Making difficult decisions:
Mining the conservation estate

September 2010

Parliamentary Commissioner for the Environment
Te Kaitiaki Taiao a Te Whare Pāremata

Acknowledgements

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Photography

Cover: Tui opening flowers of the native mistletoe *Peraxilla tetrapetala.* Courtesy of Alastair Robertson.

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Contents

Commissioner's overview 5

1 Introduction 7

1.1 Purpose of the report 8

1.2 Structure of the report 8

1.3 What this report does not cover 8

Figure 1.1: Department of Conservation land: The split between Schedule 4 land and non-Schedule 4 land 9

2 New Zealand's conservation estate 11

2.1 History of New Zealand's conservation estate 11

Figure 2.1: Timeline of major events and legislation relating to the development of the public conservation estate 12

Box 2.1: A strange and wondrous land 12

2.2 Classifications of public conservation land 13

2.3 Ecological areas 14

2.4 Threats facing the conservation estate 14

Figure 2.2: Ship rat eating bird's egg 14

3 Mining and its environmental impacts 15

3.1 Where are the minerals? 16

Figure 3.1: A map showing conservation land and known mineral deposits 16

3.2 The mining process 17

3.3 Environmental effects of mining 17

Figure 3.2: The OceanaGold mine near Reefton in the Victoria Conservation Park 18

3.4 Factors affecting environmental impacts of mining 18

3.5 Managing environmental impacts 19

4 Managing mining on the conservation estate 21

4.1 Requirement 1: Mineral permit 21

4.2 Requirement 2: Access agreement 21

Figure 4.1: Requirements for gaining approval to mine conservation land 22

4.3 Requirement 3: Resource consents 23

4.4 Opportunities for public input 23

Figure 4.2: Trampers on the Routeburn Track 24

5 Granting access to mine on conservation land 25

5.1 A fundamental principle – conservation must take precedence 25

5.2 The Government's proposals 26

5.3 A lower hurdle for mining 26

5.4 A consistent national approach 27

Box 5.1: Biodiversity offsetting principles 28

5.5 Increasing transparency and public participation 29

5.6 Making mining companies pay their fair share 30

6 Conclusions and recommendations 31

6.1 The Minister of Conservation should remain the sole decision-maker on access 31

6.2 Access for mining needs to pass the same test as other commercial uses 32

6.3 Mining should provide net conservation benefit 32

6.4 Provide national guidance on access 33

6.5 Improve public access to information 33

6.6 Public participation in decision making 34

6.7 Include ecological areas in Schedule 4 34

7 Endnotes 35

Commissioner's overview

In March this year, the Government released a discussion paper proposing that some conservation land be removed from Schedule 4 of the Crown Minerals Act to allow it to be considered for mining. In April I presented my view on this proposal in a forum held at a Nelson vineyard. I had scarcely finished speaking when my phone began to run 'hot' with journalists seeking interviews. Dealing with this while racing to catch a plane back to Wellington brought home to me the strength of public feeling on this issue. Three days later thousands of people took part in a protest march up Queen Street.

The public debate that took place over mining on Schedule 4 land was inevitably somewhat muddled. For instance, national parks were taken to be the same as Schedule 4 land, whereas they form a subset of Schedule 4 land. In July the Government decided not to remove any land from Schedule 4, but to pursue other opportunities for expanding mining on public land. This included the sixty percent of the conservation land managed by the Department of Conservation which is not listed on Schedule 4. It is mining on this land that is the focus of this report.

In the Government's discussion paper there was another proposal which attracted little attention although it represents a significant shift from the status quo. This proposal was for decisions about access to Crown land for mining to be made jointly by the land-holding Minister and the Minister of Energy and Resources. Access to conservation land for mining would then no longer be decided by the Minister of Conservation alone, but in tandem with the Minister of Energy and Resources. Cabinet has decided to amend the legislation accordingly.

This shift represents a profound change. It cuts across the fundamental separation of functions and powers, whereby the Minister of Energy and Resources grants permits for minerals and the Minister of Conservation grants access to the conservation estate. The Minister of Conservation will remain accountable for the conservation estate but not in control. His or her core role as guardian of the conservation estate will be undermined.

Mining already enjoys a special status above that of other commercial activities on conservation land. Applications to gain access to conservation land for adventure tourism, for instance, must pass a higher hurdle than access for mining. This makes no sense. The environmental impact of an adventure tourism operation will generally be far less than that of a mine, and will encourage people to get out and enjoy the beauty and wildness of the conservation estate. And yet no one is proposing that access for adventure tourism be jointly approved by the Minister of Conservation and the Minister of Tourism.

The conservation estate is a major Crown asset and the Crown is justified in seeking a return on this asset. Indeed there is potential for a win-win. The greatest threat to the New Zealand's unique biodiversity on the conservation estate is not mining but introduced pests, both plants and animals. Without active pest management, kiwi chicks have a one-in-twenty chance of making it to adulthood. And many of our most precious species such as kokako and native mistletoe would face almost certain extinction. Provided conservation takes precedence, some mining operations could well provide a net conservation benefit.

A net conservation benefit could take the form of extra revenue to the Department of Conservation or a direct improvement such as additional pest control. To provide a net benefit and to deliver a win to conservation, it must go beyond compensating for damage – be it monetary or otherwise. After all private landowners would expect damage from a mine to be minimised if not avoided, compensation paid for residual damage, and payment made for access to the land. However, the opportunity for increased revenue to the Department of Conservation should not be treated as an opportunity to cut baseline funding.

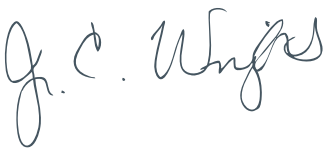
Enhancing the value of one part of the conservation estate to compensate for damage to another (offsetting), let alone going beyond compensation to a net conservation benefit approach, is a change that requires great care to be taken. It is good to see that a national strategic approach to developing policy and guidelines is being taken. However, it is essential that the application of national guidelines in making detailed assessments of conservation value at particular sites be done at conservancy level by staff who have the necessary local knowledge.

The Government's proposal to remove some conservation land from Schedule 4 will have eroded public confidence in mining taking place on the sixty percent of the conservation estate that is not on Schedule 4. The difficulty in obtaining information about existing and proposed mining operations on conservation land should be addressed urgently; unnecessary secrecy serves no one.

Another way of increasing public confidence is to allow public input on significant applications for commercial activities on conservation land. It looks likely that this change will occur but a clear definition of 'significant' is crucial.

The Government is proposing to amend the Crown Minerals Act so that conservation areas falling into certain classes (like national parks) will automatically be included in Schedule 4. This is an historic anomaly that needs correction. There are currently 55 areas in the conservation estate classified as "ecological areas" because they represent the full range of ecosystems. Their biodiversity value in some cases at least will be greater than that of some areas within Schedule 4, so that is where they belong.

It is unlikely that my phone will be ringing 'hot' over policy issues such as joint decision-making and the difficulties of biodiversity offsetting, but these are matters that will have lasting effects on our unique ecosystems. It is vital that we make the right decisions.



Dr Jan Wright
Parliamentary Commissioner for the Environment

1 Introduction

From mountains to sea, New Zealand presents many beautiful landscapes, full of rich diversity. There are other treasures that also lie within. Our mineral resources have been the target of activity over generations. From Māori use of pounamu for tools, weapons and ornaments to the European pursuit of gold and coal, people have sought to use the mineral resource that the land has provided.

Many of these mines are on land owned by the Crown. Indeed, there are over 57 mines currently operating on land within the public conservation estate, with the majority being for the extraction of coal and gold on the West Coast of the South Island.[1]

In August last year, the Minister for Energy and Resources, Hon Gerry Brownlee, raised the prospect of *"unlocking New Zealand's mineral potential"*, beginning a vigorous public debate on the environmental impacts of mining, especially in relation to mining on public conservation land.[2]

In March this year, the Government released a discussion paper seeking public feedback on the *"development of New Zealand's extensive mineral estate"*.[3] Included was the proposal to remove 7,058 hectares currently protected by Schedule 4 of the Crown Minerals Act. Other policy initiatives are to change access arrangements to include the Minister of Energy and Resources as part of the decision-making process and the addition of almost 12,500 hectares of land to Schedule 4.

