1 Introduction

1.1 CONTEXT

1.1.1 The National Park Management Plan Process

Under section 45 of the National Parks Act 1980, the Department of Conservation (the Department) is required to prepare and where necessary review Management Plans for National Parks. Management Plans provide for the day-to-day management of National Parks, and provide strategic direction for park management over a 10 year period. For Egmont National Park (the park), the plan review provides a vision, and then identifies the Department's policies on a number of issues, such as relationships with Tangata Whenua, management of natural and historic resources, animal and plant pest control, visitor facilities, concessions, public awareness, adjacent land uses and liaison with the community. The Treaty of Waitangi settlement process is dealt with through the Office of Treaty Settlements (OTS), and is separate to the management plan process.

The Egmont National Park Management Plan Review has been prepared in accordance with section 47 of the National Parks Act, which included the following stages:

1. An initial notice inviting suggestions and comments - this phase included the requirement to place public notices in appropriate daily newspapers, indicating the Department's intention to review the plan. A pre-draft public consultation process with visitor groups, user groups and Iwi also took place.
2. Preparation of a draft management plan in consultation with the Taranaki/ Whanganui Conservation Board (the Board).
3. Release of the draft management plan for formal public comment/submission.
4. Hearings on submissions.
5. The draft plan was revised in light of submissions supported by the Department and points raised at the hearings.
6. The Board considered the revised draft and the summary of submissions and made recommendations for amendments to the plan.
7. When satisfied with the plan, the Board recommended it to the New Zealand Conservation Authority (NZCA) for approval.
8. The NZCA considered the draft and amendments and then referred the draft to the Minister of Conservation, before finally approving the revised management plan.

The Wanganui Conservancy of the Department of Conservation administers Egmont National Park. The Stratford Area Office is responsible for the day-to-day management of the park. The park is managed in accordance with the Egmont National Park Management Plan, the Wanganui Conservancy Conservation Management Strategy and legislation (as listed in the Legislation Section).

The mountain is officially called 'Mount Taranaki' or 'Mount Egmont'. For ease of reading and consistency throughout this plan, the mountain will be referred to as Mount Taranaki.

1.1.2 What is a National Park?

The International Union for the Conservation of Nature and Natural Resources (IUCN) has adopted the following definition of a national park.

"A national park is a relatively large area:

- Where one or several ecosystems are not materially altered by human exploitation and occupation, where plant and animal species, geomorphological sites and habitats are of specific scientific interest, educational and recreational interest or which contains a natural landscape of great beauty;
- Where the highest competent authority of the country has taken steps to prevent or to eliminate as soon as possible exploitation or occupation in the whole area and to enforce effectively the respect of ecological, geomorphological, or aesthetic features which have led to its establishment;
- Where visitors are allowed to enter, under special conditions, for inspirational, educative, cultural and recreational purposes."

In the National Parks Act 1980, national parks are defined as "areas of New Zealand that contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that their preservation is in the national interest." (Section 4(1)).

1.1.3 The National Park Management Plan

The Egmont National Park Management Plan has four main parts:

- Part 1 includes the context of the management plan, the planning process, and the influences on the administration and management of the park by the Department and other bodies. It also provides resource information as a background to the management issues that arise in the park.
- Part 2 establishes a management philosophy for the park; this combines the vision for the park with a set of goals. The management philosophy establishes the basis for the formation of more detailed objectives and policies.
- Part 3 sets out the main management objectives and policies. It is divided into six major sections: Treaty of Waitangi, Heritage Protection, Use Management, Community Relations, Statutory Planning and Advocacy and Implementation, Monitoring and Review.
- Finally, there is a glossary, reference lists and appendices which provide information on park infrastructure and bylaws.

The hierarchy of the plan provides a vision, goals, objectives, policies and actions.

1.2 LEGISLATION

1.2.1 The National Parks Act 1980

Section 4 of the Act outlines the main principles to be applied to national parks as outlined below.

Parks to be maintained in a natural state and the public to have right of entry -

(1)"It is hereby declared that the provisions of this Act shall have effect for the purpose of preserving in perpetuity as national parks, for their intrinsic worth and for the benefit, use and enjoyment of the public, areas of New Zealand that contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that their preservation is in the national interest.

(2) It is hereby further declared that, having regard to the general purposes specified in subsection (1) of this section, national parks shall be so administered and maintained under the provisions of this Act that-

(a)They shall be preserved as far as possible in their natural state:

(b) Except where the Authority otherwise determines, the native plants and animals of the parks shall as far as possible be preserved and introduced plants and animals shall as far as possible be exterminated:

(c) Sites and objects of archaeological and historical interest shall as far as possible be preserved:

(d) Their value as soil, water and forest conservation areas shall be maintained:

(e) Subject to the provision of this Act and to the imposition of such conditions and restrictions as may be necessary for the preservation of the native plants and animals or for the welfare in general of the parks, the public shall have freedom of entry and access to the parks, so that they may receive in full measure the inspiration, enjoyment, recreation and other benefits that may be derived from mountains, forests, sounds, seacoasts, lakes, rivers and other natural features."

1.2.1.1 National Park Bylaws

Section 56 of the National Parks Act 1980 enables the Minister of Conservation to make bylaws for controlling access and various activities in national parks. Bylaws cannot be inconsistent with this management plan. The bylaws for Egmont National Park came into force on the 1st day of April 1981. Current bylaws for the Egmont National Park are listed in Appendix 3.

1.2.2 The General Policy for National Parks 1983

The General Policy for National Parks provides direction for achieving the broad objectives of the National Parks Act 1980. It includes a number of policies and accompanying explanations on a range of management issues that commonly occur in national parks. This management plan must be in accordance with the General Policy for National Parks.

1.2.3 Mount Egmont Vesting Act 1978

This Act provided for the symbolic return of Mount Egmont to the Taranaki Maori Trust Board acting on behalf of the Maori tribes concerned, and the gifting of the mountain back to the Crown by the Board for the purposes of a national park for the

use and enjoyment of all the people of New Zealand. This Act is in Appendix 8.

1.2.4 The Conservation Act 1987

The Conservation Act 1987 established the Department of Conservation and directs the administration and management of all land and resources under the Department's control (other Acts also direct the administration and management of public conservation land). The functions of the Department as set out in section 6 of the Act are:

(a) To manage for conservation purposes, all land, and all other natural and historic resources, for the time being held under this Act, and all other natural and historic resources whose owner agrees should be managed by the Department;

(ab) To preserve as far as is practicable all indigenous freshwater fisheries, and protect recreational freshwater fisheries and freshwater fish habitats;

(b) To advocate the conservation of natural and historic resources generally;

(c) To promote the benefits to present and future generations of the conservation of natural and historic resources generally and the natural and historic resources of New Zealand in particular;

(d) To prepare, provide, disseminate, promote and publicise educational and promotional material relating to conservation; and

(e) To the extent that the use of any natural and historic resource for recreation or tourism is not inconsistent with its conservation, to foster the use of natural and historic resources for recreation and to allow their use for tourism.

