finishing units.

Stocking policy has been simplified to sheep and cattle. Goats have been excluded from the operations as they do not complement the Region's farming operations or the objectives of Belmont Regional Park. As at 1 August 1996, a total of 20,000 stock units were grazed comprising 14,000 sheep and 5,000 cattle.

In addition to the Waitangirua Farm activities, Landcorp Farming also farms other parts of Belmont Regional Park. They graze the Regional Council's Stratton Street block, of which 150 hectares is mobstocked once every three or four months. A leasing arrangement exists between Landcorp Farming and The Hutt City Council for the grazing of the Kilmister Block. A similar arrangement exists for the Kohurangi Block at Takapu.

Farming continues to remain a viable operation and complements the other land uses and activities of the park. Involvement in the park has assisted in maintaining this viability through the following avenues.

- “Buffer areas” on the fringes of the park keep a balance of public pressure between commercial and recreation activities.
- Improved public awareness and co-operation have eased the pressure on farming activities.
- Utilisation of stock to graze fringe areas (“lawn mower areas”) has allowed more flexible management of the intensive grazed park areas.

13.3 **Challenges for the Next Five Years**

The major challenges for Landcorp Farming Limited during the term of this management plan are:

- To manage public demand for recreation within the objective of maintaining a viable farming operation.
- To develop farm management systems that complement and maintain a sustainable land resource that works within the guidelines of the Resource Management Act 1991.

14. **ACTS Institute of New Zealand Inc. (Employment Training)**

ACTS - Agriculture, Crafts, Trades and Studies - Institute is a Christian response to unemployment. It is a registered charitable trust, constituted under the Charitable Trusts Act 1957 and formed in 1983. It provides an employment orientated life-skills training programme for unemployed people in the Hutt Valley Region. Seven staff are employed under an ACCESS programme to supervise up to 24 trainees. Overseeing the venture is Mr Ken Fraser, Chairperson of ACTS.

ACTS operates on a one hectare block of land leased from the Crown and administered by Wellington Regional Council at Dry Creek, Haywards. This area is part of the Dry Creek Recreation Reserve. The current Lease Agreement is made under section 54 (1) (b) (c) and (d) of the Reserves Act 1977, and is for a term of 10 years commencing 1 July 1990. In addition, a Deed of Understanding is being drawn up to facilitate the use of the reserve by the Institute while maintaining public access in terms of this management plan and the Dry Creek Reserve Operation Plan. The Lease Agreement and Deed of Understanding are managed by the Regional Council, through its authority to control and manage the Dry Creek Recreation Reserve.

The lease provides for a range of facilities and land uses to operate on the block. A confidence course and fitness trail has been constructed on the valley floor for the use of secondary school students as well as members of the public. Overnight and weekend camping is encouraged, with groups having access to on-site cooking and toilet facilities. Orienteering, tramping and flora and fauna observation are also encouraged.

In addition to developing the area for recreation, the ACTS Institute is involved in farming and arboriculture (plant nursery). Grazing of sheep takes place on the pastured tops and on the valley floor within the Recreation Reserve. A very small flock of sheep is kept to provide trainees with animal handling and husbandry skills. A greenhouse has been constructed where 5,000 native plants are being propagated for planting on the Dry Creek Block.

ACTS can have a useful contributing role in the achievement of Belmont Regional Park objectives by assisting in the conservation and regeneration of native vegetation, encouraging a range of outdoor recreation activities and providing a labour force for recreation development projects.

15. Quarrying

Significant quarrying operations are situated on the Western Hutt Hills, in the vicinity of Belmont Regional Park's eastern boundary. Dry Creek Quarry and Belmont Quarry are both privately owned quarries, located on the fault scarp between Liverton Road and State Highway 58. To the south, accessed from Horokiwi Road, Petone, is the privately owned quarry of Horokiwi Quarries Limited.

Dry Creek Quarry supplies 15-20 percent of the Wellington market for rock, shingle and sand resources, with nearby Belmont Quarry supplying 35 percent of the market and the Horokiwi Quarry accounting for 20 percent.

The production figures for these three quarries for 1995 are given in the following table.

Table 10 : Production of Quarried Material from Lower Hutt Quarries (tonnes)

Quarried Materials	Horokiwi Quarries Limited	Dry Creek Quarry (DML Resources Ltd)	Belmont Quarry (Winstone Aggregates Ltd)
1. Rock for harbour work, reclamation and filling	24,373	70,076	46,214
2. Sand, rock, gravel, etc for roads and ballast	149,680	61,439	92,636
3. Building aggregate	69,025	25,463	158,715
Total	243,078	156,978	297,565

Source: Ministry of Commerce, Palmerston North.

16. Network Utilities

Several network utilities cross Belmont Regional Park, the most important being natural gas pipelines, electricity transmission lines and water mains. In addition to existing utilities, several roading proposals exist which, if they proceed, will significantly impact on park land.

This section describes the major existing and planned public utilities crossing the park. It should be read in conjunction with Figure 7 in this Resource Statement.

16.1 Natural Gas Pipelines

Several high pressure gas transmission pipelines traverse land in the park; nearly all of their routes within the park being within Landcorp Farming Limited's Waitangirua Farm property. These are:

- the Waitangirua to Tawa pipeline, which supplies gas to the Wellington area through the Wellington City Gate; and
- the Waitangirua to Belmont Loop line, which provides gas to the Hutt Valley area through the Belmont Hill City Gate.

The Wellington City Gate is located between the motorway and railway at Takapu, outside the park boundary. The Belmont Hill City Gate is located well within the park, at the top of Hill Road, and utilises an ammunition magazine. A third gate, the Waitangirua City Gate, is also located in the park, near Duck Creek on the Porirua East side of the park. These gates are significant physical features in the park. The function of the gates is to reduce the gas pressure sufficiently to enable it to be used by local urban areas.

From the Belmont Hill City Gate, two low pressure distribution gas pipelines (1900kPa) traverse park land in a south/south-east direction; one exiting the park above Kelson, the other passing close to Belmont Road Trig, continuing down to the corner of Normandale Road and Cottle Park Drive, then along Dowse Drive. A third low pressure distribution gas pipeline takes gas from the Waitangirua City Gate into Porirua East exiting the park near Waihora Park.

The high pressure gas transmission pipelines are owned by the Natural Gas Corporation of New Zealand Limited. The existing privileges provisions of section 107 of the Crown Minerals Act 1991 apply to all high pressure gas transmission pipelines which were authorised prior to 1 October 1991 (including those crossing Belmont Regional Park). They carry over the duties and obligations established by authorisations granted by the Minister of Energy under the Petroleum Act 1937. The pipelines are protected by the conditions of the easements from disturbance or planting of trees and shrubs on the easement strip. At least 72 hours notice is required to Natural Gas Corporation Transmission (New Plymouth) for on-site locations and work permits.

Natural Gas Corporation Transmission has indicated it is unlikely that they will be looking to construct new pipelines in the area of the park (Letter from R J Sorley, Legal Adviser, Natural Gas Corporation Transmission dated 10 November 1994,

WRC File).

The low pressure distribution gas pipelines described above are owned by Gas Direct, Lower Hutt. The local gas reticulation system is provided for as an existing use under the Resource Management Act 1991 and the Gas Act 1992. Gas Direct require at least 24 hours prior notice for on-site locations and two days prior notice for work permits.

16.2 **Electricity Transmission Lines**

Several high voltage AC and DC electricity transmission lines cross Belmont Regional Park. Two of these lines traverse park land between Takapu Road Substation and Pauatahanui. The others traverse the park in a south-west/north-east direction between Newlands/Tawa and the Haywards Substation.

Trans Power New Zealand Limited owns these electricity transmission lines, as well as a property at the end of Takapu Road (outside the park boundary) upon which their substation is sited. The electricity transmission lines are protected under the Electricity Act 1992. Section 22 of this Act - "Protection of existing works" gives the existing electricity transmission lines continued right to be fixed or installed where they are. Section 23 - "Rights of entry in respect of existing works" provides for the owner to enter upon land for the purpose of gaining access to the works, and inspect, maintain or operate the works.

16.3 **Water Main**

From Murphy's Road/State Highway 58 intersection, a large (750 mm nominal diameter) water main traverses park land along the Duck Creek Valley (Waitangirua Farm) in a south-west direction to and along Takapu Road. This water main is owned and operated by the Bulk Water Department of the Wellington Regional Council under the Wellington Regional Water Board Act 1972. Conditions on the water main easement documents state that no buildings or plantings are permitted on the easement strip.

16.4 **Proposed Roads**

Transit New Zealand has decided that the Inland Route (Transmission Gully) will be the long-term solution for a motorway providing access to Wellington from the Kapiti Coast and north. Although it is unlikely that the inland route will be constructed in the near future (next 10 years), Transit New Zealand has indicated that it is committed to Transmission Gully motorway, and is accordingly undertaking a study of the route and proceeding to seek legal protection for the route.

The route presently under study is different from that in the 1988/89 GATS studies; it connects with SH1 opposite Linden, rather than the earlier Takapu Valley connection (refer to Figure 7). This change allows for better access to Porirua. The new southern portion of Transmission Gully motorway (south of SH58 at Pauatahanui) is being examined for effects on the ecology, noise impacts and visual impacts. A geological investigation is being undertaken to assist in the concept design, and to assess the relative geological hazards of the Transmission Gully motorway and existing coastal (SH1) route. Discussions with the Regional Council are taking place

as the Transmission Gully route passes through Waitangirua Farm in Belmont Regional Park. A major viaduct across Cannons Creek Gully, which could assist in park access once the road is in place, is also under discussion. As at August 1996, Transit New Zealand is requiring of the territorial authorities to place a Notice of Requirement in their district plans for the designation of Transmission Gully motorway.

As part of the Transmission Gully study, a number of key linkage or arterial roads between Lower Hutt and Porirua urban areas have been considered. To date, these have included Grenada/Newlands to Petone (through part of the Korokoro Valley), Porirua to Belmont (several) and Pauatahanui to Kelson (via Speedy's Stream Valley or the Old Coach Road). The Regional Council is commissioning a "Hutt Valley - Porirua Road Link" study. This will include the Belmont route as one of several options. The study is expected to be completed by 1 April 1997.

Appendices

Appendix 1 : Regional Parks Philosophy

The philosophy upon which the Wellington Regional Council bases its regional parks' policies (subsequently reinforced and strengthened by the Local Government Act 1974 and its Amendments of 1979 and 1992) is embodied in the following statements:

1. Regional Parks Objective

The establishment of regional parks which provide opportunities for informal outdoor recreation in more extensive areas of open space and in attractive landscape settings and which are accessible to the urban communities of the Region.

