

13.1 Introduction

Minerals are essential for the development of the Region. Minerals of economic value which occur in the Auckland Region are primarily aggregates which are used by the construction industry. Other minerals do occur (e.g., ilmenite in the sands on the Region's west coast, and silica sand on land in the vicinity of the Kaipara Harbour) but are not currently the subject of significant extractive activities.

Most mineral deposits are fixed in location, unevenly distributed, and generally a non-renewable resource. The transportation of minerals involves high monetary costs and a significant environmental impact. Adverse environmental effects may also result from the extraction of minerals, and some of these effects may be significant. Consumption of aggregates and other mineral products is correlated with population growth and the form and rate of urban development. Even during periods of low growth, the maintenance of infrastructure and buildings ensures a continuing demand for mineral products. Average consumption of 5.7 tonnes per person per annum occurred in the 1986 to 1991 period. With the Region's population already in excess of 1 million by 1995 and expected to grow, a sustained demand for aggregates is expected.

There are some 60 quarries in the Region, producing rock, sand and shingle. Most of these are small, with the great majority of production coming from a few large quarries. Construction for housing, industrial development and infrastructure, to support continued growth of the Region's population gives rise to a steady demand for aggregates within the Region.

Section 5(2) of the RM Act promotes the management of the use, development and protection of natural and physical resources (including minerals) in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety. However, section 5(2)(a) of the RM Act excludes minerals from the requirement to sustain the potential to meet the reasonably foreseeable needs of future generations.

In terms of section 30 of the Act, activities involving exploration for, or extraction of, minerals give rise to a range of issues including soil conservation, discharges of contaminants to air and water, and therefore come within the functions for which regional councils have

responsibility. In addition, by virtue of section 30(d)(ii) extractive activities in the CMA are controlled by regional councils in conjunction with the Minister of Conservation.

In terms of section 31 of the Act, the effects of mineral extraction as a land use (such as noise, vibration, visual effects including glare, traffic generation) are controlled by TAs.

The granting of permits to extract minerals which are owned by the Crown (petroleum, coal, precious metals and other Crown owned minerals) is controlled by the Ministry of Commerce through the provisions of the Crown Minerals Act 1991. That Act is concerned with achieving efficient use of those resources and providing a financial return to the Crown as owners of the resource. The extraction of shingle, sand and shell from the CMA is the only allocation function in terms of minerals which occurs under the RM Act.

13.2 Issues

13.2.1 Mineral extraction can have a range of adverse effects on the environment

Extraction of minerals involves processes which create effects such as sediment laden water, noise and vibration. These effects can be site specific, off-site, short- or long-term, and/or cumulative. The relationship of Maori and their traditions and culture with their ancestral taonga may also be adversely affected. Extractive operations often have drastic effects on landforms, and these may place limitations on the use of sites after extraction activities cease. Extraction processes need to be planned and managed carefully. Some of the adverse effects can be remedied or mitigated. Spent extraction sites may present ongoing problems in terms of reduced amenity values, hazards to public safety or health, and damage to natural values. It is seldom practicable to restore extraction sites to their original state. Early planning for after-use can avoid or mitigate many of these effects and enable some flexibility of long-term use of sites when extraction activities cease. Spent extraction sites offer an opportunity for community amenities to be provided, e.g., Mt Smart and Eden Gardens, or wildlife habitats to be established. Some effects of mining, such as spoil dumps, may need to be managed long after the activity has finished.

In the Hauraki Gulf Islands and in particular on Great Barrier Island, mining, other than quarrying, is not considered to be an appropriate activity in terms of the wider environmental outcomes sought through this policy statement.

13.2.2 Competing activities and values can impose increased environmental and monetary costs on the community for minerals which are needed for development in the Region. This also gives rise to inter-regional issues, as the Auckland Region becomes increasingly dependent on the mineral resources of adjacent regions

Sources of aggregates within or close to the city have largely been worked out, or extractive activities curtailed because of nearby urban development and rising community expectations regarding environmental quality. In addition, changes in community values may remove some sources (such as Auckland's volcanic cones) from consideration. There is, however, a sustained demand in the Auckland Region for aggregates for construction and maintenance purposes, and this must now be met from sources more distant from urban Auckland.