(f) To advise the Minister on matters relating to any of those functions or to conservation generally:

(g) Every other function conferred on it by any other enactment.

Conservation Boards are established under section 6L of the Conservation Act 1987. The functions and powers of the Conservation Boards are set out in sections 6M and 6N of the Act.

Section 4 of the Conservation Act 1987 states:
"This Act shall so be interpreted and administered as to give effect to the principles of the Treaty of Waitangi."

1.2.4.1 The Conservation Management Strategy (CMS)

Part IIIA of the Conservation Act 1987 requires each conservancy to prepare a 10 year strategy for management for the conservancy. The Conservation Management Strategy (CMS) is a statutory document which implements general policies and establishes objectives for the integrated management of natural and historic resources. The conduct of some activities on land administered by the Department can take place only in accordance with the CMS. District and regional authorities preparing and administering district and regional plans must have regard to the CMS. It must be noted however that the CMS is a statement of intent and does not override provisions of legislation, general policy and agreements. The CMS deals with:

- Management of land administered by the Department.
- The management of protected species on all land, regardless of ownership.

- Marine mammal protection, wild animal control, protection of freshwater fisheries, and other issues which affect natural resources in the Conservancy, both on and off land administered by the Department.
- The management of historic resources on land administered by the Department.
- Areas which have high natural or historic values, but are unprotected (currently) and discusses how, in some cases, protection could be achieved.
- The Department's priorities for increasing public awareness of conservation issues.
- Interpretation of natural and historic values on land administered by the Department.
- Priorities and direction for conservation management.

The CMS provides the basis for management planning for all areas administered by the Department. Conservation Management Plans are required for all national parks. This management plan must not be inconsistent with any of the provisions of the CMS, and while this document is intended to stand alone, the CMS may also need to be used for guidance on a number of issues where specific direction is unable to be provided in this management plan.

1.2.5 The Resource Management Act 1991

The purpose of this Act is

"to promote the sustainable management of natural and physical resources by managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while -

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonable foreseeable needs of future generations; and

(b) safeguarding the life supporting capacity of air, water, soil and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment." (Section 5 Resource Management Act 1991)

The Resource Management Act is administered by local government and is implemented through District and Regional Plans and Statements prepared by Councils. The activities of the Department are bound by the provisions of the Regional Policy Statements, District Plans and Regional Plans and the Department must apply for resource consents for activities as required under those plans. However, section 4 of the Act allows for a limited exemption for the Department where a landuse activity is in accordance with a management plan or a CMS and where it does not have significant adverse effects outside the boundary of the Park.

Section 72(2)(b) of the Act states that "A territorial authority shall have regard to any management plans and strategies prepared under any other Act". Councils will therefore have to have regard to the Conservation Management Strategy for Wanganui Conservancy when preparing their plans and policies.

1.2.6 Non-statutory Planning

A number of other planning activities have a significant influence on this plan, and include the following:

- International agreements often have a substantial influence on conservation policy or legislation at a national level. These may include: the ICOMOS New Zealand Charter for the Conservation of Places and Cultural Heritage Value, prepared by the International Council on Monuments and Sites and the New Zealand National Committee, the United Nations Conference on Environment and Development (UNCED), the Convention Concerning the Protection of World Cultural and Natural Heritage, and the Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar).
- National strategies are prepared by the Department to guide the activities of all conservancies in a number of different functional areas. These include national control plans for goats, possums and wasps, species recovery plans, a Visitor Services Strategy and an Historic Resources Strategy, to name a few.
- Functional plans for public conservation land are specific to a particular type of activity such as recreation, wild animal control or the recovery of a threatened species. These are generally non-statutory documents, and are prepared to enable the Department to carry out its functions in a strategic and co-ordinated manner.
- Wanganui Conservancy Strategies relevant to the Egmont National Park Management Plan include: The Historic Resources Strategy, Recreation Strategy, Wild Animal Management Plan, Species Conservation Strategies and Public Awareness Strategy.
- Operational plans are working plans to guide the operational activities of the Department in a particular programme or area. They are normally informal and "in-house" plans, but can be subject to inspection through the business planning procedure.
- Business plans are required by the Public Finance Act 1989 and are prepared annually by all Department conservancies. The business plan outlines the conservation programmes proposed by the conservancy for the financial year. It is guided by the objectives and priorities of the Conservation Management Strategy and management plans, but is also subject to Government and national priorities.

This plan is a further means of guidence for the implementation of these documents and strategies.

1.2.7 Other Bodies with Administration Responsibilities in the Park

Local authorities

The South Taranaki, Stratford and the New Plymouth District Councils together with the Taranaki Regional Council, cover the area of the park and are responsible for implementing the Resource Management Act, 1991 (RMA). The district councils prepare district plans to control the effects of land use and subdivision, while the Taranaki Regional Council prepares the Regional Policy Statement and regional plans and is responsible for water and air pollution control, soil conservation and river and flood control. The purpose of the RMA is to promote sustainable management of natural and physical resources. The provisions of the above mentioned plans bind the

activities of the Department and other operators in the park, who must apply for resource consent for activities as required. However, section 4 of the RMA provides for the Department to undertake any activity where it is in accordance with a management plan or a Conservation Management Strategy and where it does not have significant adverse effects outside the boundary of the park. The Taranaki Regional Council has responsibilities under the Biosecurity Act 1993 for animal and plant pest management. This includes ensuring that the requirements set out in their regional animal and plant management strategies are implemented. The Department of Conservation may have responsibilities and obligations under these strategies as set out by Order-in-Council. Local authorities also have civil defence responsibilities within the park.

New Zealand Police
Responsible for law and order and search and rescue.

Health Department
Responsible for public health.

New Zealand Fire Service
Responsible for determining standards of fire prevention, fire safety and fire control. The Minister of Conservation is the fire authority within the park but the Fire Service may also proceed to a fire.

Ministry of Transport (Civil Aviation Authority)
Responsible for aviation safety and regulation.

Fish and Game Council - Taranaki Branch
Responsible for the issue of sports fish and game bird licences and for the setting of related restrictions for the sustainable management of sports fisheries.

1.3 BACKGROUND AND RESOURCE INFORMATION

This section provides resource information which is intended to complement the management objectives and policies contained within the plan.