Regional Planning Scheme Review, Principal Section, Part III : Recreation, Regional Parks, January 1981.

2. Regional Council Confirmation

Council commitment to the continued planning, development and management of the Belmont and Kaitoke Regional Parks.

Wellington Regional Council Report 81.77, March 1981.

Associated with the above, statements on "Regional Parks Policies" and the "Criteria for Establishment of Regional Parks" were formulated.

Regional Parks Policies

- To encourage and assist the further development of Belmont Regional Park.
- To prepare regional park management plans which provide for future development and management of each regional park including:
 - (1) Opportunities for outdoor recreation and more passive forms of countryside enjoyment (e.g., landscape viewing, picnicking).
 - (2) The protection, conservation and enhancement of park landscape, nature conservation and heritage interests.
 - (3) The protection of productive agricultural land and forestry interests.
 - (4) Conservation, education and park visitor services.
 - (5) The design, programming and financing of park development projects.
 - (6) Future park management and administration.
- To promote the provision of public access routes within regional parks including marked foot routes, walkways, nature trails, bridleways and cycle tracks.
- To encourage government departments and relevant local authorities to provide adequate means of access to, and where appropriate, between regional parks and

other regional recreation areas.

- To seek to ensure that regional park development does not exacerbate problems of trespass on private lands within, or adjoining, regional parks or other conflicts between park users and local interests.
- To promote the provision of opportunities for outdoor education and the development of interpretative facilities to assist visitor enjoyment and understanding of the countryside and of particular sites or features of interest.
- To promote the development and co-ordination of ranger services in regional parks.
- To encourage involvement of interest groups, local or specialist voluntary organisations and individuals in the development and implementation of regional park projects.

Criteria for Establishment of Regional Parks

1. Regional parks should protect, conserve and enhance common open space and natural and cultural features between or near to major urban areas.
2. Through these parks the urban population should be given an opportunity to experience, without the need for excessive travel, a range of natural and cultural features occurring in the Region.
3. These parks should be so located that they distribute and reduce recreation growth pressures on other natural areas.
4. These parks should provide primarily for more passive recreation pursuits requiring for their enjoyment large areas of open natural country.
5. In areas of some parks there should be provision for more intensive activities which, because of their nature, require a degree of remoteness from urban development.
6. All recreational uses should be balanced against conservation needs and the ability of natural areas to absorb the activity without detriment.

Appendix 2 : Belmont Regional Park Land Titles and Status (Public and Private Land)

(Refer also to Figure 1 - Land Ownership in Part 1 : Aim, Objectives and Policies of this Management Plan.)

CT/Gazette	Legal Description	Additional Information
1. Landcorp Farming Limited - (Private Land) (Waitangirua Farm)		
CT 40A/782 (15 Oct. 1991)	Sec. 1, Survey Office Plan 36634; Secs. 2 and 3, Survey Office Plan 36635; Secs. 4, 5 and 6, Survey Office Plan 36636; Secs. 7, 8, 9 and 10, Survey Office Plan 36637 1,242.9383 ha.	Various provisions for public utilities (i.e., gas pipeline easements and right to convey water) and for rights-of-way. Subject to section 27B State-Owned Enterprises Act 1986, Part IV A Conservation Act 1987 and sections 10 and 11 Crown Minerals Act 1991. Conservation Covenant pursuant to section 77 Reserves Act 1977.
Total Landcorp Farming Limited : 1,242.9383 ha		
2. Department of Conservation (Dry Creek Block)		
NZ Gazette, 22 June 1989, No. 107, p.2757 (No CT) NZ Gazette, 30 May 1991, No. 80, p.1765 (Appointment of WRC to control and manage, for recreation purposes the Dry Creek Recreation Reserve by Department of Conservation.)	(a) 147.3688 ha. - Secs. 257 and 258 and pt. Secs. 259 and 437, Hutt District, in Blocks III and IV, Belmont Survey District. (b) 46.7412 ha. - Secs. 255 and 256, Hutt District, in Blocks III and IV, Belmont Survey District. (c) 338.5587 ha. - Secs. 263 and 264 and pt. Secs. 14, 197, 198, 200, 200A, 260, 261, 262 and 265, Hutt District in Blocks III and IV, Belmont Survey District.	Set apart as a reserve for recreation purposes subject to the provisions of the Reserves Act 1977 (Gazette Notice made under the Land Act 1948). Subject to proclamations (roads, right-of-way easement and water pipeline easement). Sections 28 and 17, Reserves Act 1977 (1991 Gazette Notice).
Total Department of Conservation : 532.6687 ha		
3. Land Information New Zealand (Takapu Block)		
CT's 10C/968, 400/95, 400/96, 400/97 Major part of NZ Gazette, 10 July 1980, No. 79, p.2040	(a) 9.9476 ha. - Part Lot 12, DP 29715, Takapu District. (b) 63.1309 ha.-Sec 25 and pt. Sec 26, Horokiwi Road District, Block VIII, Belmont Survey District. (c) 140.9317 ha. - Pt. Secs. 26, 27, 28 and 29, Horokiwi Road District, Blocks II and VIII, Belmont Survey District. (d) 75.5756 ha. - Sec. 30 and pt. Sec. 29 and 31, Horokiwi Road District, Block II, Belmont Survey District. Total: 289.5852 ha.	Declaring land taken for the Transmission of Electricity (substation) - s.32 Public Works Act 1928.
Total Land Information New Zealand : 289.5852 ha		

4. Wellington Regional Council (Cornish Street and Stratton Street Blocks)		
CT 10A/755 (23 May 1972)	Pt. Subdivisions A, B and E of Sec. 1, Hutt District and pt. Korokoro North; Lot 31 DP 33346 0.5663 ha.	Transferred to WRC 24/2/1989
CT 18B/966 (6 Dec. 1977) NZ Gazette, 1977, p.1947.	Blocks VIII and IX, Belmont Survey District, Section 40 Normandale Settlement. 157.4985 ha.	Transferred to WRC 20/10/1981 from Wellington Regional Water Board. To provide a Recreational Area for inhabitants of Region.
CT 18B/967 (6 Dec. 1977) NZ Gazette, 1977, p.2013.	Block VIII, Belmont Survey District, pt. Sec. 41 Normandale Settlement. 135.6661 ha.	Transferred to WRC 20/10/1981 from Wellington Regional Water Board. To provide a Recreational Area for inhabitants of Region.
Total Wellington Regional Council : 293.7309 ha		
5. Wellington City Council (Horokiwi Road Block)		
CT 19B/69 (17 Nov. 1978)	Pt. Secs. 14, 15, 16 and 20, Horokiwi Road District. 105.9142 ha.	Transmitted to WCC from Lower Hutt City Council on 16/11/1989.
Total Wellington City Council : 105.9142 ha		
6. The Hutt City Council		
a) Kilmister Block, Kelson	(Fee Simple)	Bought initially for "deferred urban" purposes.
CT 16A/1270 (4 Oct 1979)	Pt Sec. 333, 334, 336 and 431, Hutt District; all the land on DP 3015, and Pt Lot 2 on DP 14817 Total Area : 141.5066 ha.	
CT 25B/233 (11 May 1984)	Pt Sec. 436, Block III, Belmont Survey District, SO 10984 58.8817 ha.	
CT 25B/234 (11 May 1984)	Sec. 430, Block III, Belmont Survey District, SO 11410 63.7379 ha.	
CT 25B/235 (11 May 1984)	Pt Secs. 345, 346, 433, 434, 435, Block III, Belmont Survey District Total Area : 108.0879 ha.	
CT 25B/236 (11 May 1984)	Pt Sec. 341 and 342, Block III, Belmont Survey District, SO 21903 Total Area : 10.2901 ha.	
CT 12D/56 (27 Mar 1980)	Pt Sec. 429, Hutt District, SO 10984 (31.5655 ha), Sec. 785, Hutt District, SO 25911 (5.3848 ha) Total Area : 36.9503 ha.	
CT 20A/1000 (4 Oct 1979)	Sec. 675 (0.0422 ha), Sec. 676 (36.4217 ha) and Pt Sec. 677 (4.2720 ha), Hutt District, SO 23420 Total Area : 40.7359 ha.	
NZ Gazette, 2 Aug 1979, No. 70, p.2279 (former CT 936/19 cancelled)	Secs. 325 and 428 and pt Sec. 315, Hutt District, SO 35419 172.6113 ha.	Pursuant to sec. 32 of Public Works Act 1928, land taken for housing purposes. Vested in Lower Hutt City Council. In 1994, The Hutt City Council sold 1.6619 ha. of the total 174.2732 ha. contained in this title.
Total Kilmister Block : 632.8017 ha.		

<p>(b) Sweetacres, Kelson</p> <p>CT 588/32 (3 Sep 1952)</p> <p>CT 22A/29</p> <p>NZ Gazette Notice 171902.1, 21 Apr. 1977, No. 43, p.1102</p>	<p>Pt Lot 1, DP 52494, Hutt District 23.3163 ha.</p> <p>Lot 4, DP 53605 258 m² (0.0258 ha.)</p> <p>Lot 22, DP 53605, Hutt District, 20.5778 ha.</p> <p>Pt Secs. 314, 425 and 426, Hutt District, Block IX, Belmont Survey District 65.1543 ha.</p>	<p>Hill Road near Sweetacres Drive. Pursuant to sec. 306(4) LGA 1974, vested in Lower Hutt City Council as a reserve for recreation purposes subject to the Reserves Act 1977.</p> <p>Pursuant to sec. 285(2)(b) and 306(5) LGA 1974, vested in Lower Hutt City Council in lieu of Reserves.</p> <p>Pursuant to sec.306(5) LGA 1974, vested in the Lower Hutt City Council as a reserve for recreation purposes.</p> <p>Pursuant to sec. 32 Public Works Act 1928, land taken subject to electric power and gas rights created by transfer 954138 and subject also to sec. 351F(a) Municipal Corporation Act 1954, and subject also to fencing covenant contained in transfers 719117 and A007170, for housing purposes, and the land described in the Second Schedule is taken for housing purposes and vested in the Lower Hutt City Council.</p>
<p>Total Sweetacres / Kelson Area : 109.0742 ha.</p>		
<p>(c) Maungaraki/Korokoro Valley Area</p> <p>CT 911/42 (19 Aug. 1960)</p> <p>CT 831/28 (23 Mar. 1959)</p> <p>CT 36B/553 (6 Apr. 1990)</p> <p>CT 37C/95 (6 Apr. 1990)</p> <p>CT 37C/96 (6 Apr. 1990)</p> <p>CT 578/215 (20 Dec 1951) NZ Gazette, 1951, p.1601</p>	<p>Pt Sec. 78, Hutt District, SO 11031 6.8391 ha.</p> <p>Sec 39, Maungaraki Village, SO 14759 28.1307 ha.</p> <p>Lot 4, DP 68103 and Lot 13, DP 33346 1.9080 ha.</p> <p>Lot 2, DP 66704 1.3763 ha.</p> <p>Lot 3, DP 66704 0.2104 ha.</p> <p>Sec. 104, Korokoro Settlement, SO 14540 7.5929 ha.</p>	<p>Fee Simple. Transferred to Petone Borough 1987.</p> <p>Fee Simple. Borough of Petone.</p> <p>Fee Simple. Lower Hutt City Council.</p> <p>Waterworks. The Lower Hutt City Council.</p> <p>Local Purpose (Esplanade) Reserve. The Lower Hutt City Council.</p> <p>Fee Simple in trust for water supply purposes. Petone Borough Council.</p>