The prospect of mining on public conservation land, especially the land held within Schedule 4, struck a nerve with the public. At the time the Minister of Energy and Resources acknowledged that mining is an emotive issue.[4] A number of protests were held around the country, including an estimated 40,000 people who marched through Auckland, seeking to give the Government a firm message to stay away from mining on conservation land.

The high level of public interest resulted in just over 37,500 submissions being made. In response, the Government decided not to remove any land from Schedule 4, with the Minister of Energy and Resources saying that the consultation process had determined *"where the minerals industry can and can't go"*[5]. Instead the Government announced it would undertake aero-magnetic surveys of mineral potential in Northland and the West Coast.

The Government has also confirmed that it will pursue joint decision-making, meaning that both landholding Ministers and the Minister of Energy and Resources will need to sign off on applications from mining companies for access to Crown land, including conservation land.

The latest decisions from the Government indicate that more mining on land not on Schedule 4 will be encouraged. This land includes forest parks, conservation parks, stewardship areas, ecological areas, and scenic reserves. It covers over half of the conservation estate, and it is access for mining to this land that is the subject of this investigation.

1.1 Purpose

This report has been produced pursuant to subsections 16(1)(a) and (b) of the Environment Act 1986.

The Parliamentary Commissioner for the Environment is an independent Officer of Parliament. Her role allows a unique opportunity to provide Members of Parliament with independent advice in their consideration of matters that may impact on the quality of the environment.

In April 2010, the Commissioner made a submission on the Government's discussion document on mining (available at www.pce.parliament.nz).

During the preparation of that submission a number of issues about mining on public conservation land were raised and the Commissioner decided to investigate them further. Thus the purpose of this report is to provide some practical guidance on aspects of mining on conservation land.

1.2 Structure

The remainder of this report is structured as follows:

Chapter 2 discusses the development and classification of New Zealand's public conservation estate and the major threats facing it.

Chapter 3 describes the location of minerals, different mining methods, and their environmental impacts.

Chapter 4 outlines the regulatory framework for managing mining on conservation land.

Chapter 5 discusses various issues related to access for mining on conservation land, ranging from the Government's new policy to increasing transparency and public participation.

Chapter 6 contains the conclusions of the report and seven recommendations from the Commissioner.

This report is available on the Commissioner's website, www.pce.parliament.nz.

1.3 What this report does not cover

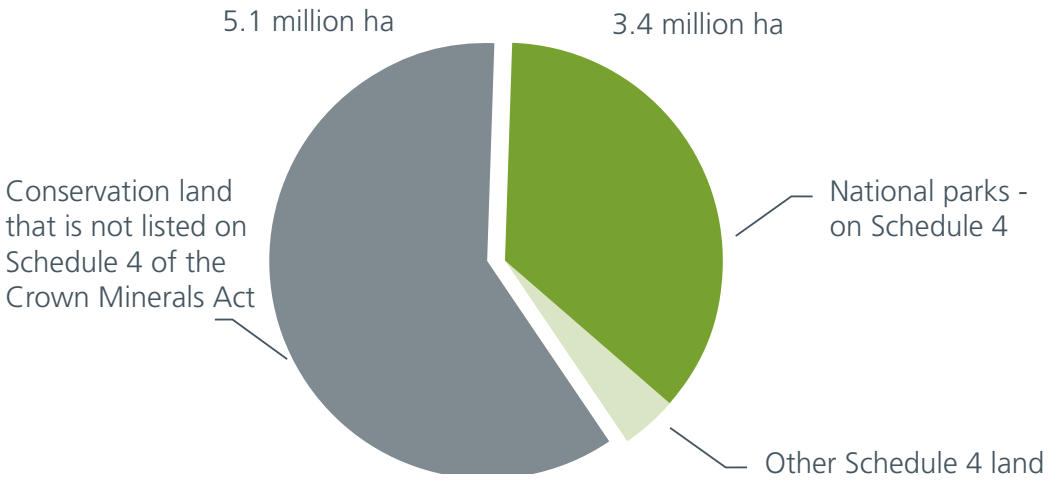
This report is focused on the 60% of the land managed by the Department of Conservation where mining can currently occur, that is, the land not listed on Schedule 4 of the Crown Minerals Act (see Figure 1.1). It is specifically concerned with *access* on to this land for mining. Therefore, issues like changing the current rules governing prospecting for minerals on Schedule 4 land are not covered.

The environmental impacts of mines operating on conservation land are controlled by two sets of conditions. The first are the conditions on access to the land imposed by the Department of Conservation. The second are the conditions in the resource consents issued by local authorities under the Resource Management Act. This report is concerned with the roles and responsibilities of the Minister of Conservation and the Department of Conservation, not those of local authorities.

Recently there has been discussion over the potential to mine the seabed, such as in the Kermadec trench. Such developments also lie outside the scope of this report.

Climate change is the greatest environmental challenge of our time. Coal, whether mined on conservation land or anywhere else, will be burned and emit a high amount of carbon dioxide per unit of energy – about twice as much as natural gas. The wider issue of the carbon dioxide generated from the combustion of coal is set aside from this report, but is addressed through other work undertaken by the Commissioner, such as her forthcoming report on lignite.

Figure 1.1: Department of Conservation land: The split between Schedule 4 land and non-Schedule 4 land



2 New Zealand's conservation estate

New Zealand is renowned internationally for its unique animal and plant life, as well as some of the most spectacular landscapes in the world. That New Zealanders recognise the special status of their land is reflected in large and varied conservation areas – both public and private.

This chapter outlines a broad history of the *public* conservation estate; that is, all Crown land designated as conservation land. This history includes the changing purposes and management of the estate, as well as the key threats facing the species and ecosystems within it.

2.1 History of New Zealand's conservation estate

New Zealand's public conservation estate has evolved over time (see Figure 2.1). The first significant area protected for conservation purposes was Tongariro National Park in the late 1800s.[6] New Zealand began to systematically protect areas for conservation purposes from 1903 under the Scenery Preservation Act.

Much of our agricultural land was created by the felling of forests and the draining of wetlands to create 'productive' land. Consequently, much of the conservation estate is made up of land not suitable for farming or forestry, such as mountainous areas and rugged country. These areas may also contain impressive landscapes that the early conservation efforts were focused on protecting.

From the early part of the 20th century the focus on conserving landscapes was largely replaced by a policy of multiple use ('wise use') of forests.[7] This lasted until the public sector reforms which began in 1984 and differentiated between 'productive' and 'conservation' lands. In 1987 the Department of Conservation[8] was established as the central government agency responsible for the management of the public conservation estate. This department is now responsible for protected areas - including 14 national parks - that cover a total of 8.5 million hectares, or 35% of New Zealand's land area.[9]

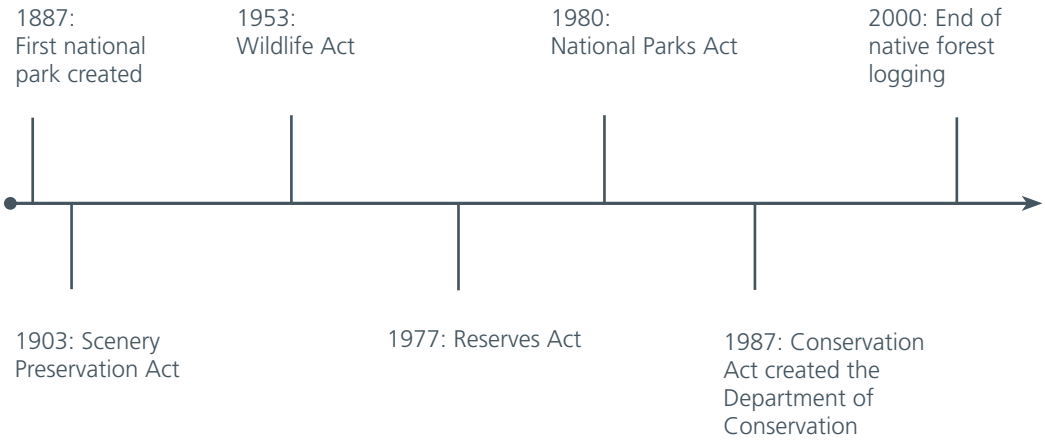
New Zealand is renowned internationally for its unique animal and plant life.