1.3.1 History of the Mountain

1.3.1.1 Maori Mythology and History

Minarapa and te Toka-a-rauhoto. Photo courtesy Taranaki Museum

It is said that Taranaki once lived harmoniously with Ruapehu and Tongariro in the Central Plateau. Then Tongariro and Taranaki both fell in love with the beautiful bush-cloaked Pihanga.

Tongariro was betrothed to Pihanga, but she loved Taranaki. Tongariro and Taranaki quarrelled and after a mighty fight, Taranaki fled towards the coast. Guiding Taranaki was a huge carved stone, named Toka-a-rauhoto. As they went, Taranaki gouged a great furrow in the land which was later to become the Whanganui River.

Whilst sleeping in his present position, Taranaki was prevented from falling into the sea by a spur from the range of mountains called Pouakai. Only his companion Rauhoto, the stone, can free him...but for now she is content for him to stay. Today the carved stone of Rauhoto can be seen at the Puniho Pa, keeping an eye on the still captive Taranaki, who weeps mist and rain for his lost love, Pihanga.

Little is known about the first people who occupied the region. Probably some time in the 14th century, a number of other people migrated to Taranaki. All people trace their origins to one of the different canoes that came with the "Great Fleet". Slowly the people were assimilated into the Tangata Whenua of today.

Oral history cites Rua Taranaki of Te Kahui Maunga people as the first person to claim the lands for his people from the highest peak in the land. This successful challenge was rewarded with the status of rangatira (chieftainship) and he established for himself a permanent place in tribal history.

Another member of Te Kahui Maunga named Tahurangi later ascended the maunga for the purpose of establishing a claim of ahi kaa, the lighting of a fire on the summit, a ritual symbolising occupancy.

Much later in history tribal people speak of a descendant, Tamatea-kura-mai-i-te uru-o-Tawhitinui, who offered some of those lands to the new migrants who landed on their shores. This new found relationship was at best generally harmonious and at worst openly hostile.

Through intermarriage, tribal exchanges and intermittent warfare since that generation, we have the current descendants that make up the Tangata Whenua today.

Over five hundred fortified pa sites were developed along the cleared and fertile coastal strip. Most Maori occupation sites in and close to the park are on the lower slopes facing north, usually immediately above a stream confluence. The early presence of Maori occupation in the park can be seen in heat-shattered oven stones and hearthstones, food pits and excavated sites in well defined kainga groups, amongst others. There are still the remains of ancient tracks - narrow and deeply worn.

The mountain has been a powerful influence on the people of Taranaki from the earliest days of occupation and remains so today.

1.3.1.2 European History

Captain James Cook sighted the mountain while he was sailing off the coast of the North Island on 10 January 1770. He named the imposing feature Mount Egmont in honour of the Earl of Egmont, First Lord of the Admiralty from 1763 to 1766. European occupation commenced with whalers in the 1830s, followed by the settling of New Plymouth in 1841.

Ernst Dieffenbach, employed by the New Zealand Company as a naturalist was the first European to reach the summit of Taranaki. Tohunga and other Maori showed him the way up to the snow level at 7,000 feet.

European settlement initially spread along the coast, but then progressed inland, and vast areas of forest were felled and burnt. This extensive forest loss was the catalyst for the protection of the mountain in its natural state. In 1875 Taranaki Provincial Government created Egmont Forest Reserve. Then in May 1881 temporary reservation was granted because of the recognition of the importance of the mountain for sustaining the fertile plains, timber and as a haven for wildlife and beauty:

"... all that area in the provisional district of Taranaki, comprised within a circle formed with a radius of six miles around the summit of Mt. Egmont containing 72,382 acres for the growth and preservation of timber".

Permanent reservation for the park was achieved two months later on 28 July 1881. The area was subsequently divided into four forest reserves with boards of Conservators known as the North, East, South and West Committees entrusted with the responsibility for control of the respective segments. While the main rationale for reservation was watershed and timber protection, the efforts of the Boards promoted the overall welfare of the park and ensured access and facilities throughout the area to enable access to the reserve.

The Taranaki Scenery Reservation Society drafted a Bill to create Egmont National Park. The Egmont National Park Act 1900 permanently set apart as the second New Zealand national park, all of the originally reserved area together with an area including the Kaitake Range. The Act constituted the Egmont National Park Board (the first park board in New Zealand), in addition to the four sectoral committees.

In 1924, additions were made to the original Act which retained the four committees, and provided for the park board to be composed of representatives of the committees. The main result of this administrative structure was that each committee promoted the development of its particular sector for tourism and economic gain, and there was a strong element of competition between sectors for the allocation of scarce resources.

With the passing of the National Parks Act 1952, a National Parks Authority was established to oversee management of all four national parks in New Zealand at the time. However the administrative structure of a board and sectoral committees was retained for Egmont. Committees established to manage the park were abolished by a 1977 Amendment to the National Parks Act. It is thus only in comparatively recent times that a regional and national viewpoint on the park has emerged.

The 1978 Mount Egmont Vesting Act provided for the symbolic return of land previously purchased or confiscated from the Maori people (involving some 95% of the park) to the Taranaki Maori Trust Board on behalf of the Maori tribes of Taranaki. It also provided for the gift of the mountain by the Trust Board back to the Crown for the purposes of a national park for the use and enjoyment of all the people of New Zealand. Today there remains a significant dispute with regard to this enactment.

In 1980 the National Parks Act was enacted, which significantly increased the protection for national parks, and allowed for greater public involvement in their administration and management. The basic philosophy for national parks also changed with the new Act, which changed the definition of parks, and the provisions to achieve a balance between preservation, access and use.

The mid-1980s saw a community debate surrounding the name of the mountain. To Maori and a number of non-Maori, the mountain had always been known as Taranaki. The debate was resolved through a notice in the New Zealand Gazette in 1986, when the Minister of Lands declared that the official name of Mt. Egmont be changed to "Mount Taranaki" or "Mount Egmont". For simplicity and the purposes of this management plan, the mountain will be referred to as "Mount Taranaki".

In 1987, the Department of Conservation was established to administer and manage public conservation land in New Zealand, including national parks.

1.3.2 Location

Egmont National Park is situated in the west of the North Island of New Zealand about 340 kilometres from both Wellington and Auckland. It is within a day's drive of both centres. Unlike other national parks in New Zealand, it is surrounded by a well-developed and densely settled agricultural landscape, the main centres of population being New Plymouth, Hawera and Stratford. All three towns are within 30 kilometres of the park boundary (see figure 1).