NZ Gazette, 30 Aug. 1956, No. 48, p. 1188-1189	Lot 133, DP 16294 2.0892 ha.	Page 1188 : Pursuant to Reserves and Domains Act 1953, Petone Borough Council appointed to control and manage the reserve. Page 1189 : Pursuant to Land Act 1948, land set apart as a reserve for scenic purposes.
CT 45D/237 (25 Nov. 1994)	Lot 3, DP 79178, Pt Sec. 97, Korokoro Village 7,830 m ² (0.7830 ha.)	Recreation Reserve under the Reserves Act 1977 owned by The Hutt City Council (vested).
CT 558/82 (Cancelled)	Lot 1, DP 15895, Block III Maungaraki Village 1.5958 ha. and 6.526 m ² (0.6526 ha.) - total: 2.2484 ha.	Pursuant to sec. 332(9) Municipal Corporations Act 1933, recreation reserve vested in Petone Borough Council subject to the Public Reserves, Domains and National Parks Act 1928.
CT 31D/81 (8 Dec. 1987)	Pt Sec. 110, Korokoro Village, SO 14640 1.7434 ha.	Fee Simple. Petone Borough Council.
DP 74710 (part of former CT 9C/242)	Lot 4, DP 74710 0.8800 ha.	Local Purpose Reserve (Esplanade), vested in The Hutt City Council as per sec. 306 (4) of Local Government Act 1974, in 1992. (From total area of 2.6208 ha. of CT 9C/242).
CT 488/71 (6 Nov. 1941)	Sec. 29, Maungaraki Settlement, SO 14759 15.9243 ha.	Fee Simple ownership under Petone Borough Council.
CT 172/165 (1 Jul. 1904) NZ Gazette, 1904, p.1479	Pt Maungaraki Subdivision No. 3, SO 15156 79.2678 ha.	Land taken for supply of water and construction of Waterworks under the Public Works Act 1894. Fee Simple. Borough of Petone.
CT 116/280 (7 Dec. 1901) NZ Gazette, 1911, p.704	Pt Maungaraki Subdivision Pt. 8A, SO 16308 4.0468 ha.	Land taken for Waterworks under Public Works Act 1908 and vested in Borough of Petone.
CT 56/7 (1 Sep. 1890) NZ Gazette, 1911, p.704	Maungaraki Subdivision No. 8B 21.5495 ha.	Land taken for Waterworks and vested in Petone Borough. Vested now in The Hutt City Council.
CT 55/283 (1 Sep. 1890) NZ Gazette, 1911, p.704	Maungaraki Subdivision No. 4 35.5111 ha.	Land taken for Waterworks and vested in Petone Borough Council - 1911, and The Hutt City Council subsequently.
CT 55/284 (1 Sep 1890)	Maungaraki Subdivision No. 5, SO 16308 33.6648 ha.	Fee Simple. Transferred to Petone Borough Council.
CT 55/285 (1 Sep 1890) NZ Gazette, 1911, p.3015 (revoked - see note CT 117/15)	Maungaraki Subdivision No. 6, SO 14762 23.7753 ha.	See note CT 117/15.

<p>CT 117/15 (24 Dec. 1901) NZ Gazette, 1911, p.3015 NZ Gazette, 11/1/1934, p.6 NZ Gazette, 31/8/1950, No. 56, p.1647</p>	<p>Maungaraki Subdivision Pt 8A, SO 14762, 19.8296 ha.</p>	<p>Gazette 1911 : Area declared recreation reserve under Public Reserves and Domains Act 1908. Revoked by:</p> <p>Gazette 1934 : Korokoro Stream Catchment area and tributaries above the intake of the Petone water supply, placed under the control of Petone Borough Council. Revoked by:</p> <p>Gazette 1950: Placed under the control of Petone Borough Council, for the purpose of preventing the pollution thereof, all those portions of the Korokoro Stream and its tributaries and the intake of the P.B.C's water supply - sec. 62 Health Act 1920.</p> <p>Ownership = Crown as a recreation reserve. Administered by The Hutt City Council in their role as a domain board.</p>
<p>CT 55/286 (1 Sep. 1890) NZ Gazette, 1911, p.704</p>	<p>Maungaraki Subdivision No. 7, SO 16308 48.1575 ha.</p>	<p>Land taken for Waterworks and vested in the Borough of Petone.</p>
<p>CT 13C/81 (2 Sep. 1974) NZ Gazette, 1981, p.2340</p>	<p>Lot 4, DP 41842 2.2937 ha.</p>	<p>Land in fee simple owned by Petone Borough Council.</p> <p>Gazette Notice declared land as a reserve for recreation purposes subject to Reserves Act 1977.</p>
<p>Total Maungaraki / Korokoro Area : 337.8218 ha. Total Hutt City Council : 1,079.6977 ha.</p>		
<p>7. Porirua City Council</p>		
<p>Cannons Creek Lake Reserve:</p> <p>(a) NZ Gazette, 8 Sept. 1994, No. 91, p.2797 CT B3/1335</p> <p>(b) NZ Gazette, 12 Apr. 1990, No. 58, p.1296 CT 37A/772</p> <p>(c) NZ Gazette, 27 May 1969, No. 31, p.960 CT E3/675</p> <p>NZ Gazette, 1988, p.581</p>	<p>Total area = 10.2465 ha.</p> <p>7,143 m² - Lot 18, DP 24936, Block II, Belmont Survey District</p> <p>6,880 m² - Pt. Lot 1, DP 26453, Block II, Belmont Survey District</p> <p>6.8442 ha - Lot 1, DP 27474, Block II, Belmont Survey District</p>	<p>Classification of reserve as a Local Purpose (Community Use) Reserve under the Reserves Act 1977.</p> <p>Declared to be a Recreation Reserve within the meaning of Reserves Act 1977. Held by PCC in fee simple.</p> <p>Gazette 1969 : Ownership to Porirua City Council.</p> <p>Gazette 1988 : Land acquired for reserve purposes as per Public Works Act.</p>

NZ Gazette, 1990, p.1296	Gazette 1990 : Land declared as a recreation reserve under Reserves Act 1977.
Total Porirua City Council : 8.2465 ha.	
TOTAL : BELMONT REGIONAL PARK = 3,552.7815 ha.	

Summary Table of Land Titles and Status		
Park Landowner	Area	
	(ha.)	(%)
Landcorp Farming Limited	1,242.93	35
Department of Conservation	532.66	15
Land Information New Zealand	289.58	8
Wellington Regional Council	293.73	8
Wellington City Council	105.91	3
The Hutt City Council	1,079.69	30
Porirua City Council	8.24	0.3
Total	3,552.74	100

Appendix 3 : Preliminary Index of Plants in the Park*

List 1: Indigenous Vascular Plants

Botanical Name	Maori Name	Common Name
Gymnosperm Trees		
<i>Dacrycarpus dacrydioides</i>	Kahikatea	kahikatea
<i>Dacrydium cupressinum</i>	Rimu	rimu
<i>Podocarpus totara</i>	Totara	totara
<i>Prumnopitys ferruginea</i>	Miro	miro
<i>Prumnopitys taxifolia</i>	Matai	matai
Monocot Trees		
<i>Rhopalostylus sapida</i>	Nikau	nikau
Dicot Trees/Shrubs		
<i>Alectryon excelsus</i>	Titoki	titoki
<i>Aristotelia serrata</i>	Makomako	wineberry
<i>Beilschmiedia tawa</i>	Tawa	tawa
<i>Brachyglottis repanda</i>	Rangiora	rangiora
<i>Carmichaelia sp.</i>	Makaka	NZ broom
<i>Carpodetus serratus</i>	Putaputaweta	marbleleaf
<i>Cassinia leptophylla</i>	Tauhinu	tauhinu
<i>Clematis paniculata</i>	Puawananga	
<i>Coprosma areolata</i>		
<i>Coprosma grandifolia</i>	Kanono	
<i>Coprosma lucida</i>	Karamu	karamu
<i>Coprosma propinqua</i>	Mingimingi	
<i>Coprosma rhamnoides</i>		
<i>Coprosma robusta</i>	Karamu	karamu
<i>Coprosma rubra</i>		
<i>Cordyline australis</i>	Ti kouka	cabbage tree
<i>Cordyline banksii</i>	Ti ngahere	bush cabbage tree
<i>Corynocarpus laevigatus</i>	Karaka	karaka
<i>Dysoxylum spectabile</i>	Kohekohe	kohekohe
<i>Elaeocarpus dentatus</i>	Hinau	hinau
<i>Fuchsia excorticata</i>	Kotukutuku	NZ tree fuchsia
<i>Geniostoma rupestre</i>	Hangehange	hangehange
<i>Griselinia littoralis</i>	Papauma	broadleaf
<i>Hebe arborea</i>		
<i>Hebe stricta</i>	Koromiko	koromiko
<i>Hedycarya arborea</i>	Porokaiwhiri	pigeonwood
<i>Hoheria sexstylosa</i>	Houhere	lacebark
<i>Knightia excelsa</i>	Rewarewa	rewarewa
<i>Kunzea ericoides</i>	Kanuka	kanuka
<i>Laurelia novae-zelandiae</i>	Pukatea	pukatea
<i>Leptospermum scoparium</i>	Manuka	manuka
<i>Lophomyrtus bullata</i>	Ramarama	ramarama