The focus on conserving non-productive high lands and rugged areas meant many ecosystems fell outside the conservation estate.[10] The Department of Conservation has identified lowland forests, wetlands and sand dunes as high conservation

priorities.[11] Successful protection of these areas will also require the co-operation of private landowners, on whose land these habitats occur.

There are mechanisms available to set aside private land for conservation purposes. These include Queen Elizabeth II National Trust covenants, Nature Heritage Fund covenants, or Ngā Whenua Rāhui Kawenata. New Zealand is also a signatory to several international conservation conventions.[12]

Figure 2.1: Timeline of major events and legislation relating to the development of the public conservation estate



The value of conservation land

Public conservation land is held and managed for a wide range of purposes. These include protecting natural and cultural heritage, retaining areas of wilderness and enabling recreation opportunities.[13] New Zealand's isolation has resulted in many diverse and unique species found nowhere else in the world (see Box 2.1).

Box 2.1: A strange and wondrous land

New Zealand floated away from the ancient landmass Gondwanaland some 65 million years ago – before the evolution of mammals. As a result, many of our insects, reptiles and birds have evolved into the roles filled by mammals elsewhere. Thus, giant weta are equivalent to armoured, hairless mice, and kiwis are like large, feathered, shaggy hedgehogs.

The lack of mammalian predators also means that many of our species never developed or have lost their predator defences. This includes the power of flight and fast breeding cycles with many young. The kakapo's response to predators, for example, is to sit very still on the ground. This works well against a visually hunting predator such as the extinct native eagle, but has no effect against a stoat or dog hunting by smell. Similarly, our native plants lack defences (toxic chemicals or hard unpalatable leaves) against browsing mammals. This makes them particularly vulnerable to over-grazing by species such as possums, deer and goats.

2.2 Classifications of public conservation land

The conservation estate contains a large number of different classifications or categories of protected land. The most significant four classifications in terms of area are national parks, conservation parks, ecological areas and stewardship areas.

As well as these classifications, land can also be included in Schedule 4 under the Crown Minerals Act. Land on Schedule 4 is essentially closed to mining. Specific areas of land are included on Schedule 4 rather than classes of land, although some classes such as national parks are included in Schedule 4 in their entirety.

The main conservation classifications are:

National parks

National parks (3 million hectares[14]) are the largest area in the conservation estate. According to the National Parks Act 1980 these areas represent and protect beautiful, unique, or scientifically important natural features, intrinsic value, and opportunities for public recreation.[15] All national parks are included on Schedule 4.

Conservation parks

Conservation parks (1.9 million hectares[16]) are managed under the Conservation Act 1987 to protect their natural and historic resources, while providing for public recreation. Many were set up as forest parks, for example, Tararua Forest Park, but newer conservation parks in the South Island high country include other types of habitat, such as tussock.

Ecological areas

Ecological areas (176,000 hectares[17]) were identified as representative samples of ecosystems. Only one of 55 ecological areas is included on Schedule 4. These areas are examined in more detail in the next section.

Stewardship areas

Stewardship areas (2 million hectares[18]) are primarily forest lands that have been transferred to the Department of Conservation with no protected status at the time of transfer.[19] The conservation value of different stewardship areas has not been systematically assessed. These areas may be reclassified in the future if specific conservation values (such as landscape, flora, or fauna) are identified.[20] Stewardship areas are generally not included on Schedule 4.

Other classifications that apply to conservation areas

There are many other types of conservation classifications including scenic reserves, nature reserves, scientific reserves, marine reserves, sanctuary areas, wilderness areas and wetlands of international importance.[21] These all aim to protect specific values of a place, and maintain areas in their natural state as far as possible.

How conservation land is classified will determine how it is managed. That includes what the conservation goals are and the types of activities that can take place. However, land within classification types is very diverse and the classification should not be relied on as an indicator of the conservation value of a particular site.

2.3 Ecological areas

There are 55 ecological areas in New Zealand covering 176,000 ha.[22] Ecological areas were created by the New Zealand Forest Service as representative examples of the full range of ecosystems that occur within identified ecological regions. Reasons for reserving these areas include conserving representative areas of indigenous forest, preserving unique areas of indigenous forest habitat or topography, and providing reference areas to compare with managed (i.e. logged) indigenous forests. Some of these ecological areas have subsequently been reclassified and included within other conservation lands such as national parks. The majority of the remaining ecological areas are located on the West Coast. These were managed by Timberlands, before being transferred to the Department of Conservation in 2000.

Ecological Areas were systematically assessed and specifically set aside for their ecological values.[23] When Schedule 4 was added to the Crown Minerals Act the conservation significance of ecological areas was not well documented. As a consequence only the Otahu Ecological Area was included. While other ecological areas could be added to Schedule 4 to date none have. The representative significance of ecological areas suggests that they should be included on Schedule 4. In some cases, it may be that an ecological area has been so degraded that it is not appropriate to add it to Schedule 4, but this should be the exception.

The most significant and pervasive threat to the conservation estate is the threat to biodiversity from introduced pests.

2.4 Threats facing the conservation estate

The threat of mining on Schedule 4 land galvanised thousands of people around the country in April 2010. However, the most significant and pervasive threat to the conservation estate is the threat to biodiversity from introduced pests, both plants and animals.[24] While commercial activities such as mining may have a major localised impact on the estate, introduced pests remain the biggest problem.

For example, stoats kill around 40% of all juvenile kiwi and without active management only about 5% of all kiwi chicks make it to adulthood.[25] Many other native species face similar threats.

Active management means either controlling predators or providing refuges from predation - such as building predator-proof fences or removing species to locations that are free of predators. Clearly, this is costly.