The Auckland Region is becoming increasingly dependent on the aggregate resources of adjacent regions. Transporting large volumes of aggregates (Auckland's annual consumption is of the order of 6 million tonnes) involves high monetary costs, in addition to the costs of extraction, and a significant environmental impact, for both Auckland and adjacent regions. In these terms, cost is a function of the distance of users of aggregates from the point of extraction. There are existing and potential sources for extraction of aggregates in the Region, however, which could provide for Auckland's requirements for many years to come. Protection of these deposits to ensure their continued availability is a significant factor to be considered in managing the form and direction of development in the Region.

13.3 Objectives

1. *To avoid, remedy, or mitigate the adverse effects on the environment of mineral prospecting, exploration, extraction, processing and transportation.*

2. *To ensure that mineral extraction activities and mineral deposits which are presently or potentially valuable for development in the Region are not unnecessarily compromised, and the region's need for rock material continues to be met.*

13.4 Policies, Methods and Reasons

13.4.1 Policies

Policies 1 and 3 below give effect to Objective 13.3-1. Policies 2 and 4 give effect to Objective 13.3-2.

1. *Mineral prospecting, exploration, extraction and processing will be avoided in those locations where these activities would:*

- (i) *have significant adverse effect on the significant values of:*
 - (a) *natural or cultural heritage,*
 - (b) *the natural character of the coastal environment (including the coastal marine area) wetlands, and lakes and rivers and their margins,*
- (ii) *have significant adverse effects on elite land,*
- (iii) *exacerbate the effects of natural hazards.*

(Refer to Chapter 6 – Heritage and Chapter 7 – Coastal Environment)

See also Chapter 2 – Regional Overview and Strategic Direction; Chapter 3 – Matters of Significance to Iwi; Chapter 6 – Heritage; Chapter 7 – Coastal Environment; Chapter 8 – Water Quality; Chapter 10 – Air Quality; Chapter 11 – Natural Hazards; and Chapter 12 – Soil Conservation.

2. *The development and use of land in the Region will be managed so as to:*
 - (i) *Protect existing mineral extraction sites from activities which would unduly limit their operations, to the detriment of the regional environment, including its economy.*
 - (ii) *Protect areas of minerals which have the potential to provide cost-effectively for the Region's future needs from activities which may compromise the ability to extract, or provide access to, those deposits.*
 - (iii) *Provide for the option to extract mineral resources during the development, or redevelopment of urban areas.*

3. *Mineral extraction and processing, including remedial measures, and long-term management and use of sites after mineral extraction ceases, will be planned and undertaken in ways which avoid or mitigate adverse effects on the environment.*
4. *Minerals management shall be integrated and co-ordinated between the ARC and TAs within the Auckland Region and with adjoining regional and territorial councils.*

13.4.2 Methods

1. *The ARC will prepare:*
 - (i) *An evaluation of:*
 - (a) *the location of actual and known potential mineral resources available to the Region;*
 - (b) *the foreseeable demand for mineral resources of the Region.*
 - (ii) *An assessment of the effects which extraction activities have or are likely to have on:*
 - (a) *pollutive discharges to land, water or air;*
 - (b) *ground and surface water flows;*
 - (c) *the coastal environment;*
 - (d) *the transportation of minerals;*
 - (e) *significant natural heritage resources and intrinsic values of ecosystems;*
 - (f) *visual and amenity values;*
 - (g) *the Regional economy;*
 - (h) *significant cultural heritage values, including places and features of value to Iwi;*
 - (i) *prime agricultural land.*
2. *The ARC will, on completion of the process outlined in Method 13.4.2 (1) above, review the Policies and/or Methods in this chapter in the light of the additional information and determine whether regional plan provisions are the most appropriate mechanism to record and implement policy that is derived from this process.*
3. *District plans and any relevant regional plans will contain provisions requiring mineral extractors to provide for the use of the site after extraction processes cease, so as to minimise present and*

future adverse effects on the environment. The fulfilment of such rehabilitation and aftercare responsibilities shall be secured by means of bonds or like measures.