<i>Lophomyrtus bullata</i>	Ramarama	ramarama
<i>Lophomyrtus obcordata</i>	Rohotu	rohutu
<i>Macropiper excelsum</i>	Kawakawa	kawakawa
<i>Melicytus ramiflorus</i>	Mahoe	mahoe
<i>Metrosideros excelsa</i>	Pohutukawa	pohutukawa
<i>Metrosideros robusta</i>	Rata	northern rata
<i>Mida salicifolia</i>	Maire taiki	mida
<i>Myoporum laetum</i>	Ngaio	ngaio
<i>Myrsine australis</i>	Mapou	mapou
<i>Neomyrtus pedunculata</i>	Rohutu	rohutu
<i>Nestegis cunninghamii</i>	Maire	black maire
<i>Northofagus solandri</i>	Tawhai rauriki	black beech
<i>Northofagus truncata</i>	Tawhai raunui	hard beech
<i>Olearia rani</i>	Heketara	heketara
<i>Pennantia corymbosa</i>	Kaikomako	kaikomako
<i>Pittosporum crassifolium</i>	Karo	karo
<i>Pittosporum eugenioides</i>	Tarata	lemonwood
<i>Pittosporum tenuifolium</i>	Kohuhu	kohuhu
<i>Pseudopanax arboreus</i>	Whauwhaupaku	fivefinger
<i>Pseudopanax crassifolius</i>	Horoeka	lancewood
<i>Pseudowintera colorata</i>	Horopito	horopito
<i>Schefflera digitata</i>	Pate	seven finger
<i>Sophora microphylla</i>	Kowhai	kowhai
<i>Urtica ferox</i>	Ongaonga	tree nettle
<i>Weinmannia racemosa</i>	Kamaha	kamaha

Monocot Lianes

<i>Freycinetia banksii</i>	Kiekie	kiekie
<i>Ripogonum scandens</i>	Kareao	supplejack

Dicot Lianes

<i>Clematis forsterii</i>		
<i>Clematis paniculata</i>	Puawananga	bush clematis
<i>Metrosideros diffusa</i>	Rata	rata
<i>Metrosideros fulgens</i>	Akakura	rata
<i>Metrosideros perforata</i>	Akatea	rata
<i>Muehlenbeckia australis</i>	Pohuehue	bush pohuehue
<i>Muehlenbeckia complexa</i>	Pohuehue	
<i>Parsonsia heterophylla</i>	Kaiwhiria	"NZ jasmine"
<i>Passiflora tetrandra</i>	Kohia	NZ passionfruit
<i>Rubus cissoides</i>	Tataramoa	bush lawyer

Lycopods

<i>Lycopodium varium</i>		
<i>Lycopodium volubile</i>		

Ferns

<i>Asplenium bulbiferum</i>	Mauku	hen & chicken
<i>Asplenium polyodon</i>	Petako	sickle fern
<i>Asplenium hookerianum</i>		
<i>Asplenium oblongifolium</i>	Huruhuruwhenua	
<i>Asplenium flaccidum</i> agg.	Makawe a Raukatauri	
<i>Blechnum "capense"</i>		
<i>Blechnum discolor</i>	Piupiu	crown fern
<i>Blechnum filiforme</i>	Panako	thread fern
<i>Blechnum fluviatile</i>	Kiwakiwa	
<i>Blechnum chambersii</i>	Nini	
<i>Cyathea cunninghamii</i>	Punui	
<i>Cyathea dealbata</i>	Ponga	
<i>Cyathea medullaris</i>	Mamaku	Mamaku
<i>Cyathea smithii</i>	Katote	
<i>Dicksonia fibrosa</i>	Wheki-ponga	wheki ponga
<i>Dicksonia squarrosa</i>	Wheki	
<i>Histiopteris incisa</i>	Mata	
<i>Hymenophyllum demissum</i>	Mouku	
<i>Hymenophyllum dilatatum</i>	Mouku	
<i>Hymenophyllum ferrugineum</i>	Mouku	
<i>Hymenophyllum flabellatum</i>	Mouku	
<i>Hymenophyllum multifidum</i>	Mouku	
<i>Hymenophyllum revolutum</i>	Mouku	
<i>Hymenophyllum sanguinolentum</i>	Mouku	
<i>Hymenophyllum scabrum</i>	Mouku	
<i>Hypolepis ambigua</i>		
<i>Hypolepis rufobarbata</i>		
<i>Lastreopsis glabella</i>		
<i>Lastreopsis hispida</i>		
<i>Leptopteris hymenophylloides</i>	Heruheru	
<i>Paesia scaberula</i>		
<i>Pellaea rotundifolia</i>	Tarawera	
<i>Phymatosorus pustulatus</i>	Kowaowao	hound's tongue
<i>Phymatosorus scandens</i>	Mokimoki	climbing hound's tongue
<i>Pneumatopteris pennigera</i>	Pakau	gully fern
<i>Polystichum richardii</i>	Pikopiko	shield fern
<i>Polystichum silvaticum</i>		
<i>Polystichum vestitum</i>		
<i>Pteris macilenta</i>		
<i>Pteridium esculentum</i>	Rahurahu	bracken
<i>Pyrrosia eleagnifolia</i>	Ota	
<i>Rumohra adiantiformis</i>		
<i>Trichomanes reniforme</i>	Raurenga	kidney fern
<i>Trichomanes venosum</i>		

Orchids

<i>Earina autumnalis</i>	Raupeka	autumn native orchid
<i>Earina mucronata</i>	Peka-a-waka	spring native orchid
<i>Pterostylis sp.</i>	Tutukiwi	greenhood
<i>Thelymitra sp.</i>	Maikaika	native sun orchid

Grasses

<i>Cortaderia toetoe</i>	Toetoe
<i>Microlaena avenacea</i>	
<i>Poa cita</i>	Wi
<i>Rytidosperma sp.</i>	

Sedges

<i>Carex dissita</i>	
<i>Carex forsteri</i>	
<i>Carex secta</i>	Purei
<i>Carex solandri</i>	
<i>Carex virgata</i>	
<i>Cyperus ustulatus</i>	Upoko tangata
<i>Gahnia spp.</i>	
<i>Uncinia uncinata</i>	Matau a Maui
<i>Uncinia sp.</i>	

Monocot Herbs (Other Than Orchids, Grasses, Sedges)

<i>Arthropodium cirratum</i>	Rengarenga	renga lily
<i>Astelia fragrans</i>	Kakaha	
<i>Astelia solandri</i>	Kahakaha	
<i>Collopermum hastatum</i>	Kahakaha	
<i>Dianella nigra</i>	Turutu	blueberry
<i>Lemna sp.</i>	Karearea	
<i>Libertia ixioides</i>	Mikoikoi	NZ iris

Dicot Herbs

<i>Australina pusilla</i>		
<i>Cardamine sp.</i>		cress
<i>Centella uniflora</i>		
<i>Phormium tenax</i>	Harakeke	swamp flax
<i>Potamogeton cheesemaniai</i>	Rerewai	
<i>Pratia angulata</i>	Panakenake	
<i>Ranunculus reflexus</i>		native buttercup
<i>Stellaria decipiens</i>		
<i>Senecio rufilandulosus</i>		
<i>Urtica incisa</i>		small nettle

List 2 : Exotics

<i>Abies spp.</i>	fir
<i>Acaena sanguisorbae</i>	bidibid
<i>Albizzia lophantha</i>	
<i>Alnus spp.</i>	alder
<i>Berberis darwinii</i>	barberry
<i>Buddleia davidii</i>	buddleia
<i>Cirsium spp.</i>	thistle
<i>Clematis vitalba</i>	old man's beard
<i>Convolvulus spp.</i>	bindweed (convolvulus)
<i>Cupressus macrocarpa</i>	Monterey cypress
<i>Cytisus scoparius</i>	broom
<i>Digitalis purpurea</i>	foxglove
<i>Eleagnus sp.</i>	
<i>Eucalyptus spp.</i>	eucalyptus
<i>Geranium robertianum</i>	herb Robert
<i>Hedera spp.</i>	ivy
<i>Leycesteria formosa</i>	Himalayan honeysuckle
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Nasturtium officinale</i>	watercress
<i>Pinus Radiata</i>	radiata pine
<i>Prunella vulgaris</i>	self-heal
<i>Rubus spp.</i>	blackberry
<i>Salix spp.</i>	willow
<i>Selaginella kraussiana</i>	
<i>Senecio jacobaea</i>	ragwort
<i>Tradescantia fluminensis</i>	wandering willie
<i>Ulex europaeus</i>	gorse
<i>Vinca major</i>	periwinkle

* Preliminary Species List - Compiled from Wellington Botanical Society and other sources.

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Glossary

Commercial Recreation : Any trade, business or service, particularly when carried on for profit or as a means of livelihood or gain, including guided tours (land or water), skills instructions or provision of recreational facilities or equipment on a paid basis. (*Wellington Regional Council's Commercial Recreation Concessions Policy, 1994*).

Cultural Heritage : Buildings, structures, sites, areas, waahi tapu and waahi tapu areas associated with human activity which are inherited from the past or are of value to the future generations, and which are considered to be of special value. (*Regional Policy Statement*).

Ecosystem : A dynamic complex of plant, animal and microorganism communities and their non-living environment, interacting as a functional unit. (*Regional Policy Statement*).

Intrinsic Value : In relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including - (a) Their biological and genetic diversity; and (b) The essential characteristics that determine an ecosystem's integrity, form, functioning and resilience. (*Resource Management Act 1991*).

Land-form : Comprises soil and rock, moulded and shaped by geological processes and the effects of water and wind. It also includes the water that moves across or lies on the surface of the land in the form of rivers and stream, wetlands and lakes. (An interpretation from the *Regional Policy Statement*).

Landscape : The landform, land cover and land use, and the way we "view" the physical landscape. The landscapes we see are the visible expression of the physical, biological and cultural processes that are occurring in a particular place. These processes are dynamic rather than static. Landscape management means managing the natural and physical resources which make up landform, land cover and land use so that they combine and interact with each other in ways that maintain their individual functioning, their usefulness to humans and the health of the ecosystem that are woven through them. It also involves managing the visual amenity of a landscape. (Interpretation from the *Regional Policy Statement* and preliminary work for the *Regional Landscape Plan*).