Figure 2.2: Rat eating bird's egg

Source: Nga Manu Images

3 Mining and its environmental impacts

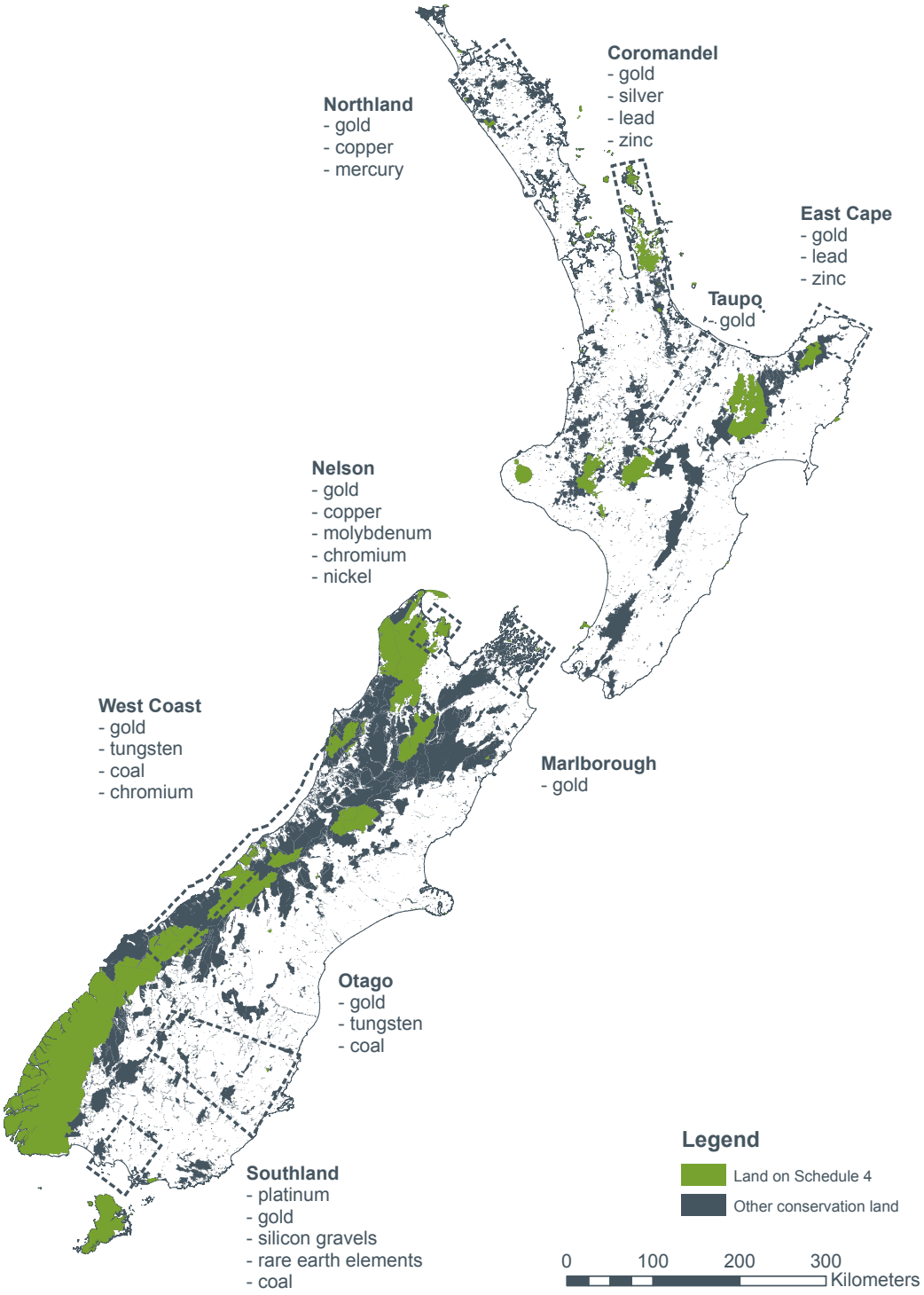
Mining on the conservation estate already takes place. There are 57 mines on land within the public conservation estate.[26] The bulk of these are for the extraction of coal and gold on the West Coast of the South Island. This chapter explores why there is mining on conservation land, and provides background information on the mining industry: what mining is, what impacts it can have, and how impacts might be managed.

3.1 Where are the minerals?

New Zealand is a geologically active country. It straddles two major tectonic plates that are moving against each other. These continental plate and fault movements have created the country's rugged and varied landscape and its mineral deposits. Different geological processes across the country have resulted in different types and concentrations of minerals. For example, deposits of gold, silver and copper around the Coromandel Peninsula and Taupo are associated with volcanic activity. In contrast, coal deposits on the West Coast are associated with sedimentary deposits.

In some cases, the very areas which contain our best remaining examples of native ecosystems also have high mineral potential (see Figure 3.1).

Figure 3.1: A map showing conservation land and known mineral deposits



3.2 The mining process

The development of a mine takes place in a three-stage process: prospecting, exploration and extraction. As it progresses through each stage the environmental impact increases.

The aim of *prospecting* is to identify where minerals of interest might be present without drilling. Initially a desktop exercise, follow-up field techniques include aerial surveys and ground-based fossicking. Prospecting has a relatively low level of environmental impact.

When minerals are identified through prospecting, the next step is *exploration*. One method is to drill cores through the mineral deposit to find out how large and concentrated the deposits are. A drilling rig is required to drill cores. The exact environmental impacts of exploration will depend on things such as the size of the rig, its operation, and how it is transported to the site.

Extraction is the most environmentally damaging stage. The most common extraction methods in New Zealand include open cast, dredging and underground mining.

- *Open cast mining:* Used in situations where the minerals are relatively shallow or less concentrated. The OceanaGold mine at Reefton is an open cast mine on the conservation estate (see Figure 3.2).
- *Dredging:* Used where mineral deposits at the surface have been weathered away and have found their way into rivers, yielding 'alluvial' deposits downstream. Dredging for alluvial gold deposits has been practised in the South Island for many decades.
- *Underground mining:* Used for deposits at greater depth, higher grade deposits, or vein ores (for example, gold deposited in quartz veins). It is generally more expensive, but less environmentally destructive than open cast. The Pike River coal mine on the West Coast and the Favona gold mine on the Coromandel are two examples of underground mines.

In this report, 'mining' is taken to be extraction.

3.3 Environmental effects of mining

It is difficult to generalise about the environmental impacts of mining. However, they can be separated into direct and indirect impacts.

Direct impacts of mining

Types of impacts that result in the direct physical disturbance of the environment can include: the clearance of vegetation and removal of soil in open cast mines, the diversion or modification of waterways, and the dumping of soil and rock as overburden. These activities can directly affect the plants and animals that occur in the area, either by killing them outright or displacing them.

Indirect impacts of mining

These impacts come from the processes and activities associated with the mining operation. They can be more serious than direct impacts. For example, water quality in water bodies outside the mine site can be affected – often for many years after the mine has closed - by sediment, acid mine drainage[27] or the leaching of toxic chemicals used in the extraction.[28] In cases where the ore has been chemically extracted, mine tailings can be a source of contamination themselves. Mining roads can also act as convenient access ways for pest plants[29] and potentially animals.

Figure 3.2: The OceanaGold mine near Reefton in the Victoria Conservation Park

Source: OceanaGold Corporation (December 2008)

3.4 Factors affecting environmental impacts of mining

The actual environmental impact of a mine will depend on the type of mineral, the mining process that is being used, the vulnerability of the surrounding area, and the timescale over which impacts are considered.

Mineral type

The extraction of different minerals can have different impacts on the surrounding environment. For example, gold deposits can be accompanied by arsenic, lead and mercury. These can leach into surrounding land and waterways when the gold is mined.

Method of extraction

Open cast mining is far more environmentally damaging than underground mining. For example, the construction of an entranceway for an underground mine may displace a small number of individual birds, but not affect their long term survival or breeding success. In comparison, it may take tens to hundreds of years following the clearing of old growth forest for open cast mining for a similar forest to develop.

Vulnerability of surrounding area

Impacts will also depend on the physical characteristics of the mine's location. High rainfall increases the chance of damaging contaminants flowing into rivers, and many of the country's mines are on the famously wet West coast. For example, annual rainfall on Solid Energy's open cast mine on the Stockton Plateau is nearly seven metres per year.

Timescale

Environmental impacts also need to be considered over different timescales. Some impacts may be short lived, while others may last for years, or be permanent.

3.5 Managing environmental impacts

When evaluating a proposal for access, it will not always be possible to manage the environmental impacts of a mine in a way that is consistent with the intent of the Conservation Act. This may mean that the only option is to decline access.

If access is granted, then conditions will be placed on that access by the Department of Conservation. These conditions will be additional to those set by the local authority in the resource consents.

The conditions placed by the department can and often should be of different kinds.

- Minimisation of damage to the conservation estate
- Rehabilitation of the site
- Monetary compensation for residual damage
- Other forms of compensation such as 'biodiversity offsetting' or cleaning up historical mining sites on conservation land

The challenges include identifying and quantifying the conservation value of landscapes, species and ecosystems, and ensuring that the compensation is continued for the lifetime of the impact.

In all cases, good processes, monitoring, and enforcement are required to ensure that the proposed mitigation of environmental impacts occurs and is effective.[30]

Each mining operation's impact will be different depending on the size, method of extraction and the mineral sought. Because of these differences each mining proposal must be individually assessed. However, comprehensive national guidelines can ensure that an appropriate conservation plan is implemented and that it achieves the desired results.