1.3.3 Nature and Size

The park is a mountainous area of unspoilt natural beauty encompassing three volcanic cones, two extinct and one dormant. The main peak of Mount Taranaki has an altitude of 2518 metres and forms the nucleus of the park. It is considered to be one of the world's most symmetrical mountains and so makes a very distinctive landmark. The park itself comprises the land within approximately a nine-kilometre radius of the mountain summit, as well as the Pouakai and the coastal Kaitake Ranges, and covers an area of approximately 33,000 hectares.

1.3.4 Physical Resources

1.3.4.1 Egmont Ecological District

New Zealand has been divided into 268 ecological units known as ecological districts and regions. Egmont National Park lies within and is the central feature of the Egmont Ecological District. Ecological districts are founded on features of the landscape to which people easily relate - landform, climate, soils, native vegetation and the human impacts on those features.

The features of the Egmont Ecological District are so distinctive that the district is considered to be a single ecological region, Egmont Ecological Region. The term 'ecological district' will however be used throughout this management plan for the purpose of simplicity and to be consistent with the CMS.

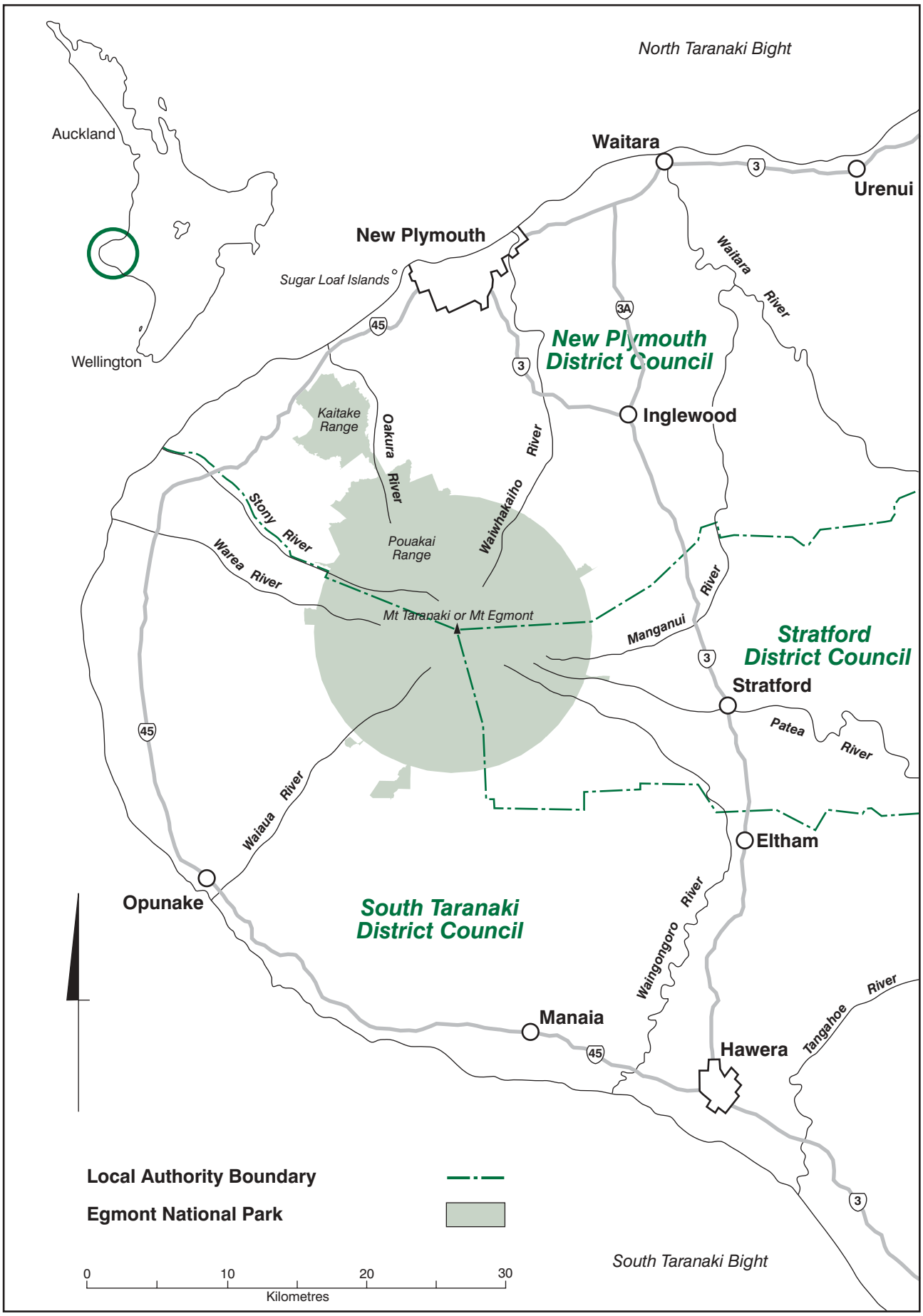
Egmont Ecological District comprises 270,300 ha, all of which lies within Wanganui Conservancy. Although 13% of the district lies in Egmont National Park and reserves, much of this is made up of alpine, sub-alpine and montane zones (Clarkson and Boase, 1982). Very little of the coastal and semi-coastal ecosystems and vegetation types are left within the district. Less than 1% of coastal and semi-coastal zones and 2% of the lowlands have a protected status.

Much of the district has been modified substantially over the years through development for pastoral farming, especially dairying.

1.3.4.2 Geology and Soils

Egmont Ecological District encompasses the andesite volcanoes of Mount Taranaki, the Pouakai and Kaitake Ranges and the Sugar Loaf Islands, and the ring plains of volcanic ash (tephra) and boulders and other debris from volcanic mud flows (lahars). In the south east, the volcanic material of the ring plain overlie mudstone of marine origin. In places, sand dunes cover the coastal fringes of the ring plains.

FIGURE 1: LOCATION AND LOCAL AUTHORITY BOUNDARIES



Fanthams Peak from the crater rim. Photo: T Weston

The geology and soils of the area are linked directly to its volcanic history. The three volcanoes within the park are part of a linear sequence of volcanic activity known as the "Taranaki Volcanic Succession". It begins at Paritutu and Nga Motu, also known as the Sugar Loaf Islands, near New Plymouth, 1.75 million years ago, followed by the Kaitake range 575,000 years ago, the Pouakai Range 250,000 years ago, and Mount Taranaki, since 150,000 years ago. The current shape of the three volcanoes in the park, two of which are now extinct, reflects the time that each has been exposed to the processes of erosion over thousands of years. The most recent volcanic cone, Mount Taranaki, dominates the park, with the lower profile of the older volcanoes of Pouakai and Kaitake to the northwest (See figure 2).

