

## 2.1 Introduction

The Auckland Region has a diverse natural and cultural environment. The intricate coastline, bush-clad hills, volcanic cones and craters, sheltered harbours and islands and waters of the Hauraki Gulf all contribute to its unique character. The equable climate, ample rainfall and rich soils sustain lush and diverse vegetation. In the past, while the Region's population was small, the effects of human habitation were masked by the natural setting. As the population has increased, however, pressures on the Region's resources have grown and degradation has occurred to some of the Region's natural resources. In recent years the regional community has shown a growing awareness of these problems and the need to rethink its actions in relation to the present and future qualities of the Region. There is now a need to consider whether today's actions will leave an environment for future generations which is, at least, as good as that which was inherited from the past. That is, there is a need to determine whether the Region's resources are being sustainably managed.

As well as natural resources, the Auckland Region also has significant physical resources. These resources include the extensive infrastructure contained in the region, including its ports, airports, roading and utilities infrastructure. The physical resources also include the large industrial base, commercial facilities, the rural industry, including forestry, and the extensive housing suburbs. These physical resources are of both regional and national significance and must be considered when determining the sustainable management of the region's overall resources.

As noted in Chapter 1, the RM Act requires the promotion of the sustainable management of natural and physical resources. The purpose of this RPS is to promote and integrate the sustainable management of those resources within the Auckland Region. The need for an integrated approach arises both from the diversity of the Region's natural and physical resources and from the need to co-ordinate the actions of the various agencies with responsibility for their management.

Subsequent chapters in the RPS provide for the management of specific resources in a manner which is sustainable and co-ordinated across the Region. The function of this chapter is to integrate the management of the various components by:

- outlining the setting of the Auckland Region today;
- providing an overview of the major resource management pressures and issues confronting the Auckland Region;
- establishing strategic objectives and policies to give overall direction (strategic direction) to the management of the Region's resources;
- stating the regional development policy that will give effect to the strategic direction;
- stating the broad outcomes which the provisions of the RPS are intended to achieve.

The strategic approach is of key importance to the integration of resource management and entails:

- taking the long-range view when considering the impact of development in shaping the future;
- taking a wide areal view and considering the entire Region, not just a sectoral or district view;
- dealing with multiple issues including environmental needs, cost-effective infrastructure, community values;
- being proactive rather than reactive; that is, guiding, rather than merely responding to initiatives to use resources and development activities;
- dealing with matters comprehensively, which involves considering cumulative effects, rather than dealing with them in a piecemeal manner.

A regional approach by itself is not sufficient to deal comprehensively with all the issues facing the Auckland Region. Central government also has an important complementary role. It has the central role in determining appropriate immigration policy, ensuring the timely provision of critical services such as education and health, and supporting local government and the community in managing the pressures of development in such areas as the funding of regional transport.

## 2.2 The Setting – Auckland Today

The special qualities of the Auckland Region and its environment have attracted people to the Region over many generations. First, came the Maori who saw the benefits of its land and waters and settled on Tamaki Makaurau. Then came the European settlers from the British Isles and Australia. The modern city-region was

built over the next 150 years. During this period new settlers arrived from Europe, the Pacific Islands and Asia, changing the social character of Auckland into a multi-cultural region.

With one million people, the Auckland Region is the most populous in New Zealand. It is also the most cosmopolitan region, and in addition is the largest centre of economic activity, and the focus of continuing growth.

The Auckland Region contains 28% of New Zealand's total population. Of that population, Maori and Pacific Islanders each comprise more than 100,000 people.

With European settlement, the physical form of the Region changed markedly. Of particular significance were the physical developments of the ports and other infrastructure, the major industrial base for the country and extensive low-density housing suburbs.

The Region's commercial and industrial base, and its ports, airport and rural industry are of both regional and national significance. The Region contains 32% of the nation's workforce and 38% of its business enterprises. The Region's ports handle 66% of the nation's imports by sea and 30% of its exports (by value), and handle about half of the total number of containers handled in all of New Zealand's ports. Eighty percent of all visitors to New Zealand enter the country via the Auckland International Airport. It is also significant that the airport accounts for over 25% by value of all imports into New Zealand.