4 Managing mining on the conservation estate

The Crown manages mining on the conservation estate in two ways. The first is by deciding on the allocation of mineral rights to mining companies. This is the responsibility of the Minister of Energy. The second is by imposing and enforcing conditions to control the environmental impacts of the mining operation. This responsibility is split between the Minister of Conservation and local authorities.

There are three requirements for gaining approval to mine on public conservation land (see Figure 4.1).

- Mineral permit: The mining company must acquire rights to the minerals from the Minister of Energy under the Crown Minerals Act 1991.
- Access agreement: The company must get permission to access the land from the Minister of Conservation under the Crown Minerals Act 1991.
- Resource consents: The company must obtain resource consents from the relevant local authorities under the Resource Management Act 1991.

4.1 Requirement 1: Mineral permit

A minerals permit[31] gives the holder the right to prospect, explore, or extract minerals in a specific area. Mineral permits must be issued in accordance with the government's mineral programme.

The mineral programme sets out the government's policies in relation to the allocation of mineral rights and what royalties must be paid. They are publicly available from the Ministry of Economic Development.[32] The mineral programme does not consider environmental impacts.[33]

4.2 Requirement 2: Access agreement

Although the holder of a minerals permit has a right to the minerals, the holder cannot access land without the permission of the landowner. For conservation land this means they must have an access agreement with the Minister of Conservation.[34] The Minister can refuse access.[35]

Department of Conservation staff evaluate the application and recommend to the Minister of Conservation whether access should be granted, and if so, what conditions should be imposed to protect against damaging conservation land. The mining company may also need to provide compensation for the impact of

the activity.[36] Compensation can include pest control work or protecting native species.[37] Sometimes the Department of Conservation will require a bond based on the cost of rehabilitation, to ensure compliance should the miner default, for instance by going bankrupt.[38]

Figure 4.1: Requirements for gaining approval to mine on conservation land

The criteria that the Minister of Conservation *must have regard*[39] to when considering an application for access are detailed in the Crown Minerals Act.[40]

Commercial concessions on conservation land

All commercial activities on conservation land, other than mining, require a concession - issued under the Conservation Act - from the Department of Conservation. A concession can only be granted if the activity is not "*contrary to the provisions of this Act or the purposes for which the land concerned is held.*"[41] This is a much higher bar than the test for mining. If the concessions criteria applied to mining, the Minister of Conservation would be prohibited from granting access unless the impacts could be managed consistently with the purpose for which the land is held.

Additional activities associated with the mining, but not included in the mining permit (for example, construction of infrastructure such as an access road) still have to be authorised by a *concession*.[42] A concession can take different legal forms, and may be an easement, a lease, licences or permit.[43]

The Department of Conservation has recently completed a review of its concession process to improve its processes and decision making for granting concessions under the Conservation Act 1987.[44] Many of the issues identified in the review are also relevant to access arrangements for mining under the Crown Minerals Act. In particular:

- the acknowledgement that people using public resources for commercial gain should pay for that benefit
- opportunities for public participation should be improved
- the decision making processes should be streamlined and simplified
- national support for decision making at the conservancy level should be improved.

Standardising access arrangements for mining

While the Minister of Conservation holds responsibility for decisions made about mining on conservation land, most negotiations and decisions are delegated to the conservancy level. The Department of Conservation is preparing a national standard operating procedure[45] to standardise processing and administration of access arrangements for mining across conservancies.

Generally, an application for an access arrangement is lodged with the local conservancy office. Conservancy staff coordinate the information gathering, including a site visit and assessment by the local area office staff, and produce a departmental report recommending that access is approved or denied. Local knowledge and expertise sit with the conservancy office, while other experts can be called in to assist with the assessment.

4.3 Requirement 3: Resource consents

In addition to a minerals permit and access agreement, a mining company must also obtain whatever resource consents are required under the Resource Management Act (RMA).[46] The actual consents required will differ depending on the applicable regional council or territorial authority's individual resource management plan.[47] These local authorities are also responsible for the monitoring and enforcement of any consent conditions.

Resource consents for mining will typically include conditions on air and water quality, limits on water takes, tailing dam standards, and conditions for any major land clearance and rehabilitation. The councils are responsible for impacts on amenity, earthworks, traffic impacts, noise (including vibration) and dust control from any blasting. Both regional councils and territorial authorities can impose a financial bond to ensure compliance with a condition of resource consent.

There is likely to be overlap between the resource consent conditions and those imposed under an access agreement to conservation land. The legislative requirements for access agreements and the resource consents are not linked. While there is likely to be liaison at conservancy level, there is no formal link between the two processes.

4.4 Opportunities for public input

The Government has determined in principle that significant applications to mine on public land should be publicly notified. This would be a welcome improvement over current practice. Currently public input is limited to the resource consent stage, even though mining on conservation land attracts considerable public interest.

Figure 4.2: Trampers on the Routeburn Track

Source: Department of Conservation

5 Granting access to mine on conservation land

The Government is currently planning to change the way that access to mine land owned by the Crown should be granted. These changes would apply to the 60% of the conservation estate not listed on Schedule 4 of the Crown Minerals Act.[48]

This chapter assesses the way in which access for mining is currently granted and the Government's proposed policy. Further, changes and improvements are suggested which should lead to better outcomes for conservation and potentially increase public trust.

5.1 A fundamental principle - conservation must take precedence

The Minister of Conservation holds the conservation estate in trust for New Zealanders[49] for many purposes, including the protection of natural and cultural heritage, recreation and conservation of wilderness areas.[50]

This is not to say commercial activities including mining should not occur on the conservation estate, but managing the conservation estate responsibly means that the first priority is to safeguard the purposes for which the estate is held. To do otherwise is to fundamentally change the rationale of the Conservation Act.

There are some circumstances when mining could benefit the conservation estate and the purposes for which it is held.

The largest and most pervasive threat facing native species and ecosystems on the conservation estate is introduced pests, both plants and animals.[51] Pests can even damage landscapes – the wilding pine invasion of the South Island high country is a worrying example. Current and projected public funding will not be enough to stop pests wiping out much of our unique biodiversity.[52] Commercial use (including mining) of the conservation estate offers an opportunity to address some of that funding shortfall.

Mining companies wanting to use the estate for commercial gain should do more than just rectify any damage. There is no reason why the Crown should not earn income from this huge asset, provided the conservation value of the estate is protected, or better still, enhanced. Mining could and indeed should provide benefits for the purposes for which the conservation estate is held. This means that any monetary payments should be made to and retained by the Department of Conservation.

5.2 The Government's proposals

The Government's proposed changes are:

1. Decisions regarding access to land for mining activities will be made jointly by the Minister of Conservation and the Minister of Energy and Resources. Currently, the Minister of Conservation makes these decisions.
2. Consideration of the economic, mineral and national significance of proposals for access will be added to the matters that must be considered under the Crown Minerals Act 1991. Currently, the matters that must be considered relate to the purpose for which the land is held – namely, conservation.

These proposed changes fundamentally alter the original intent of the Crown Minerals Act, in which a key principle is to distinguish between the granting of rights to the minerals and the granting of access to the land under which the minerals lie.

Currently, under the Crown Minerals Act 1991, the Minister of Conservation decides if access should be granted to a mining company and how the impacts of the mining activities can be managed or compensated for. The Minister as the sole decision maker is accountable to the public for safeguarding the conservation estate.[53] The Minister is both responsible for the decision made and accountable for the outcome – the effect on the conservation estate.

In contrast, if the Minister of Energy and Resources becomes a joint decision maker, then the power to make access decisions will be shared, but the accountability for the outcome will not.

It is a basic principle of good governance that power and accountability are aligned.

It is a basic principle of good governance that power and accountability are aligned.

Underlying the Government's proposals is the principle of balancing conservation and economic values. This is at odds with the principle discussed above – namely, that conservation should take precedence on the land managed by the Department of Conservation.