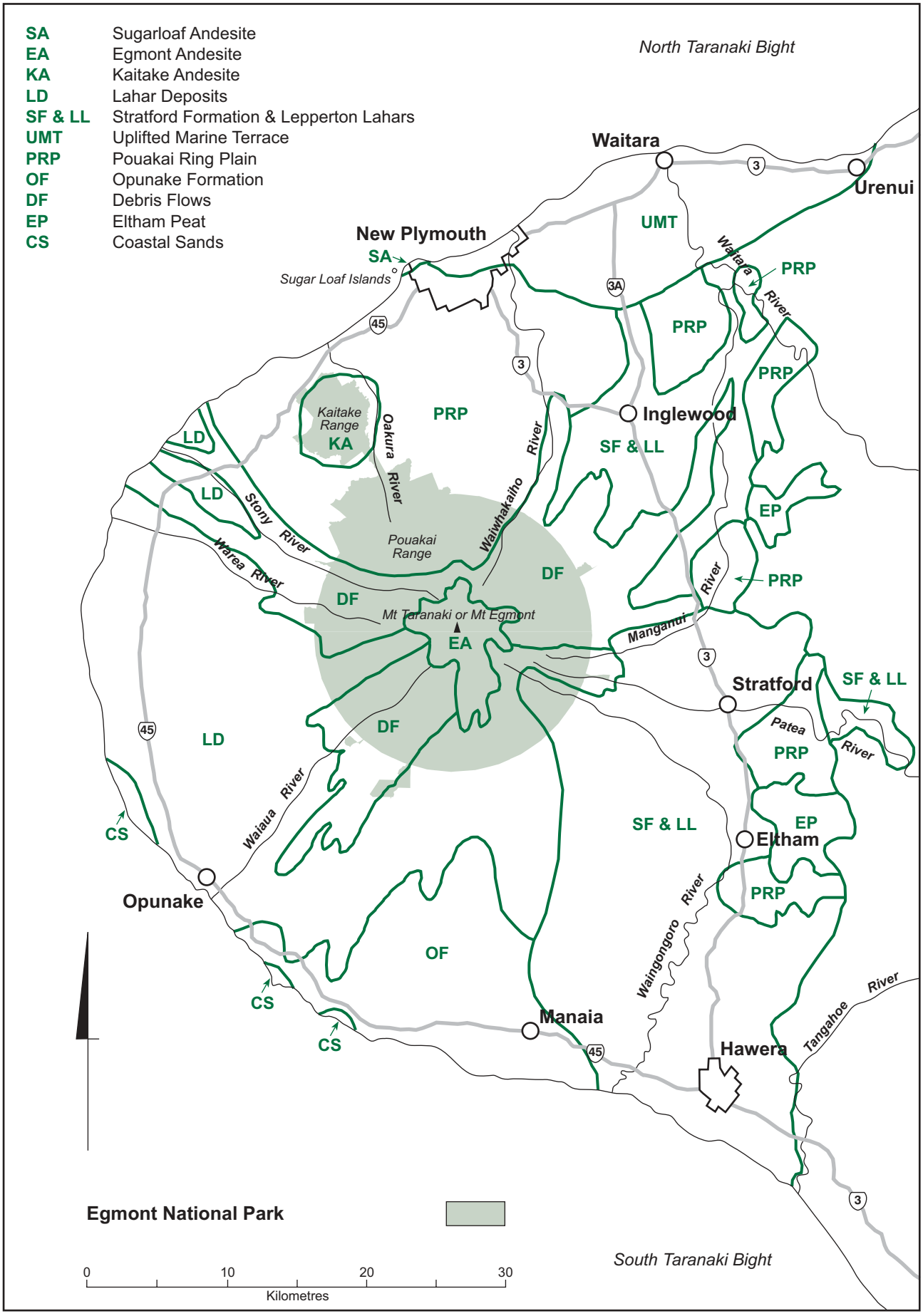
Lava flows, ash showers and lahars (debris flows) have also transported the volcanic material away from the peaks. The oldest lava flows on Mount Taranaki are preserved in the west, but erosion has removed a number of older flows, resulting in the picturesque forms of Humphries Castle, Lion Rock, and Warwick Castle (Tahuna a Tutawa). Fanthams Peak was formed when magma found a weak point in the volcano and created a secondary vent on the side of the mountain. Eruptions from this vent formed the peak.

Mount Taranaki is relatively unstable geologically, being an active volcano in a state of dormancy. There have been major debris flows in recent times (e.g. Pyramid Stream in 1890), but more frequent still are rock falls from unstable cliffs and scoria slopes. Ongoing research (e.g. hazard mapping) is useful to indicate the likelihood of changes on the mountain. This allows the location and type of any development to be planned and reduces the possibility of damage to facilities or risks to park users in this changing environment.

There are several deposits of minerals in the park, especially in the Kaitake Range. Not all of these deposits have been tested - however those that have been tested show no economic significance." Minerals of traditional interest (ochres) occur in various locations. There are also purely scientific interests in the geology and volcanology of the park.

The soils within Egmont National Park vary radially around Mt Taranaki. In the southwest, northwest and north are Maero and Newall soils derived from sands and gravels deposited by pyroclastic flows from Egmont Volcano over the last 500 years. In the southeast are Rowan soils derived principally from tephras (airfall pumices and scoria) erupted from the summit of Egmont Volcano and from Fanthams Peak between 500 and 3,500 years ago. To the east are Burrell soils derived from the Burrell pumice shower of 1655 A.D. All these soils are loose, weakly structured or structureless, weakly weathered, sands to gravels (lapilli) and are therefore highly erodible. The high rainfall means the soils are often strongly leached and, along with the low soil temperatures, contribute to relatively slow revegetation of eroded upper slopes. The effects of wild animals compound this problem. There are some soils in the park which are well drained and strongly leached deep ash soils, named Patua soils, which occur to the west of Mt Taranaki and across much of the western and northern slopes of the Pouakai Range. In contrast, where drainage is impeded, swamps and wet areas have formed, which provide a habitat for some of the park's rare or localised

FIGURE 2: GEOLOGY (SOURCE: BAYFIELD AND BENSON, 1986)



plants. At the highest altitudes are unnamed subalpine and alpine soils which are very weakly developed and erode easily.

1.3.4.3 Climate

The geographic position of Egmont National Park near the west coast of the North Island and its rapid elevation change from about 100 metres to 2500 metres influence its climate. The climate of the lower Kaitake Range sector of the park is mild and humid with mean annual rainfall of up to 1500 mm. The climate of the rest of the park is characterised by low temperatures, increased exposure to wind and very high rainfall. Annual rainfall varies from 7.5 metres in the Pouakai-North Egmont area to 6.3 metres in the Dawson Falls area, with falls of almost half a metre in a day having been recorded.