Economic indicators such as retail trade, building activity, employment and population growth, and levels of business confidence show Auckland poised for continued economic growth. A number of major facilities are under construction or are proposed (e.g., hotels, airport expansion, port expansion, CBD transport centre, Auckland Museum expansion) and these will trigger further economic activity.

The Auckland Region's rural economy reflects the presence of New Zealand's largest market. Although it has only 2% of the country's land area, the Region has 12% of the nation's land in horticulture. The Franklin district alone produces some 40% of New Zealand's fresh vegetables and a similar proportion of the nation's fresh milk supply. This part of the Region, and other rural areas, also include other rural activities, for example, intensive animal keeping in buildings and some protected crops, that may not always be dependent upon the

productive quality of the land, but which nevertheless contribute to the regional and national economy. Commercial forestry is also an important rural land use activity with over 35,000 ha planted as at 1994.

The Region's continuing growth is of key strategic importance. Between 1986 and 1991 the Auckland Region attracted a population increase of 70,000 or 60% of the nation's total population increase. Of this, 65% was the result of natural increase, and the balance came from migration, i.e., people moving to Auckland from other parts of New Zealand or from overseas. Even without migration, the population of the Auckland Region would continue to grow.

Historically, the transport system and provision of bulk utility services (especially drainage) shaped metropolitan Auckland. The decisions made in the 1950s to develop a motorway system, and to provide drainage services to the greater part of urban Auckland from a treatment and disposal system situated at Mangere, greatly facilitated urban expansion. Sustained investment in the motorway system, and high levels of car ownership, encouraged suburban growth and led to the low-density urban form which is present-day Auckland.

The low-density form of the Region's development provides a number of benefits to the public in terms of lifestyle, spaciousness and privacy. Many older communities of Auckland have special characteristics such as mature trees and vegetation, access to open space, and the quality and historical significance of the homes. It is clear there is a public desire to protect these qualities.

The individual home on a separate title, with the benefits that provided, became an important aspiration for many people and this was reinforced by government housing policy. These benefits, coupled with high rates of car ownership, ensured that the majority of people had sufficient personal mobility to access employment, shopping, recreation, education and other services.

However, Auckland's low-density urban form has led to inefficient travel patterns and use of energy. People have to travel further to get to the services they require and to get to and from work. Not only does this require more travel than a more compact urban form, but it has led to greater reliance on private vehicles and less effective use of public transport. More travel means greater use of non-renewable fuel, more emissions to the environment

from vehicles, a greater contribution of greenhouse gases to the atmosphere, and a greater impact on the quality of air and water in the Region.

Auckland's low-density urban areas have also been wasteful of land. They have taken valuable soils out of production. For example, Mangere and the Rosebank peninsula were once productive market-gardening areas in close proximity to the city. Furthermore, much urban land, especially industrial land, lies under-utilised within the urban areas. Urban development has also covered basalt lava flows and tuff, and scoria deposits which could have enhanced the heritage of the Region or been used as aggregate for construction materials. Urban expansion has adversely affected natural resources such as indigenous flora and fauna and the quality of streams and coastal waters. It has obliterated many places of cultural importance, particularly to Tangata Whenua, and has required the expensive extension of utility services, transport networks and community services to support low density settlement.

The islands of the Hauraki Gulf comprise significant natural and physical resources in terms of favourable location and climate, outstanding landscape features and unusual ecological balance. They make an exceptional contribution to creating the region's unique character and require particular resource management measures to sustain them.

## 2.3 Issues

An overview of the key strategic resource management issues in the Auckland Region shows that nearly all of them stem from the pressures and impacts of development on the Region's natural and physical resources. (Note: the appropriate sections in Part II of the RM Act are referenced at the end of each issue.)

### 2.3.1 The Region will need to accommodate continued population growth and economic development in the foreseeable future

There are three key factors influencing Auckland's continued growth and development:

- **Population structure.** Its existing population structure means that the Region will continue to expand as a result of natural increase (excess of births over deaths).

- **Migration.** Migration rates are subject to substantial fluctuations which are difficult to predict. Immigration is largely affected by government policy, and has made a substantial contribution to Auckland's growth in recent years. Internal migration is influenced mainly by the state of the national economy. Planning for the Region's future will need to include consideration of future fluctuations in migration rates.
- **Economic activity.** The Auckland Region is the dominant economic focus of New Zealand. Its large domestic market, infrastructure, port and airport, commercial expertise and manufacturing and industrial base will ensure that this focus continues. With trends towards open global trade relations, Auckland is central to a successful export-led strategy.