5.3 A lower hurdle for mining

Requests for access *to mine* on conservation land must pass a test under the Crown Minerals Act. Requests for access for *other commercial activities* must however pass a much stronger test under the Conservation Act.

When the Minister of Conservation considers a request for access for mining, she/he must only ***"have regard to"*** the purposes for which the land is held – namely, conservation.

However, when she/he considers a request for access for other commercial uses by granting a concession, the test is much stronger: "*The Minister* ***shall not grant*** *an application for a concession if the proposed activity is contrary to the provisions of this Act or the purposes for which the land concerned is held.*"[54]

This special status of mining appears to be a legacy of the even more special status it enjoyed prior to the Crown Minerals Act.[55]

5.4 A consistent national approach

There's room to improve the way in which access is granted for mining on the conservation estate.

There is considerable room for improvement to the way in which access is granted for mining on the conservation estate. More can be done to effectively safeguard the conservation estate and to realise the potential for mining operations to provide a net conservation benefit.

According to the Government the current system for granting access to conservation for mining is frustrating for both the Department of Conservation and mining interests.[56] This is partly because different conservancies make decisions about allowing mining access independently using their own criteria. The Department of Conservation is preparing standardised national procedures for assessing mining access to rectify this problem.

A consequence of the conservancy system is that it can be difficult to consider the conservation estate as a whole when deciding whether the proposed management of a mining company's plan is sufficient. Instead, the current system encourages conservancies to only consider compensation and management options within their own boundaries.

To improve the possibility of mining delivering a net conservation benefit a national approach is needed for managing mining (and other commercial uses) of the conservation estate.

It is *particularly urgent* to develop a national approach to biodiversity offsetting.

National guidelines for biodiversity offsetting as an example

Biodiversity offsetting is enhancing the value of other areas as compensation (or betterment) for the loss of some conservation value due to a mining operation. Offsetting is controversial and consequently should be done with great care (see Box 5.1). It is not a substitute for avoiding or reducing environmental damage at the mine site, and should only be considered as an option to compensate for residual unavoidable impacts. At present offsetting is *ad hoc* and there are no clear national guidelines or consistency on how to evaluate proposals.

A national approach to biodiversity offsetting would allow a wider range of options for compensating the impacts of mining. A small number of organisations have trialled or are using biodiversity offsetting, for instance Solid Energy as part of its mining operations on the West Coast.

The Department of Conservation is currently leading a research project to develop a national system for biodiversity offsetting.[57] The prospect of greater commercial use (including mining) of the conservation estate means this project is urgent.

Box 5.1: Biodiversity offsetting principles

To help consider when and where biodiversity offsets may be an appropriate option, the following six principles have been proposed by Dr David Norton at the University of Canterbury:[58]

1. Biodiversity offsets should only be used as part of a hierarchy of actions in which a development project must first seek to avoid impacts and then minimise the impacts that do occur.

2. Some form of guarantee must be provided that the offset proposed will occur.

3. Biodiversity offsets are inappropriate for certain habitat types because of their rarity or the presence of particular species in them makes the clearance of these habitats inappropriate under any circumstances.

4. Biodiversity offsets can involve protection of existing habitat, but most often involve the creation of new habitat.

5. A clear currency is required that allows transparent quantification of values likely to be lost and values likely to be gained to ensure equivalency between cleared and offset areas.

6. Determining offsets must take into account both the uncertainty in obtaining the desired outcome for the offset area, and the time-lag involved in reaching this point.

Making assessments at the conservancy level

It is important to avoid the expectation that a nationally consistent process will mean similar proposals for mining access will have the same outcome. Every site is different. Detailed evaluation of conservation value at a particular site and of the impacts of a particular mining proposal must still be done by conservancy staff. However, guidelines for conducting such evaluations should be national.

For example, national guidelines for conservancy staff evaluating the *biodiversity significance* of a site could include the requirement to assess the following:

- the presence of rare or threatened species and the importance of the particular area for those species in terms of their distribution and extinction risk
- the rarity or representativeness of the particular *habitat* or *ecosystem* in question
- estimates of *ecosystem health* or functioning, such as intact pollination cycles[59] or food webs.[60]

5.5 Increasing transparency and public participation

Greater public input and transparency on decisions to mine public conservation land are critical for ensuring public trust in the management of the public conservation estate.

Making information readily available

Information on all mining permits is accessible from the Crown Minerals website.[61] In contrast, the Department of Conservation does not make information about mining on conservation land readily available. In some cases, information must be obtained through Official Information Act requests.

The most effective (and possibly efficient) way to improve public trust in the Department of Conservation's management of mining on conservation land is to develop a website. Ideally the website would include:

- lodged applications for permits or access agreements[62]
- existing mining permits on conservation land
- existing access agreements, including the operational requirements to avoid or mitigate impacts, compensation, offsetting agreements and bonds
- links to relevant resource consents
- information on the conservation value of the mining sites
- links to other DOC databases on species distributions, habitat types and threats.[63]

Providing for public input

The first time the public has any opportunity to submit on a mining proposal on conservation land is during the resource consent process.

The Government is proposing to address this by providing for public input on significant mining applications under the Crown Minerals Act. This would put the notification of mining applications on a similar footing to other commercial uses under the Conservation Act.

However, the Conservation Act only requires the Minister to publicly notify a decision *to grant* a concession.[64] This is unsatisfactory because the decision is widely seen as largely predetermined at the point of public notification.[65] The Concessions Review Panel proposed that the Conservation Act be amended to require notification of an application for a concession, as opposed to notification of the intention to grant a concession.[66]

The Government should adopt the Panel's proposal for the notification of mining applications, so that public submissions on mining applications are included in the information considered by the Minister. A further opportunity to improve public input could be to align consultation under the Crown Minerals act with consultation under the Resource Management Act.

5.6 Making mining companies pay their fair share

Commercial users of public conservation land seek to earn a profit from the use of that land. One of the key functions of the concessions process under the Conservation Act is to make sure that the public will benefit from any such commercial activity.[67] However, under the Crown Minerals Act, mining companies are only required to compensate for the damage caused by their activities. Mining companies should face the same financial obligations as other private users of the conservation estate.

Under the Conservation Act, the Department of Conservation receives income from granting commercial users (concessions) access to the public conservation estate. This is in addition to any compensation for damage to conservation estate. There is no reason why the Department of Conservation should not also receive income from mining. This should be considered separate from mining royalties, which are a return on mineral assets, not a return on the right to access the land.

6 Conclusions and recommendations

The conservation estate is held in trust for current and future New Zealanders. "Clean and green" is more than just a marketing brand – it is how we as New Zealanders increasingly identify ourselves and differentiate our country from others. The land managed by the Department of Conservation is critical in protecting biodiversity, unique ecosystems and landscapes, and allowing our tourists and ourselves to experience wilderness.

This investigation was triggered by the Government's recent proposal that approvals given to mining companies for access to conservation land be jointly decided by the Minister of Energy and Resources and the Minister of Conservation. The examination of this issue led to a broader investigation of the framework and processes that apply to access agreements. As a result, this final chapter contains a total of seven recommendations.

6.1 The Minister of Conservation should remain the sole decision-maker on access

Mining is off-limits on the 40% of the conservation estate listed on Schedule 4 of the Crown Minerals Act. The process by which mining companies are enabled to extract minerals from the remaining 60% currently involves two Ministers. The Minister of Energy and Resources grants permits for the minerals under the ground. The Minister of Conservation grants access to the land above the minerals.

This differentiation of functions and powers is a fundamental principle of the Crown Minerals Act. Equally fundamental to the Conservation Act is that the Minister of Conservation is the guardian of the conservation estate. Protecting the conservation purposes of that land must take precedence over commercial use.

The proposal for the two Ministers to jointly decide access to conservation land for mining is at odds with a basic principle of good governance, namely that the power to make a decision should be aligned with the accountability for the outcome of that decision.