Ice covered vegetation.
Photo: T Weston

The high intensity and long duration of some storms mean the rain severely erodes soils not protected by vegetation. Thus, management of the park aims to retain a vegetative cover, or to control runoff where water accumulates, e.g. tracks and car parks.

The average wind speed is about 40 kilometres per hour at the summit of Taranaki and is about 16 kilometres per hour in the coastal Kaitake Range sector. Prevailing winds are from the west to northwest with southerly winds also being frequent. Gale force winds and blizzard conditions often occur above 1000 metres. There are frequent alterations between settled and stormy weather, with continually changing winds.

Wind and the temperature change with altitude. Both contribute to the severe windchill factor often experienced on the mountain. Low temperatures and moisture (cloud and fog) may lead to icy conditions. These features of mountain weather have considerable implications for user safety in the location of tracks and provision of low level alternative routes, huts and shelters and in educating responsible behaviours by park users.

At the altitude of the Stratford Mountain House (850 metres), snow does not fall often or settle long on the ground however there is an average of 14 days of snowfall per year. The irregular nature of good snowfalls combined with suitable weather has implications for skiing and the provision of associated facilities (e.g. roads and parking).

1.3.5 Ecosystem Diversity

1.3.5.1 Vegetation

Egmont National Park is important nationally as it contains a diverse range of vegetation developed in an environment of frequent volcanic activity. The vegetation

ranges from semi-coastal forest, through montane forest, tussock lands, into alpine and scree communities over a short distance, on a nearly conical volcanic peak. This compact altitudinal sequence is not often seen. The forests are conifer-broadleaved types and, unlike most other mid altitude forests, beech (*Nothofagus*) species are absent. Other notable features are the large number of terrestrial northern rata (*Metrosideros robusta*) and one of the most extensive kahikatea-rimu/kamahi semi-swamp forests in the North Island, with probably the largest population of swamp maire (*Syzygium maire*) remaining in New Zealand (Clarkson, 2001).

The vegetation patterns in Egmont National Park are complex. The vegetation at any given place is not only the product of climate but also of parent rock material, slope, aspect, drainage and soils. Also significant is the impact of past and ongoing disturbances (e.g. eruptions, landslides, cyclones, and human factors such as logging and introduced animals). As a result, the classic zonation is often interrupted. For example, the lowland rimu-kamahi-rata forest is replaced by relatively low-stature forest of kamahi and tree rata on the western slopes of the main cone. This forest occupies land devastated by debris flows less than 400 years ago. The northern part of the park has the mildest climate, and has tawa forest with some kohekohe, puriri, nikau and titoki. Where slopes are gentle or flat with poor drainage, there is swamp forest of kahikatea and swamp maire, or bogs with low scrub and reeds (see figure 3).

The largest swamp, Ahukawakawa, lies between the main cone and the Pouakai Range. It covers about 101 hectares at an altitude of 920 metres. Within the altitudinal range of montane forest, the dominant swamp plants are red tussock, sedges and sphagnum moss. It is an area of very high biodiversity; a third of all the park's plant species are found in this small area. Ahukawakawa forms the headwaters of the Stony River (Hangatahua) . The Stony River is protected under the Taranaki Regional Council's Regional Fresh Water Plan for Taranaki in recognition of its high scenic, recreation, historic values and its importance to Tangata Whenua. Other areas are also protected.

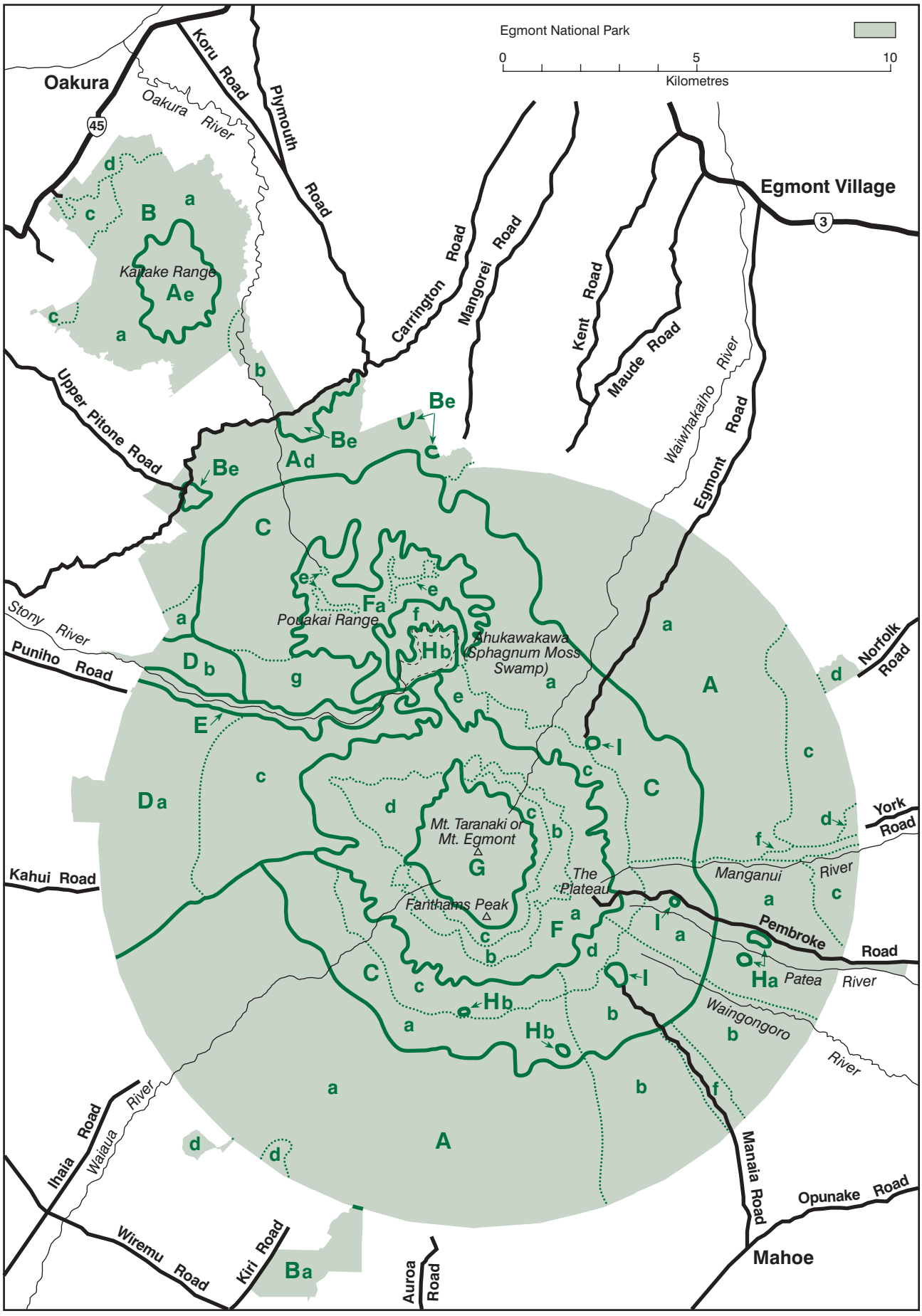
Ahukawakawa Swamp. Photo J Barkla

In all the non-forested zones, the broad patterns can be altered by local conditions such as degree of shelter, soil wetness, shade, or by recent disturbance, including human activity around tracks, buildings and ski areas.