Statistics NZ projects the Auckland Region to grow to 1.3 million by the year 2016, representing approximately one third of the nation's population. The domestic market contained within the north of the North Island (approximately 2.1 million by 2016) will also be a significant contributor to continued growth in the Region.

The housing market is influenced by changes in family and household composition as well as lifestyles, and economic factors. The following demographic changes affect the demand for housing in the Region:

- Net inflow of permanent and long-term migrants. Net migration figures show a large increase since 1991. Most overseas migrants entering the country settle in the Auckland Region, and they and their families have an immediate requirement for housing.
- Large numbers of people in the family formation age groups. This has been an important factor in the percentage growth of dwellings (11%) being higher than the percentage growth of population (8%) between 1986 and 1991.
- Changes in patterns of family formation and household composition. The average household size is now below three persons. The number of single parent and one person households has increased rapidly in recent years.

- Ethnically diverse population. The population of the Region is becoming more ethnically diverse. Maori and Pacific Islands populations are much younger than the rest of the population and have a higher household formation rate.
- Sub-regional differences. Each sub-region has distinct social and demographic characteristics and these affect the demand for particular housing.

These factors may result in a more varied supply of housing than has been provided in the past. There is little evidence to date that the housing industry is fully responding to these changes in housing demand.

In the past residential growth was accommodated in the suburban areas of Manukau, North Shore and Waitakere. More recently, areas such as Rodney and Franklin have experienced rapid population growth. However, the supply of relatively low-cost flat land for mass housing projects within the metropolitan limits is now almost used up. As a result, it can be anticipated that there will be greater interest in redeveloping the existing urban area as well as ongoing pressures to expand the metropolitan limits to accommodate more urban expansion.

The growing trend towards redevelopment of the existing urban areas includes infill housing of residential areas; the central city (CBD and city fringe) apartments; and a re-evaluation of commercial and industrial land with a view towards comprehensive residential and associated uses (e.g., Railways land in the city). Some criticism of the quality of infill housing in residential areas has resulted, but this can be avoided by appropriate methods that ensure higher density residential areas are attractive places in which to live. An assessment should also be made addressing impacts on such matters as school provision, open space, traffic and local amenity.

The ARC is working closely with TAs in order to assess strategies for the accommodation of future growth. The Auckland Strategic Planning (ASP) modelling exercise will assist in determining the social, economic, financial and environmental impacts of different growth options. The preferred option will be selected only after close consultation with other parties affected.

Whether greenfields development or urban intensification, the challenge for local authorities and

developers will always be to continue to accommodate new development while protecting the social and natural values which make Auckland an interesting, efficient and diverse Region in which to live and carry out business activity.

## **Part II of the RM Act and Links with Other Chapters**

In order to enable people and communities to provide for their social, economic and cultural well-being and for their health and safety, the Region must accommodate future population growth and economic development (see section 5 of the RM Act). Accommodating growth also fulfills the requirement of section 5(2)(a) to meet the reasonably foreseeable needs of future generations. Policies relating to growth and development issues are specifically addressed within this chapter. However, all other chapters of the RPS deal with the effects of growth and development on the natural and physical resources.

### **2.3.2 Urban development in the Region threatens several environmental qualities and thresholds**

The Auckland Region is reaching several critical thresholds in terms of the quality of the environment and the suitability of land for urban development. The cumulative effect of development over the long-term continues to place pressures on natural resources which, if not managed in an integrated manner, can eventually lead to the gradual diminishing of environmental quality. Growth is accompanied by increased water consumption, higher levels of sewage and waste generation, traffic generation and the physical take-up of land. Environmental improvements can be achieved through further investment in infrastructure and remedial works. The effects of these achievements must be balanced against the social and economic effects of the costs for these works and be in accordance with Policy 2.6.7.

The semi-enclosed harbours with their poor natural flushing characteristics in parts of the harbours have become adversely affected by the pressures of development. Parts of the Waitemata and Manukau Harbours and Tamaki River are impacted as a result of urban-generated sediment and pollution. (see Map Series 6).