I recommend that:

1. **Parliament does not support legislation that requires decisions on access to public conservation land for mining to be made jointly by the Minister of Conservation and the Minister of Energy and Resources.**

6.2 Access for mining needs to pass the same test as other commercial uses

Mining is already treated differently to other commercial uses on conservation land. The legal test for access applied by the Minister of Conservation in considering applications for mining access is different from that for access for other commercial uses.

In considering access for *mining*, the Minister need only "*have regard* " to the objectives of the Conservation Act and the purposes for which the land is held. In other words, the conservation value of the land need not take precedence over the economic value of the mine.

In considering access for any other commercial activity, the Minister *must not grant* a concession if the activity would damage the conservation value of the land.

There is no reason why mining applications should be required to meet a lower test than other proposals for commercial use of the conservation estate.

It has been indicated that legislation will be introduced amending the Crown Minerals Act later this year. This provides an opportunity to make the amendment suggested below.

I recommend that:

2. **The Minister of Energy and Resources and the Minister of Conservation introduce legislation to ensure that all proposals for access to the conservation estate for commercial uses can only be granted if consistent with the purpose for which the land is managed.**

6.3 Mining should provide net conservation benefit

The conservation estate is a major Crown asset. When it is used for commercial gain, the Crown is justified on seeking a return on this asset. Any private landowner allowing access to their properties would ensure that a payment was made for that access as well as compensation for any damage. A royalty is a return on the mineral asset, not a return for the right to access the land.

Payments for access rights should be used to benefit the conservation estate. Mining companies should do more than just compensate for the damage they cause. The provision of a net conservation benefit would give the Crown a return on this asset. However, the prospect of additional revenue to the Department of Conservation should not be used as a reason for cutting baseline funding – the battle against introduced pests is not being won.

I recommend that:

3. **The Minister of Conservation ensure that mining operations on public conservation land provide a net conservation benefit as well as compensating for the damage they cause.**

6.4 Provide national guidance on access

Different conservancies make decisions about allowing mining access independently using their own criteria. Assessment of applications for access should certainly be done by conservancy staff who have the required local knowledge. However, national guidance on how to evaluate the conservation value of sites, the impact of proposed mining operations, criteria to be used in making decisions and setting conditions on access would increase efficiency and provide consistency.

Currently, Department of Conservation staff are drafting a national Standard Operating Procedure for decisions on access to the conservation estate. However, it appears to be focussed on assigning roles and responsibilities for making decisions rather than providing guidance on how decisions should be made.

One of the limitations of the conservancy system is that it does not easily allow consideration of the conservation estate as a whole when considering offsetting (or betterment) options. Instead, the current system encourages decision makers to only consider such options within conservancy boundaries.

I recommend that:

4. **The Minister of Conservation directs officials to develop a nationally consistent framework and guidelines for evaluating applications for mining on public conservation land and setting access conditions.**

6.5 Improve public access to information

Mining on the conservation estate has been and will continue to be a fraught issue, despite the Government's recent decision to not take any land out of Schedule 4, at least for the meantime. Having to obtain information on mining on conservation land through requests under the Official Information Act does not engender public trust.

Making information readily available on a website would increase transparency and go some way toward greater public trust. Information included on such a website should cover existing permits and access agreements with attached conditions, as well as lodged applications and proposed conditions including offsetting agreements.

People should then be able to easily answer questions such as: What mines are currently operational on conservation land? Where are those mines? What safeguards are in place?

I recommend that:

5. **The Minister for Conservation improves public access to information about mining on public conservation land by making relevant information readily available on the internet.**

6.6 Public participation in decision making

It is pleasing to see that the Government has agreed in principle that significant applications to mine on public conservation should be publically notified. However, there is no detail on how that public submission process will work, nor on what would consititute a *significant* application. Submitters should have adequate information and a genuine opportunity to influence decisions. Moreover, this opportunity should be extended from just significant applications for access for mining to all significant applications for access to conservation land.

I recommend that:

6. **The Minister of Conservation ensures that all significant applications for access to conservation land be publically notified and that 'significant' be defined so it applies consistently to all conservancies.**

6.7 Include ecological areas in Schedule 4

There are 55 ecological areas in the conservation estate covering 176,000 ha. They were created as representative examples of the full range of ecosystems that occurred within identified ecological regions and districts. Only one of the 55 - the Otahu Ecological Area – is listed on Schedule 4.

Ecological areas have been assessed and specifically set aside because of their ecological value. However, it is possible that since the assessments were done, some of the 55 ecological areas may have been degraded. But there is a strong case for including those that have not been significantly degraded on Schedule 4 to ensure their protection. This can currently be done by Order in Council.

However, the Government proposes amending the Crown Minerals Act to ensure that conservation areas falling into certain classes (like national parks) will automatically be included in Schedule 4. An alternative way ahead would be to reclassify the ecological areas that should be added to Schedule 4 into classes that automatically qualify for inclusion.

I recommend that:

7. **The Minister of Conservation adds all ecological areas to Schedule 4 unless there is a good reason for excluding some.**

Endnotes

1 Hansard. Parliamentary Debates (Hansard) for Tuesday, 16 March 2010. Vol 661, p. 9444.

2 Hon Gerry Brownlee, 26 August 2009. Australasian Institute of Mining and Metallurgy, opening address, Queenstown, New Zealand.

3 Press release 22 March 2010, for release of MED/DOC (2010). *Maximising our Mineral Potential: Stocktake of Schedule 4 of the Crown Minerals Act and beyond.*

4 *Dominion Post,* 24 March 2010.

5 *New Zealand Herald,* 20 July 2010.

6 Thom, D. 1987. *Heritage: The parks of the people*. Landsdowne Press.

7 Roche, M. 2002. The state as conservationist, 1920-60: 'Wise use of forests, land and water'. In: Pawson, E. and Brooking, T. (Eds). *Environmental histories of New Zealand*, Oxford University Press.

8 Established under the Conservation Act 1987, the Department of Conservation also administers other conservation legislation (e.g. The Wildlife Act 1953, The Reserves Act 1977, Wild Animal Control Act 1977 and The National Parks Act 1980)

9 Department of Conservation, GIS Data, provided to PCE September 2009 (updated March 2010).

10 Dingwall, P. 1982. New Zealand: Saving some of everything. *Ambio,* 11(5): 296-301.

11 Department of Conservation, 2008. Annual Report for year ending 30 June 2008.

12 These include the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) and the Convention on Wetlands of International Importance (1971) (the Ramsar Convention).

13 Conservation Act 1987, s 6.

14 Department of Conservation, GIS Data, provided to PCE September 2009 (updated March 2010).

15 National Parks Act 1981, s 4.

16 Department of Conservation, GIS Data, provided to PCE September 2009 (updated March 2010).

17 Department of Conservation, GIS Data, provided to PCE September 2009 (updated March 2010).

18 Department of Conservation, GIS Data, provided to PCE September 2009 (updated March 2010).

19 Conservation Act 1987, s 61.

20 Conservation Act, Part 4 Specially Protected Areas.

21 It is important to note that particular area of land may have multiple classifications. For example, some areas of national park and stewardship land are also classified as wilderness areas. Others like RAMSAR sites can include conservation land with a range of conservation classifications.

22 Department of Conservation, GIS Data, provided to PCE September 2009 (updated March 2010).

23 Anon. 1983. Guidelines for selection of ecological areas. *Beech Research News*, 8:10.

24 New Zealand Biodiversity Strategy. 2000. (http://www.biodiversity.govt.nz/) [Accessed 14 May 2010].

25 McLennan, J.A.,et al. 1996. Role of predation in the decline of kiwi, *Apteryx* spp, in New Zealand. *New Zealand Journal of Ecology*, 20(1): 27-35.

26 As of 28 June 2010, there were 57 mines currently operating on conservation land and another 27 permits allowing for exploration and other activities (Hon Kate Wilkinson, Minister of Conservation. Address to the Royal Forest and Bird Protection Society AGM, Wellington, 27 June 2010).