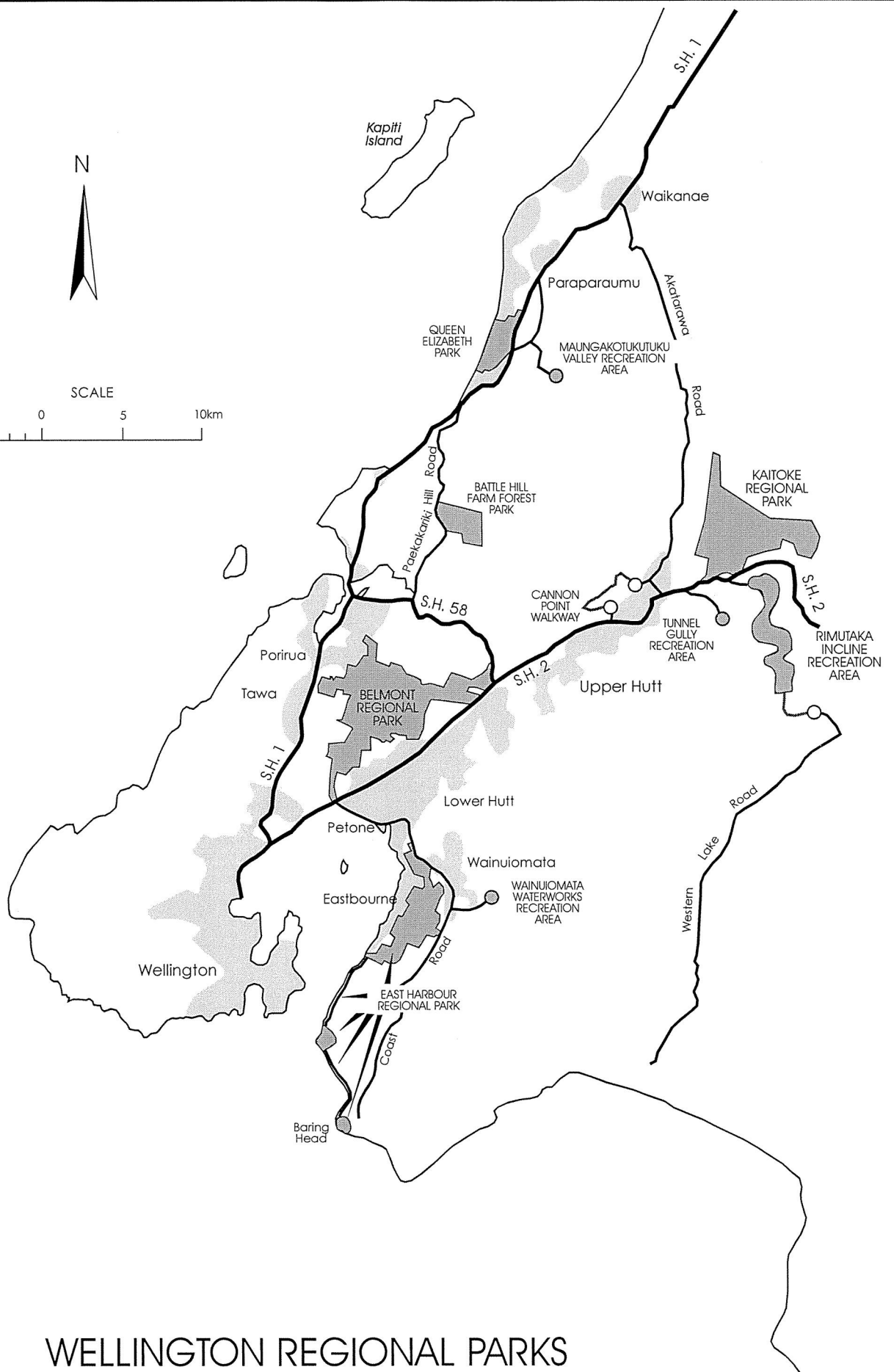
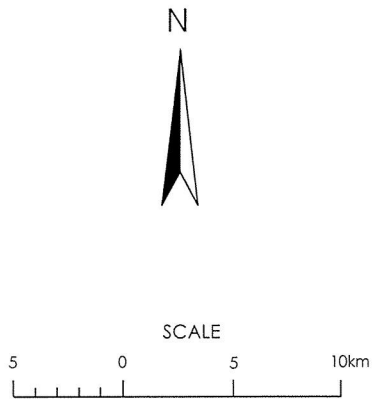
Natural Feature : Linked to the term "landscape". In broad terms, a natural feature is likely to be more of a defined entity (e.g., wetland, river, dune, rock formation or bush remnant), than the combination of land, water, vegetation and human elements that may make up a landscape. (Interpretation from the *Regional Policy Statement*).

Natural Heritage : The natural environment - including indigenous flora and fauna, terrestrial, marine and freshwater ecosystems and habitats, landscapes, landforms, geological features, soils and the natural character of water bodies and the coast. (Interpretation from the *Regional Policy Statement*).

Off Road Motorised Vehicles : Any motorised vehicle designed for or capable of cross-country travel on, or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain. Excludes registered motorboats, emergency or law enforcement vehicles. (*Kockelman, 1983, Management of Off-road Vehicles, California, USA.*)

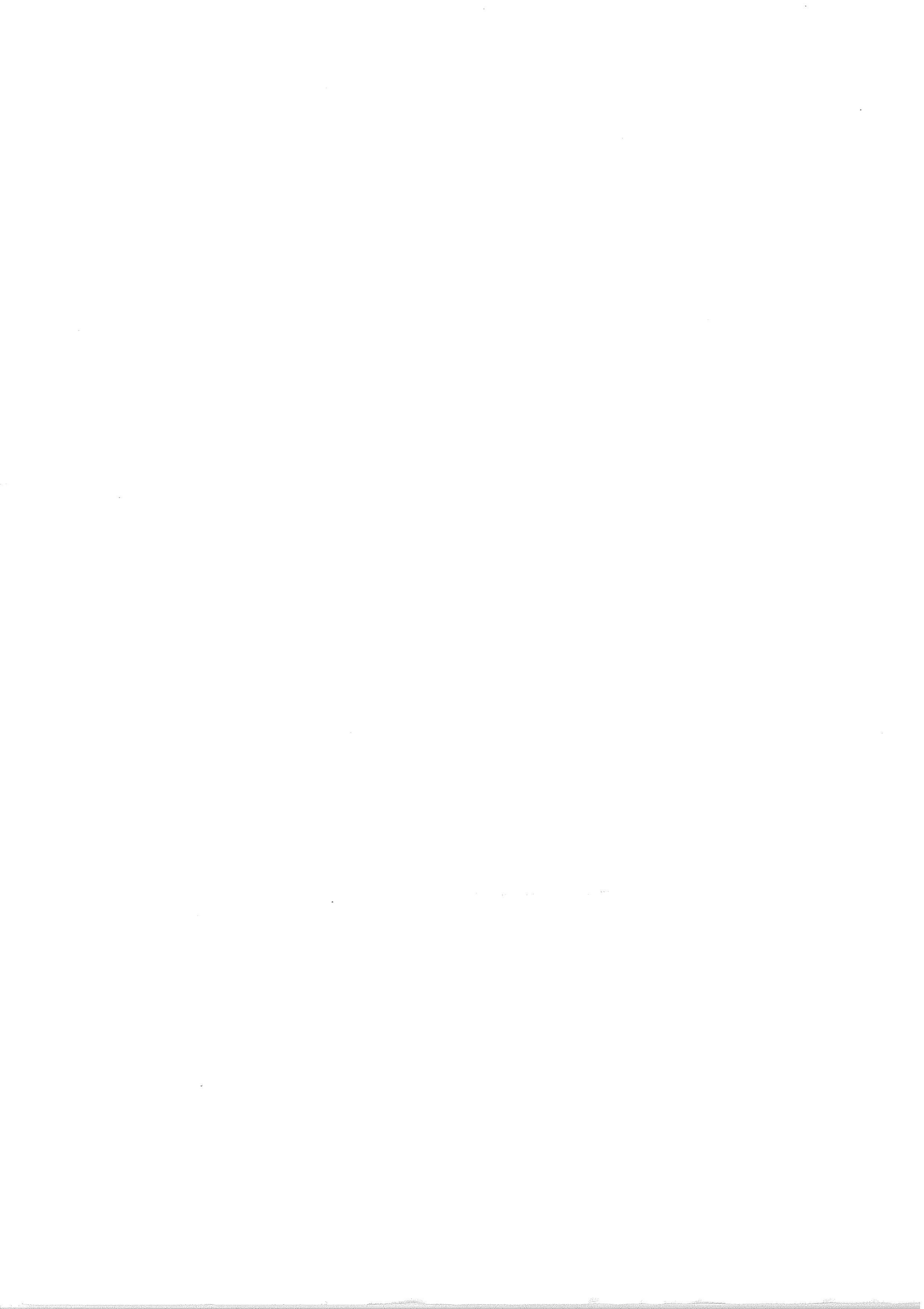
Peneplain : If a landscape remains stable for a long period - several tens of millions of years - weathering and erosion will steadily lower the hills until eventually they are completely worn away and an undulating, almost featureless plain - a peneplain - results. A peneplain is thus the end product of a very long period of erosion and weathering of the landscape. (Interpretation from *On Shaky Ground : A Geological Guide to the Wellington Metropolitan Region*).

Vehicles : Motorised forms of transport.