The variety of native plants in the park is not as diverse as other New Zealand mountains, especially in montane and alpine zones (Clarkson, 1986; Druce, 1973). The park has just one endemic plant species (*Melicytus drucei*). Several endemic subspecies of widespread species have also been named, including the whipcord hebe, red tussock and mountain foxglove. This has been attributed to the recent vulcanism and isolation of the mountain. Beeches, mountain toatoa, and pigmy pine are examples of nationally widespread mountain plants which are absent from the park. On the other hand, for several native species, Egmont National Park is the only North Island location. These include mountain ribbonwood and the alpine fern *Polystichum cystostegia*. The total number of indigenous flowering plants, conifers, ferns and fern relatives recorded in the park is about 500 species. Moss records from the park total 161 species. This is about 30% of the mosses in New Zealand (P.J.Brownsey, pers. comm. 2000).

a	rimu-rata / kamahi forest
b	rimu-rata / mahoe forest
c	kahikatea-rimu / kamahi forest
d	logged forest, kamahi predominant, tawa seldom present
e	kamahi forest (miro, hinau, toro common, and mountain totara present)
f	kamahi forest (occasional terrestrial rata present)
a	tawa forest (rewarewa, pukatea, hinau common; occasional rimu and kamahi)
b	logged forest, kamahi predominant, some tawa
c	kohekohe forest (rewarewa, tawa, pukatea common)
d	scrub and tree fernland to kohekohe forest
e	scrub and tree fernland trend to kamahi forest
a	kamahi-mountain totara forest
b	kamahi-mountain totara forest with kanuka
c	mountain totara-kaikawaka / broadleaved shrubs forest (kamahi seldom present)
d	mountain totara / broadleaved shrubs forest (kaikawaka and kamahi seldom present)
e	kaikawaka-mountain totara / kamahi forest
f	kaikawaka / kamahi forest + kaikawaka / leatherwood scrub
g	kamahi forest + leatherwood scrub
a	rata-kamahi forest
b	rata forest
c	kamahi-toro forest (including toro and kanuka forest)
	Stony River (kanuka forest, scrub and shrubland, herbfield, and river bed)
a	leatherwood scrub and shrubland
b	red-tussockland
c	herbfield
d	moss-herbfield and mossfield (with red tussock and shrub rings)
e	red-tussockland and tussock-herbfield
	gravelfield, stonefield, boulderfield, rockland, ice and snowfield
a	lowland mire
b	montane mire
	exotic plantation

FIGURE 3: VEGETATION TYPES (SOURCE: CLARKSON, 1986)



Nine plant species recorded in Egmont National Park are rated as nationally threatened or uncommon (de Lange *et al*., 1999). They are: *Dactylanthus taylorii* (pua o te reinga, a parasitic flowering plant which causes wood roses to form on its host plant's roots), *Prasophyllum* species (an unnamed orchid, related to *P. patens*), *Olearia capillaris* (a shrub daisy), *Melicytus drucei* (a divaricating shrub), *Gratiola nana* (a small creeping herb), *Brachyglottis kirkii* (or kohurangi, a shrub daisy), *Marattia salicino* (king fern), and *Myriophyllum robustum* (giant milfoil). The mistletoe *Ileostylus micranthus* was last seen in the park in the 1960s but was found outside of the park boundary in 1995. Another important feature of the vascular flora is the restricted occurence (one or a few small colonies) of many species that are common elsewhere in New Zealand. This makes them especially vulnerable to local extinction including through inadvertent damage by human activity. Examples include the small shrub *Cyathodes empetrifolia*, *Podocarpus nivalis* (a prostrate coniferous shrub) and the small tree *Entelea arborescens*.

Clarkson (1986) described the various vegetation and substrate classes of the park.

Lowland forest

This forest type covers more than half the total park area (>16, 765 hectares). Clarkson identified nine main forest types: rimu-rata/kamahi, rimu-rata/mahoe, kahikatea-rimu/kamahi, rata-kamahi, kamahi-toro, rata, kamahi, tawa and kohekohe.

Exotic forest

Lucy's Gully contains a stand of less than 30 ha of coastal redwood. This stand was subject to a national park determination and it was decided that it had historic significance and should not be removed.

Lowland tree fernland and scrub, induced grassland and cliff vegetation

Occurs in an area on the lower north-western slopes of the Kaitake Range. Steep cliffs in this area are not forested but are dominated by mountain flax (a species not found elsewhere in the park, and possibly introduced by Maori).

Montane forest

This type of forest occurs between 760 m and 1100 m on Mount Taranaki and the Pouakai Range and covers nearly one third (11,165 ha) of the total park area. One major type dominates, kamahi-mountain totara, but Clarkson (1986) has identified six other types.

Mire vegetation

This is a very small but significant ecosystem type within the park. Ahukawakawa Swamp supports 260 different species. (Druce, 1973). The park contains over 80% of all wetlands remaining in the Egmont Ecological District.

Subalpine scrub and shrubland

This covers most of the upper Pouakai Range and forms a belt 800 metres to one kilometre wide around Mount Taranaki between 1100 metres and 1400 metres. Scrub and shrubland is also found associated with park mires.

Subalpine and alpine tussockland

Tussockland occurs as a narrow strip between 1400 metres and 1600 metres on Mount Taranaki. It also covers the high peaks and poorly drained tops of the Pouakai Range and is predominant in the Ahukawakawa Swamp.

Alpine herbfields

These occur up to 1675 metres and above the upper limit of tussocklands

(approximately 1600 metres). Herbs are the most predominant growth form as well as mossfield and moss-herbfield and cushion-plant fields.