Areas such as the Clevedon valley and Kaipara River valley, which are prone to flooding, are put under greater pressure as land use intensifies. Similarly, developments in the upper Oratia catchment have the potential to flood urban areas lower down.

Water resources in the Region are under pressure with respect to both quality and quantity. Use of water in the Region must take into consideration competing needs and maintain the water levels and flows necessary to sustain aquifers, ecosystems and the aesthetics of water bodies.

While Auckland benefits from being on a narrow isthmus with frequent and relatively strong prevailing winds, there are nevertheless localised air quality problems. These usually arise from uses situated in inappropriate locations or located adjacent to other sensitive uses, such as residential areas. High traffic volumes are also a significant contributor to air quality problems.

The need to accommodate an expanding urban population has placed pressures on mineral resources in the Region, namely sand and aggregates. The demand for these continues, yet the resources are limited. If Auckland is not to face the high costs and accompanying adverse impacts on the environment of transporting heavy aggregates from elsewhere in New Zealand, then the existing resources must be carefully managed. This is of strategic importance because not all mineral resources in the Region are available for extraction because of the heritage values associated with their particular location and/or landform.

#### **Potential Effects of Urban Intensification**

The process of urban intensification has been under way for many years, primarily through infill housing. It has the potential to cause adverse effects on the environment. These can include increased stormwater runoff into Auckland's vulnerable waterways, effects on amenity values, damage to natural and cultural heritage, incompatibility of activities between adjoining properties and between adjacent zones, and increased traffic congestion.

Unless it is carefully planned, infill and intensification can have adverse effects on natural or physical resources and amenity values. In some areas, urban utility services, such as sewer systems, electricity supply and telecommunication systems, and the transportation

network, have reached limits to their capacity and already require refurbishing, replacing or upgrading.

Intensification must be handled by local authorities in ways which minimise the adverse effects on environmental values, through appropriate provisions in regional and district plans.

Selected and planned intensification provides opportunities for enhancement of the urban system through improved urban design, provision of open space, upgraded infrastructure to meet higher demands and improved environmental standards, improved transportation and other community services. Intensification can enhance urban areas through making more effective use of the land resource and improving the amenities of an area. Co-ordinated intensification, taking into account all the issues, implications and opportunities as well as social values, is an important alternative to much of the present ad hoc infill housing.

Remediation of past impacts on and degradation of natural resources will need to be carried out in order to enhance the quality of the environment. This will involve the identification and, where appropriate, the restoration of contaminated sites and degraded or polluted heritage sites and habitats.

#### **Potential Effects of Urban Expansion**

The expansion of the urban area onto rural land gives rise to the need to consider the effects of urban expansion on regionally significant rural landscapes and amenity values and to the need to assess whether prime land should be used for urban activities or whether they should be conserved for future generations.

In the past areas of high quality soils in the Auckland area have been used for urban expansion. No specific or explicit evaluation of alternatives to that course appears to have been made. Where such an eventuality appears likely in the future it is important that an assessment of alternatives and a weighing of the alternative costs and benefits is properly made before a decision to use such soils is taken.

Similar considerations need to be made in respect of regionally significant landscapes.

Some areas of landscape, heritage or ecological or other regionally or nationally significant values may require absolute protection.

The future direction and nature of urban development is to be the subject of an ongoing programme of urban growth monitoring and management. Without pre-empting the assessment that is to be made of constraints to urban expansion and development referred to in 2.6.2 1, the following sections re-state some of the constraints that have previously been identified and which will need to be included in this programme.

### **West Auckland**

The Waitakere foothills are an important visual foreground to the bush clad hills. Development beyond the Hobsonville Ridge would need to take account of the pollution-sensitive upper Waitemata Harbour, a regionally significant estuarine area. Development in the Kumeu, Oratia, Opanuku and Swanson catchments would need to address the potential for effects on or by flooding in those catchments. Expansion westwards may also give rise to the need to consider the requirements for the operation of the Whenuapai and Hobsonville airports and to balance these against the benefits of further urban development in this area.