WELLINGTON REGIONAL PARKS
and RECREATION AREAS

Fig. 1



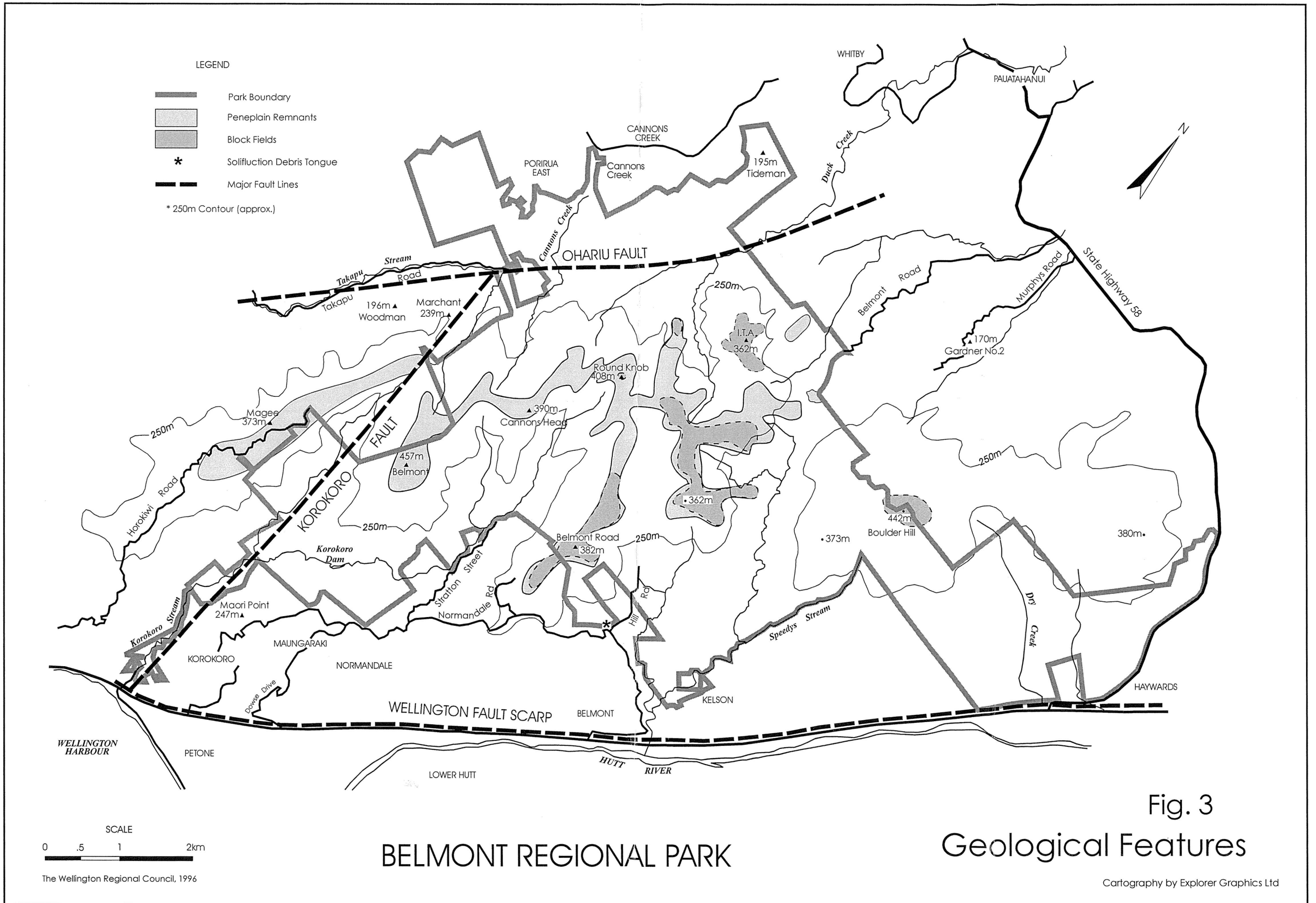
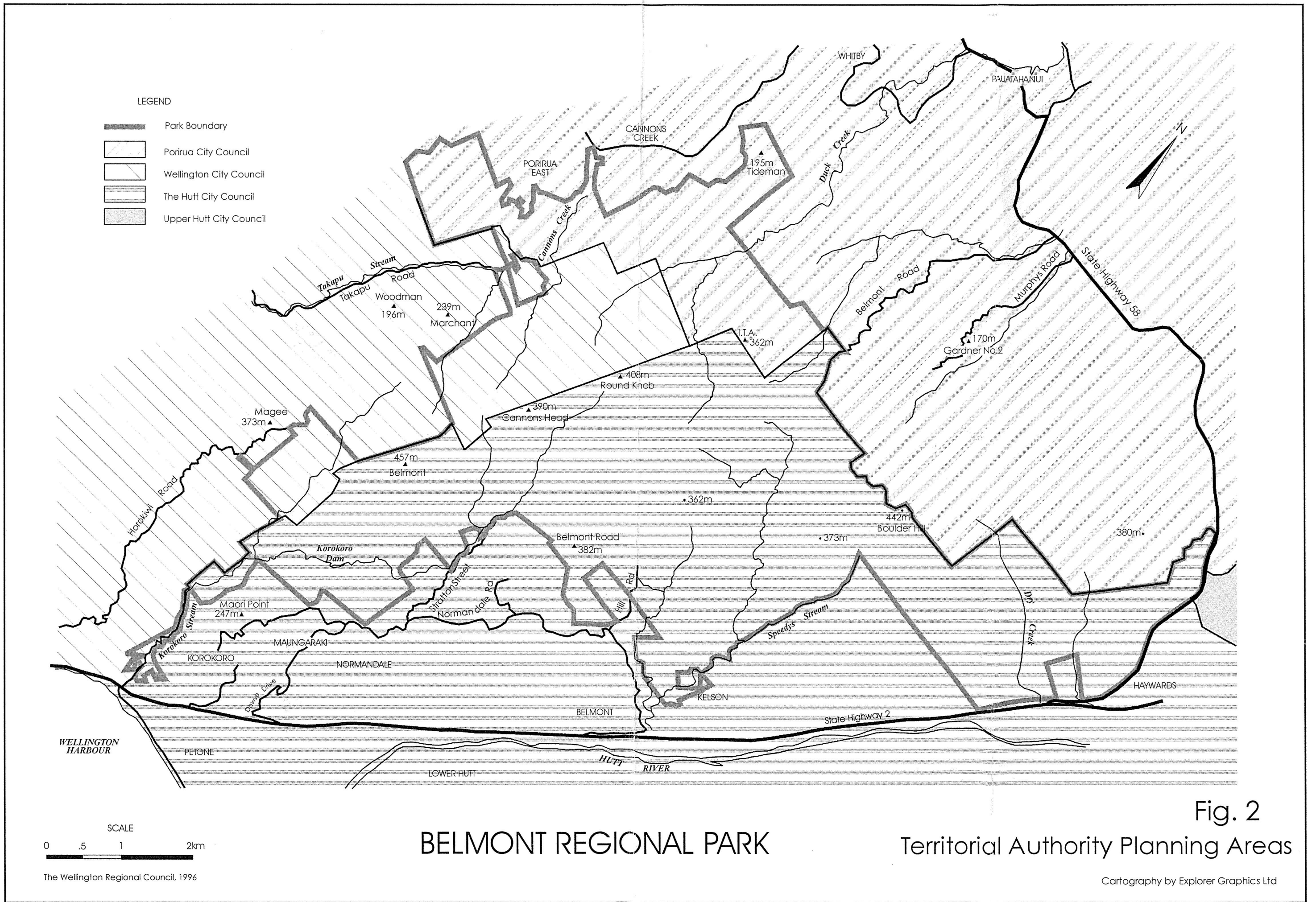