27 In some areas, rocks associated with the mineral being mined contain high levels of sulfur. When exposed to air and water, these rocks form sulfuric acid, which can significantly raise the acidity (lower the pH) of streams, rivers or lakes in the area. In extreme cases, this acidity can make the waterway unsuitable for aquatic plants and animals.

28 Cyanide is used to extract low-concentration gold and silver deposits from parent rock. Wastewater and slurry from this extraction technique poses a significant environmental risk and requires careful handling to prevent spills and harm.

29 Roads and cleared areas associated with mines provide new habitat for plants to colonise. They are generally areas of high light levels and disturbance, conditions that introduced plants such as gorse, lupin, grasses and weeds can exploit better than native plants.

30 Lack of follow through coupled with inadequate enforcement has been identified as a major problem in the United States. (Norton, D. 2009. Biodiversity offsets: Two New Zealand case studies and an assessment framework. *Environmental Management*. 43:698-706).

31 A mineral permit is not always required. Exceptions apply for some minerals, or some circumstances (See Crown Minerals Act 1991, s 8). These mining activities may still be subject to RMA.

32 *Minerals Programme for Minerals (excluding Petroleum) 2008*, available from the Ministry of Economic Development. http://www.crownminerals.govt.nz/cms/minerals/publications/publications#MinProg [Accessed 9 July 2010].

33 This is reflected in the current Minerals Programme for Minerals (excluding Petroleum) 2008, which does not make reference to environmental factors. Although the 1996 programme prohibited the mining of primary uranium and thorium minerals because this was in accordance with the Government's environmental policy of being a nuclear free zone, and the New Zealand Nuclear Free, Disarmament and Arms Control Act 1987 (Nuclear Free Act), it also included express statements in several places stating that environmental matters are not to be addressed in a minerals programme. In contrast, the 2008 programme does not contain the words 'environment' or 'environmental' at all. However, the Minister (of Energy and Resources) is required under section 21(c) of the Crown Minerals Act to have regard to the prohibitions under any other Act. Therefore, the 2008 programme does state that mining of uranium and thorium will ordinarily be declined, because the Nuclear Free Act impliedly prohibits mining those minerals.

34 Underground mining and minimum impact activities may not considered "access" (i.e. requiring an agreement) under the Act (see Crown Minerals Act 1991 s 53, 57). However, for some types of land such as conservation land, even access for minimum impact activities may still require the consent of the land owners and occupier (e.g. Minister of Conservation; see Crown Minerals Act 1991 s 55).

35 While a compulsory arbitration process may apply (when agreement on access cannot be reached), in respect of any land managed under the Conservation Act 1987, or any Act specified in Schedule 1 of the Conservation Act, the Minister of Conservation must agree to arbitration (see section 55). However, section 66 of the Crown Minerals Act does allow for Declaration by Order in Council that access arrangement be determined by arbitrator where Governor General (on advice from the Ministers of Energy and Ministers for the Environment) considers that it is in the *public interest* to do so.

36 Crown Minerals Act 1991, s 59(2)(d).

37 Processing and Administering Crown Minerals Access Arrangements and Minimum Impact Activity Consents. Draft Standard Operating procedure DOC, p 26. Draft copy provided to PCE by DOC 18 March 2010.

38 Processing and Administering Crown Minerals Access Arrangements and Minimum Impact Activity Consents. Draft Standard Operating procedure DOC, p 25 Draft copy provided to PCE by DOC 18 March 2010.

39 *Having regard* requires the Minister to give the issues genuine attention and thought. The relative weight given to each of the criteria is whatever he/she considers appropriate.

40 Crown Minerals Act 1991, s 61(2).

41 Conservation Act 1987, s 17U(3).

42 Conservation Act 1987, s 17O.

43 Conservation Act 1987, s 17Q, 17R.

44 Department of Conservation. Concessions Processing Review. Final Report April 2010.

45 Our understanding is that the current draft is based on West Coast conservancy procedures.

46 Section 5 (2)(a) of the Resource Management Act expressly excludes minerals from the requirement to "sustain the potential of natural and physical resources … to meet the reasonably foreseeable needs of the future generations". This recognises the non- renewable nature of mineral resources. However, the Environment Court (Gebbie v Banks Peninsula District Council 1999) 5 ELRNZ 362 (EC),para [16]), has held that the use of minerals, especially the extraction of them, are to be managed sustainably in every way except with respect to controlling the rate at which New Zealand runs out of minerals.

47 Nationally significant applications for mining may be 'called in' to be considered by a Board of Inquiry. Otherwise, councils will determine the consent application. A council's decision may be appealed to the Environment Court who will consider the application afresh.

48 Note: the changes apply to gaining access for mining on all land owned by the Crown, not just to land managed by the Department of Conservation.

49 This has been enacted by the 'conservation legislation': the Reserves Act 1977, National Parks Act 1980 and Conservation Act 1987.

50 See Conservation Act 1987, s 6.

51 New Zealand Biodiversity Strategy (2000). (http://www.biodiversity.govt.nz/) [Accessed 14 May 2010].

52 Green, W. and Clarkson, B. (2005). *Turning the tide? A review of the first five years of the New Zealand Biodiversity Strategy. The Synthesis Report*. Report submitted to the Biodiversity Chief Executives. (seehttp://www.doc.govt.nz/publications/conservation/a-review-of-the-first-five-years-of-the-nz-biodiversity-strategy/) [Accessed 14 May 2010].

53 There is one exception to the clear separation of roles and responsibility. The Ministers of Energy and Conservation are jointly responsible for deciding whether to add or remove conservation land from schedule 4. In that circumstance, an overall 'balancing' decision is more appropriate. This is because including land in schedule 4 effectively usurps the Crown Mineral Act's normal process, i.e. consideration of access applications on a case by case basis. In this case, joint decision making will not necessarily lead to a degradation of overall conservation value.

54 Conservation Act 1987, s 17U(3).

55 Under the Mining Act 1971, and Coals Mines Act 1979, mining licences carried with them the right to occupy and use the land overlying the minerals.

56 MED/DOC (2010). *Maximising our Mineral Potential: Stocktake of Schedule 4 of the Crown Minerals Act and beyond.* P 19.

57 DOC and the Ministry for Economic Development received funding from the Ministry of Research Science and Technology's Cross Departmental Research Pool in 2009 to develop criteria and tools for improving and operationalising the biodiversity offsetting concept. See http://www.morst.govt.nz/funding/cdrp/2009-10/#one. [Accessed 28 May 2010].

58 Norton, D. A. 2009. Biodiversity offsets: Two New Zealand case studies and an assessment framework. *Environmental Management,* 43:698-706.

59 For example, tui and bellbirds are the key pollinators of native mistletoes. In areas where populations of these birds are reduced by introduced predators, the reproductive success and continuing survival of mistletoes is greatly reduced.

60 In areas such as the Nelson Lakes, native scale insects produce honeydew as part of their feeding on the sap of beech forests. This energy-rich resource then forms the basis of the food web, feeding native insects and birds. Introduced wasps can out-compete native animals for the honeydew, which can greatly reduce their populations or have major impacts on the entire ecosystem.

61 http://www.crownminerals.govt.nz/cms [Accessed 17 June 2010].

62 Some information will only become available following the initial evaluation of an application for access. If those access applications are notified, then this information also needs to be made publicly available.

63 The Natural Heritage Management System is a strategic initiative of the Department of Conservation. The aim is to develop a system to effectively manage biodiversity within the conservation estate. It will contain information on individual species as well as habitats and could also form the basis of a system to determine the conservation value of individual sites (see http://www.doc.govt.nz/publications/about-doc/statement-of-intent-2009-2012/).

64 Conservation Act 1987, s 17T(4) & (5).

65 Department of Conservation. *Concessions Processing Review*. Final report April 2010 p 38.

66 Department of Conservation. *Concessions Processing Review*. Final report April 2010 pp 38, 100.

67 Department of Conservation. *Concessions Processing Review*. Final report April 2010 p 18.