Alpine gravelfield, stonefield, boulderfield, rockland, snowfield, and icefield.
At about 1650 metres plant cover becomes patchy with bare substrate predominating.

Introduced Plants
Weeds are mostly restricted to road ends within the park, the park edge and lower stream and river valleys. Wild ginger can become the dominant understory species and prevent natural forest regeneraton. It is being controlled on the western edge of the Kaitake Range. Gorse occurs in dense stands along some major streams but is likely to be replaced by native species in time. There are other plant pests found in the park that are a threat and need to be controlled and monitored. These include Chilean rhubarb, wandering willie and climbing asparagus. Old man's beard is not currently known in the park but has the potential to cause serious damage to conservation values if it becomes established. Old man's beard smothers and kills trees and prevents the establishment of native seedlings.

1.3.5.2 Wildlife

Terrestrial (land) fauna
Forty-three bird species (28 native and 15 introduced) regularly occur in the park. As the only large forest tract within the Egmont Ecological District, the park provides the district's only habitat for many of these birds (Cotton and Molloy, 1986). The park has a good range of common forest birds including tomtit, rifleman and bellbird. Species of note include North Island brown kiwi, fernbird and blue duck. The forest gecko is found in the park, and in 1994, brown skinks were found at the unusually high altitude of about 900m.


Threatened species Blue Duck. Photo: D Caskey

Surveys of invertebrates have been made in the park. Several species are unique to the park, and it is the only North Island locality for several others. New Zealand's largest terrestrial amphipod "hopper", *Tara taranaki* is known only in the park, as is a distinctive form of *Powelliphanta* (giant land snail).

Aquatic life
The park contains the head waters of over 300 rivers and streams that provide a relatively unmodified habitat for instream life.

Of New Zealand's 31 indigenous fish species, 13 have been recorded in, or near the park. They include well-known species such as long-finned (*Anguilla dieffenbachii*) and short-finned eels (*Anguilla australis*) and common bullies (*Gobiomorphus cotidianus*). Nationally threatened species are also present. These include giant kokopu (*Galaxias argenteus*), short-jawed kokopu (*Galaxias postvectis*), banded kokopu (*Galaxias fasciatus*), and koaro (*Galaxias brevipinnis*). The native freshwater crayfish, koura (*Paranephrops planifrons*) is also present.

Introduced fauna

Most rivers within the park carry stocks of brown trout (*Salmo trutta*) which generally spawn in the more stable upper reaches of the rivers. The Stony River also carries rainbow trout (*Oncorhynchus mykiss*). Although some trout fishing occurs within the park, most is carried out in the lower reaches of the rivers outside the park.

There are a number of introduced animals impacting on the native flora and fauna of the park. Possums have had a particularly severe impact on emergent and canopy species. The impacts range from removal of fruit and flowers to the death of large areas of trees through defoliation. Possums may also eat the eggs and chicks of birds and eat large invertebrates such as *Powelliphanta* snails.

Possum - A major threat to park values.

In the past goats have hugely modified the understorey of the forest by browsing all accessible palatable vegetation. In some areas the entire forest was killed through browsing, bark biting and trampling. Today, as a consequence of intensive control, goat impacts are negligible but the species remains a significant threat.

1.3.6 Visitor Use

Egmont National Park is visited by people of the Taranaki region as well as domestic tourists from other parts of New Zealand. The proximity to population centres and the attraction of the mountain draw a lot of local visitors to the park, but also from other parts of New Zealand and overseas. Once at the road end, weather, inclination, or opportunity largely dictate whether they use the visitor centres, picnic areas, go for a walk, enjoy or record the views, or a combination of these.

A visitor survey (Laurence, 1994) of the park has identified a number of significant characteristics of visitors to the park. Taranaki residents were the largest user group in the park, making up 47% of all visitors to the park. New Zealand visitors originating from outside the Taranaki region were the next largest user group at 37%. Domestic tourists (New Zealanders from outside Taranaki) therefore are an important component of the park visitation. Overseas visitors accounted for 16% of visitors to the park. Another interesting characteristic was the specific age groups of visitors to the park. All age groups were well represented, however, the largest age group was visitors in the 20-29 group, making up 30% of visitors to the park. The next largest age groups were 30-39 year-olds with 24.2% of visitors and 40-49 year-olds at 19%.

Significant public recreation and tourism in the Taranaki region focuses on Mount Taranaki. The range of opportunities found in the park (which usually receives more than 330,000 visitors per annum), usually begin at the three major roadends. The park is the most visited tourist site in Taranaki, therefore plays a major and valuable role in the Taranaki regions economy. Visitor numbers to the park remained stable over the period 1992-97, although a drop in visitor numbers was recorded in 1998, reflecting the poor ski season. Picnicking, viewing scenery, short walks and visits to the park's

two visitor centres are popular. Schools and other groups use the park for outdoor education. The Department provides accommodation for these groups at Dawson Falls and North Egmont.

During winter, the Manganui Skifield and roadends are busy on fine days following a heavy snowfall. The skifield and its access becomes the highest used facility in the park during the ski season. Manganui Skifield is the only area available for skifield development in the park. Other areas are considered unsuitable because of poor access, variable snow cover, difficult topography and impact on the park's natural character and values. The Department caters for the majority of park visitors by providing high quality facilities at most roadends.

Good snowfalls attract visitors of all ages.
Photo T Weston

The main backcountry activities in the park are tramping and climbing. The Department maintains nine public huts and over 140 km of formed tracks that require high maintenance and servicing due to the extreme environmental conditions (see figure 4).

The Around the Mountain Circuit provides a multi-day tramping opportunity, especially popular with overseas visitors. Climbing to the summit of Mount Taranaki is also popular with visitors. Mount Taranaki is a challenging and often difficult climbing area. This is especially so in winter, when ice and unpredictable weather make the mountain hazardous, and ice axes, crampons and windproof clothing become essential. During summer in suitable weather, the mountain is a more straightforward climb. Many hundreds of people make the ascent to the summit each year, mostly in summer. High use has led to a need for monitoring and controlling visitor impacts on the popular North Summit Route, as well as ensuring that inexperienced people are made aware of alpine hazards.

Mount Taranaki has been used for hang-gliding and paragliding in the past. However, Tangata Whenua are concerned about use of the summit, an area of special cultural significance, as a take-off point.

The two tourist lodges, the Dawson Falls Tourist Lodge and the Stratford Mountain House, operate under leases administered by the Department, and both offer accommodation and meals. Their leases are perpetually renewable. Three locked alpine club lodges, which operate under a licence or permit administered by the Department, are generally not available for use by the public. Guiding concessions have been issued for guided walks, climbing and mountain-craft instruction.

FIGURE 4: RECREATION