Fig. 3
Geological Features

Cartography by Explorer Graphics Ltd



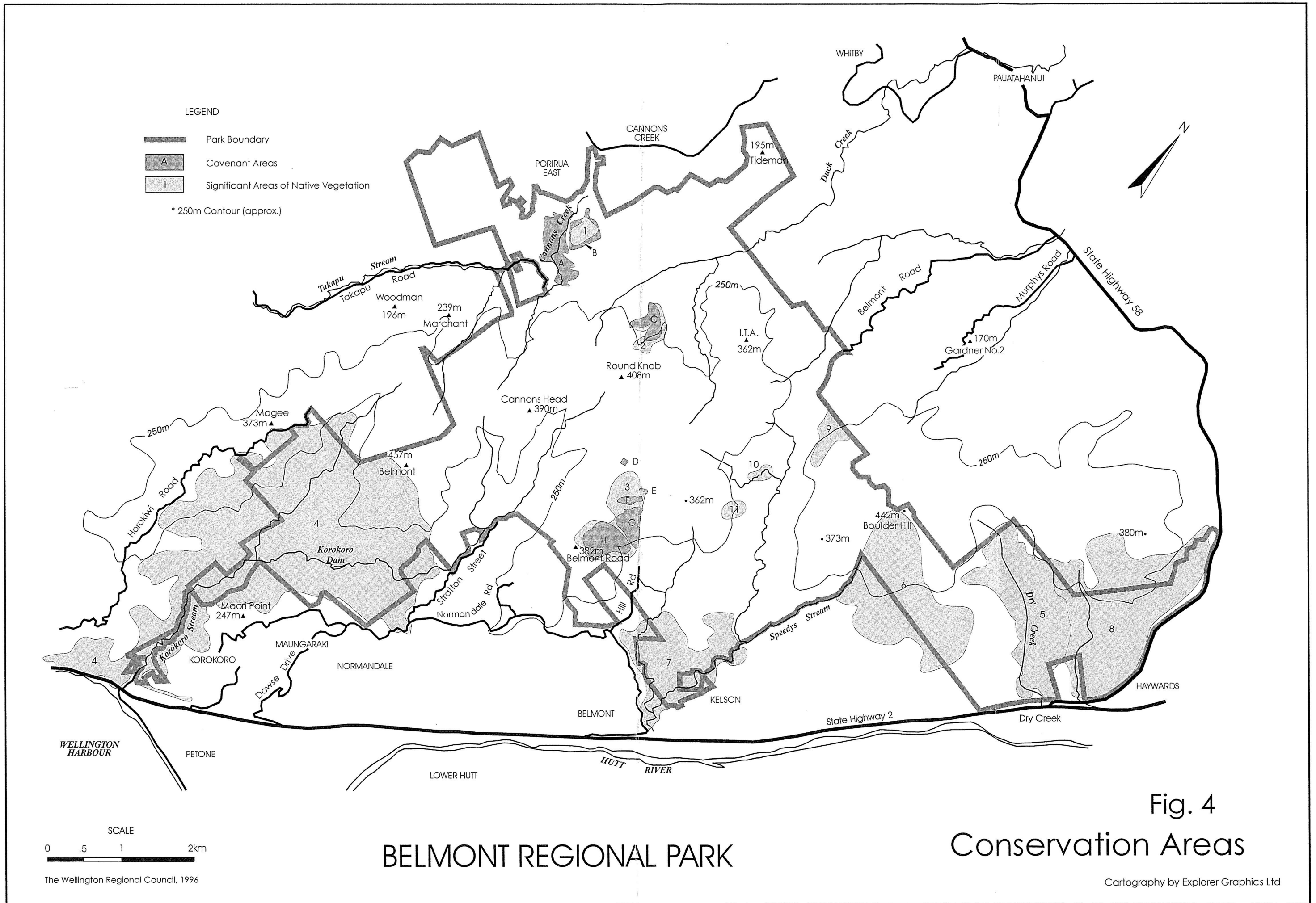




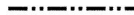


Fig. 4
Conservation Areas

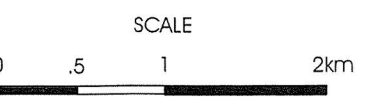
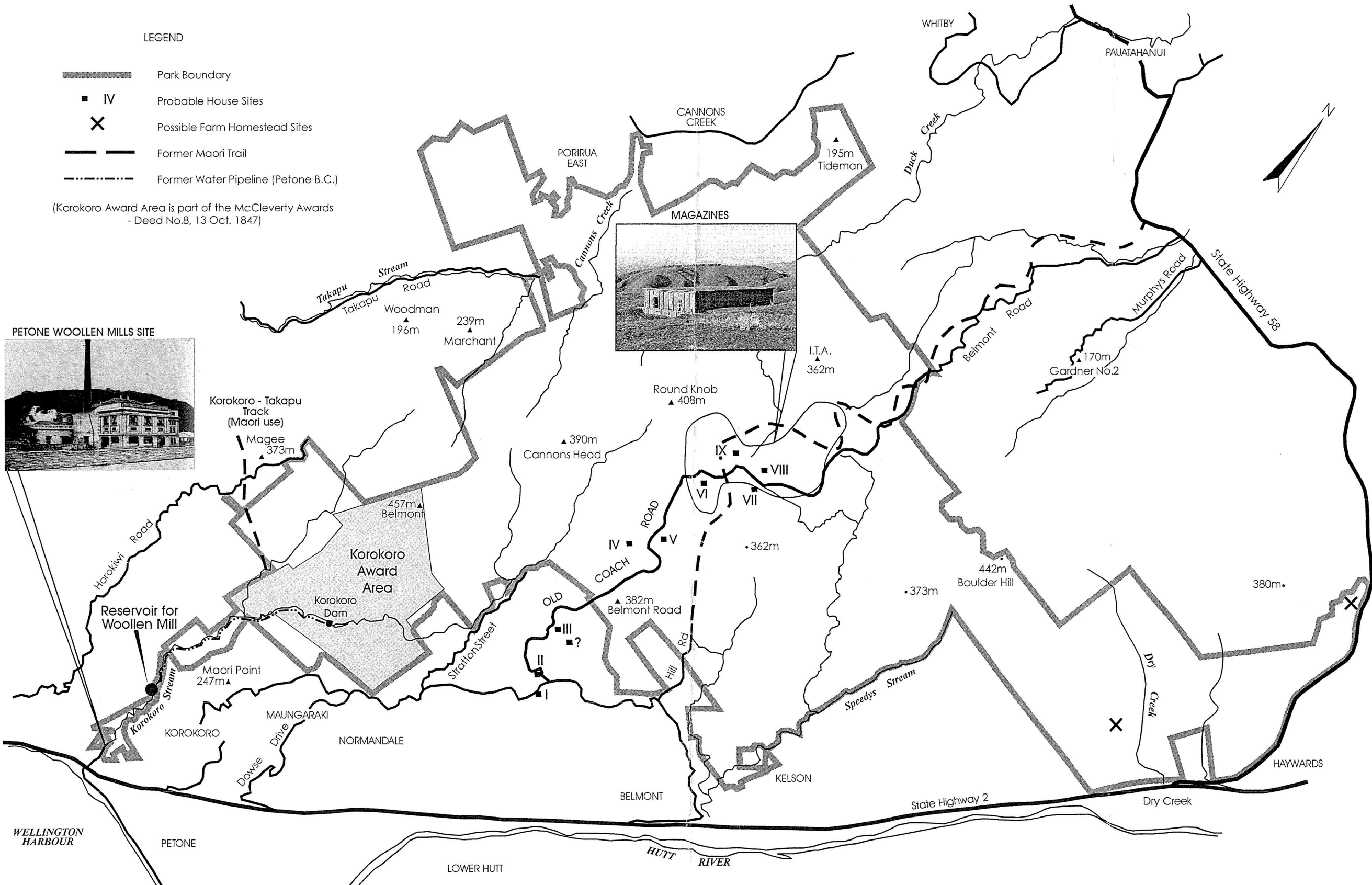
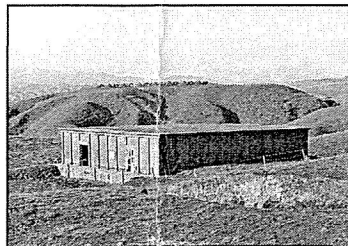
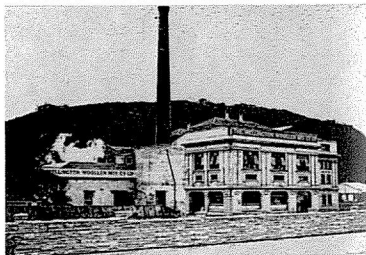
Cartography by Explorer Graphics Ltd

LEGEND

-  Park Boundary
-  IV Probable House Sites
-  Possible Farm Homestead Sites
-  Former Maori Trail
-  Former Water Pipeline (Petone B.C.)

(Korokoro Award Area is part of the McCleverty Awards - Deed No.8, 13 Oct. 1847)

PETONE WOOLLEN MILLS SITE

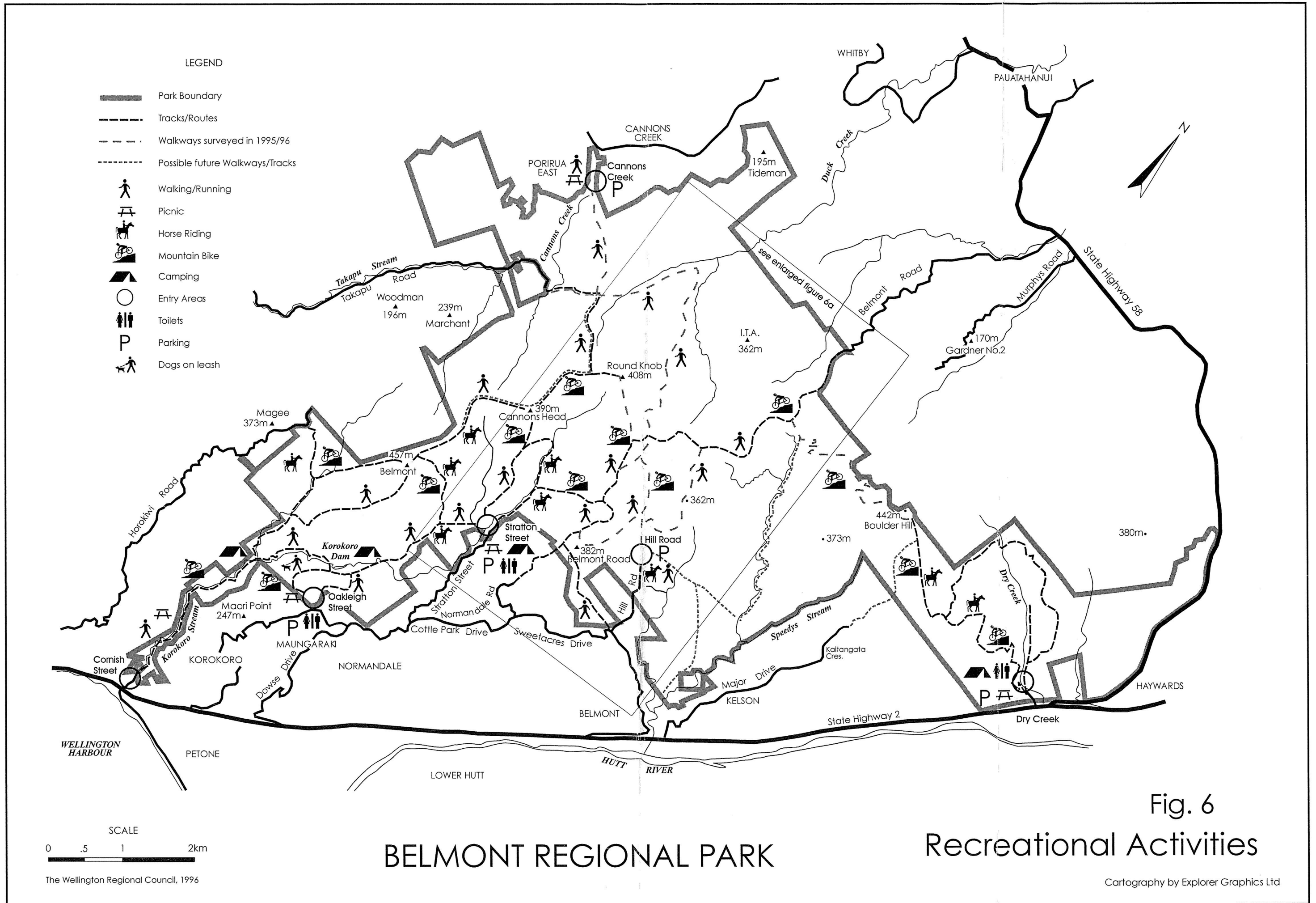


The Wellington Regional Council, 1996

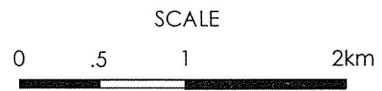
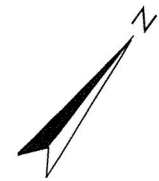
BELMONT REGIONAL PARK

Fig. 5
Cultural Features

Cartography by Explorer Graphics Ltd



- LEGEND
- Park Boundary
 - - - Tracks/Routes
 - - - Walkways surveyed in 1995/96
 - · · Possible future Walkways/Tracks
 - 🚶 Walking/Running
 - 🍷 Picnic
 - 🐎 Horse Riding
 - 🚴 Mountain Bike
 - 🏕️ Camping
 - ⊙ Entry Areas
 - 🚻 Toilets
 - P Parking
 - 🐕 Dogs on Leash