4. *District plans and any relevant regional plans will make provision for and manage mineral prospecting, exploration, extraction, processing and the transportation of minerals. Such provisions could include rules which allow, regulate or prohibit mineral extraction activities.*
5. *District plans and any relevant regional plans will make provision for the potential extraction of mineral resources should they become available through the development, or redevelopment of urban areas.*
6. *District plans and any relevant regional plans, will include the following criteria for assessing proposals:*
 - (i) *The extent to which extraction methods and operations make efficient use of the resource*
 - (ii) *The extent to which reuse can be made of existing material.*
 - (iii) *The extent to which alternative sources of suitable material are reasonably available, particularly where seabed, lakebed or riverbed is involved.*
7. *The ARC will promote the options available for the reuse and recycling of mineral resources, including alternative sources, and make this information available to the TAs and general public.*
8. *The ARC will support policy facilitating the continuing availability of aggregate resources (where appropriate) in adjacent regions.*

13.4.3 Reasons

There will continue to be competition for resources between mineral extraction activities, and other activities and values. Changing activity patterns and values have led to extractive activities having to utilise mineral deposits at increasing distances from urban Auckland. This tendency is likely to continue, but its adverse effects (in terms of premature abandonment of extraction sites, the opening of additional sites, and the added costs of extraction and transport) can be reduced.

This can be done by ensuring that new extraction operations and locations in the Region, which may provide a future supply of minerals close to the market, and are not impacting on significant natural or cultural resource values, and existing extraction operations, are identified and their present and potential value to the Regional community considered in the processes of managing growth and change.

The Regional evaluation will identify appropriate mineral extraction areas for protection on one hand, and highly valued and Regional resource areas on the other, where extraction activities would not promote the sustainable management of other resources. Mapping at a scale sufficient to identify mineral extraction and natural physical resource areas will be necessary. Mineral resources (particularly aggregate) outside the Region will increasingly be relied on to provide Auckland's needs. The significance and availability of these resources also need to be considered when evaluating whether the Region's resources will be sufficient to meet foreseeable demand.

Extraction of sand from the Waikato River bed (Waikato Region) will cease in the near future. This is likely to increase the demand for extraction of sand and shingle from within the CMA of the Auckland Region. There are significant sand resources on the western and north eastern coasts of the Region. The natural processes of coastal erosion and accretion are susceptible to human interference, and coastal areas have high natural resource and amenity values. Although marine sand is in some instances a naturally replenishing resource, it is also a very sensitive one, so extraction must be managed cautiously.

Mineral extraction and processing activities inevitably have an environmental impact. Adverse effects may include noise and dust, danger and vibration from blasting, alteration to groundwater flows and water quality effects, elimination of habitat and vegetative communities, impact on Maori ancestral taonga, impact on agriculture and recreation, long-term scarring and alteration to the natural landform and after-use effects. Some future sites may also involve the loss of prime soils.

It is also important that mineral extraction activities are planned and managed so as to avoid or mitigate both the effects of extraction operations in the short term,

and the long-term consequences of extraction, including restoring extraction sites to a safe condition. Other options, such as habitat restoration, should also be considered at the planning stage. Fulfilment of conditions to bring this about should be secured at the time consents are granted for the extractive activity – The extraction industry should bear any costs involved.

In order to minimise the effects of mineral extraction on the environment, minerals should be used efficiently including reuse, recycling, consideration of alternative sources (e.g., steel slag is already being used for drainage and roading purposes), and use of resources under sites about to be redeveloped. The urban consolidation and infrastructure policies of this RPS are the most effective means of demand management to minimise the effects of mineral extraction.

Regional plan provisions may be necessary if adequate management of the region's mineral resources is not effectively achieved through district plan provisions.

13.5 Environmental Results Anticipated

- (a) Areas with significant environmental values will be protected from mineral extraction activities.
- (b) Existing and future mineral extraction operations will continue, where appropriate, without significant adverse effects.
- (c) The potential to utilise important mineral deposits within the Region will not be unnecessarily compromised.
- (d) Sites where extraction activities have ceased will be left in a condition so that they do not give rise to any significant adverse effects.

13.6 Monitoring

In co-operation with TAs and the mineral extraction industry the following will be monitored:

- (i) Significant effects on the environment caused by mineral extraction, processing and transportation.
- (ii) Assessment of likely requirements for minerals.
- (iii) The extractable potential of existing extraction sites, and significant deposits identified for future utilisation.
- (iv) The output of minerals from extraction activities in the Region.