The Wellington Regional Council, 1996

BELMONT REGIONAL PARK

Fig. 6
Recreational Activities

Cartography by Explorer Graphics Ltd

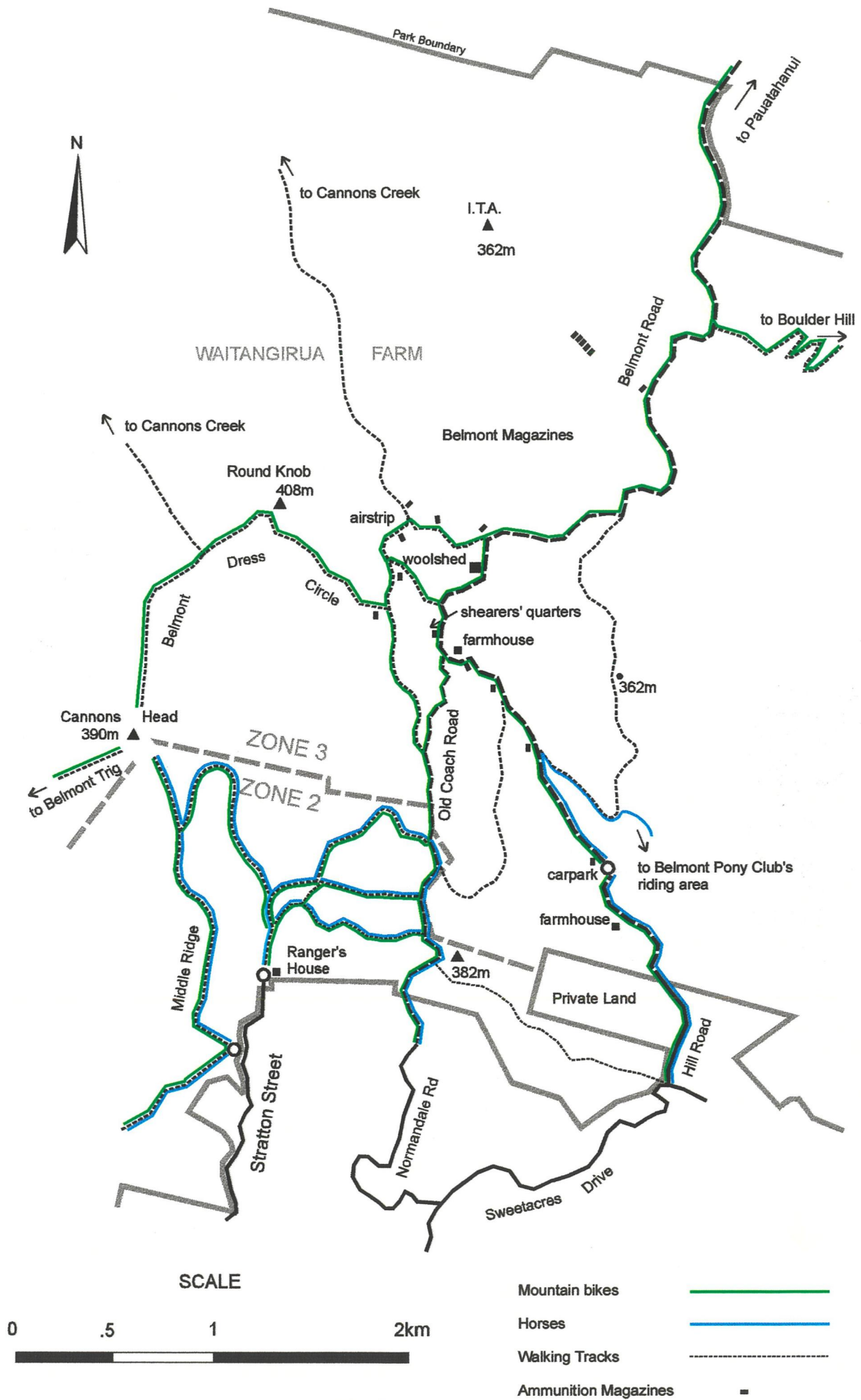


Fig 6a

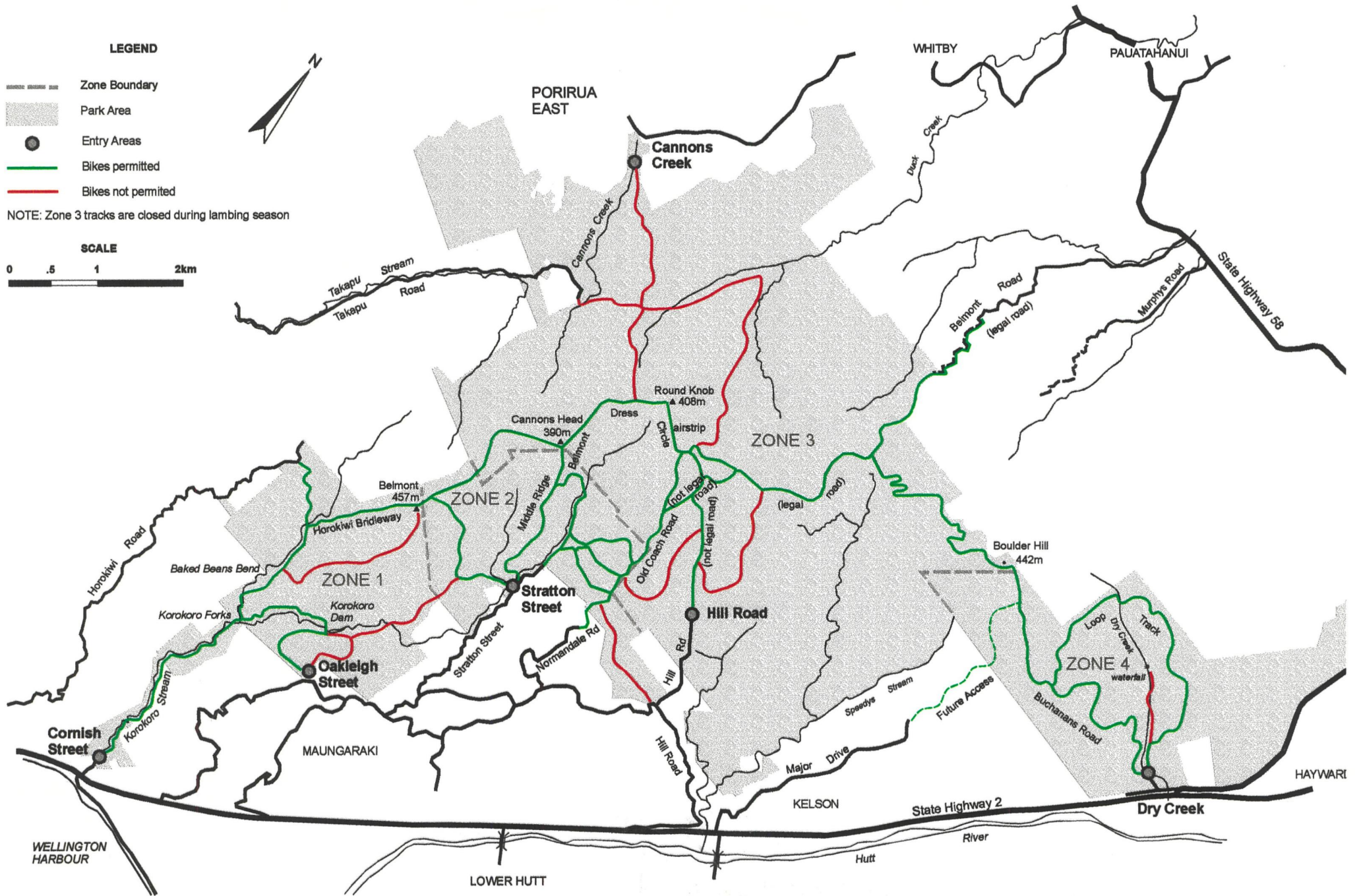


Fig. 6b

MOUNTAIN BIKING - BELMONT REGIONAL PARK

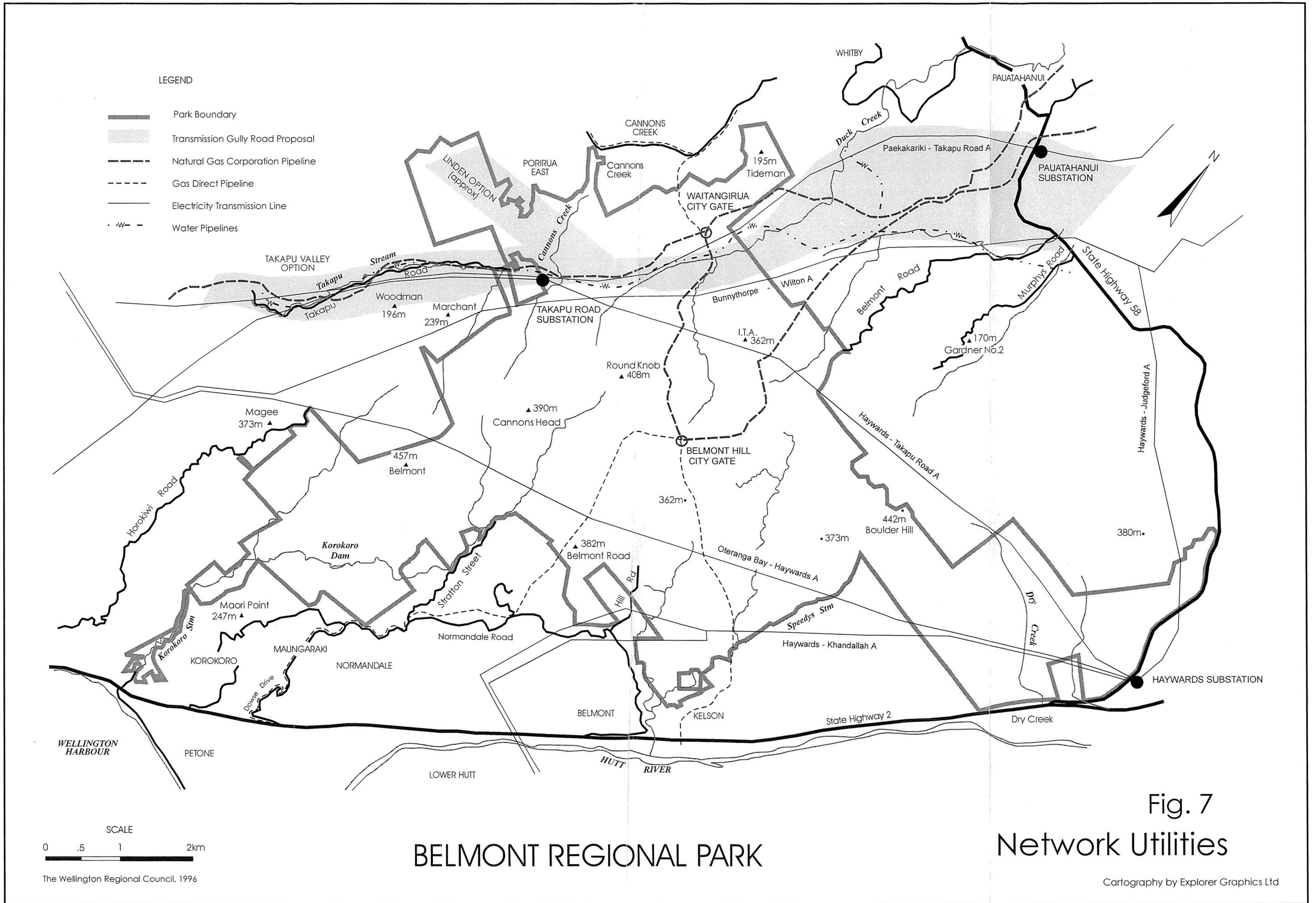
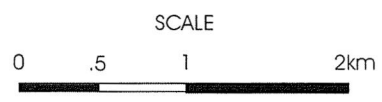


Fig. 7
Network Utilities

Cartography by Explorer Graphics Ltd



The Wellington Regional Council, 1996

BELMONT REGIONAL PARK