### **North Shore and Hibiscus Coast**

Expansion beyond Glenvar Road and the Albany ridge would give rise to the need to protect the quality of the Okura estuary and Weiti shoreline. Consideration would need to be given to the requirements for continued operation of Dairy Flat airfield and to balance these against the benefits of further urban development in this area. Consideration will also need to be given to the costs and benefits of maintaining a visual separation between North Shore and the Hibiscus Coast. The soil types and the steep slopes encountered in parts of the northern area mean that thorough geo-technical investigations will be necessary before structure plans for urban expansion are completed.

### **South Auckland**

The prime land in this area should be protected as far as is possible as a resource for the benefit of future generations. Any proposed development in the Clevedon Valley and Drury localities would need to take account of flooding potential in this area. Any proposed development in the Clevedon Valley area would need to

take account of the deep peat soils and high water table that exist in parts of this area. Consideration would need to be given to requirements for the continued operation of Ardmore airfield and to balance these against the benefits of further urban development in this area. Before any southward expansion of urban development occurs, consideration will need to be given to potential adverse effects on the ecology of the Pahurehure Inlet and on the south shore of the Manukau Harbour, and effects on Maori cultural values and the Kaawa formation aquifer

### **The South Mangere – Puhinui area**

This area has been placed outside the metropolitan urban limits, in order to enable the continued operation of the Auckland International Airport and the Mangere Sewage Treatment Plant and to protect potential new urban development from the adverse effects arising from these operations. In addition, this exclusion will protect regionally significant heritage values (including the Puhinui estuary and wildlife areas) and features of significance to Iwi, and will protect new urban development from adverse environmental effects arising from the operation of existing quarries.

### **The Gulf Islands**

Any proposed expansion of urban development on any of the islands needs to take into account the environmental and servicing constraints that apply in these areas: the relative isolation, lack of transport, infrastructure, employment and social services; the obligation to preserve the unique natural character of the coastal environment; to protect the islands' outstanding natural features, landscapes and areas of significant indigenous vegetation and to conserve the rare and precious habitats for indigenous fauna.

On Waiheke, urban development is limited to the western end of the island in recognition of the significant landscape values and natural environment of eastern Waiheke. Any urban expansion on Waiheke should reflect the pattern of the existing village settlements and the rural buffers between them, and (in addition to the factors above) the desirability of keeping the Gulf-related slopes at the western end of the island free of urban development to protect their landscape values.

## Summary

Discussion of this issue leads to the following conclusions.

- Unless the costs and benefits of urban growth and development are given explicit regard the potential effect on the environmental values of the region, including water quality, ecological values, Tangata Whenua values, coastal and landscape values is likely to be significant.
- Without such a process it is not possible to properly identify environmental, cultural or heritage values that are likely to be unacceptably affected by urban growth and development.
- Unless the costs and benefits of urban development are properly evaluated there is a danger that it could compromise existing, or potential future, infrastructure provision.

For this reason the RPS sets up through 2.6.2.1 an ongoing programme for the monitoring and management of Auckland's growth.

## Part II of the RM Act and Links with Other Chapters

This issue is concerned with the cumulative, actual and potential adverse effects of continued development on the regional environment. Providing for future generations, safeguarding the life-supporting capacity of resources and avoiding, remedying, or mitigating adverse effects are provided for in section 5(2), (a), (b) and (c) of the RM Act. Policies relating to urban development issues are specifically addressed in this chapter and the Water Quality, Water Conservation and Allocation, Air Quality, Natural Hazards, Heritage, Minerals, Waste, Hazardous Substances and Contaminated Sites chapters.

### **2.3.3 Rural resources enable people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety. However, the effects of some activities on the resources and the environment of rural areas, including cumulative effects, can be significantly adverse**

Rural resources include soils, water, minerals, flora and fauna, wetlands, ecosystems, open space, landform and heritage features, landscape character, amenity, and infrastructure. A range of activities take place in rural areas including:

- horticulture, farming, forestry and mineral extraction;
- services for rural people and their activities (e.g. schools and transport companies);
- rural residential and lifestyle occupation (country-side living);
- resource-based recreation;
- resource conservation (e.g. enhancement of bush remnants).

The activities mentioned contribute in significant ways to the opportunities for the region's people and communities to provide for their social, economic, and cultural needs and they affect rural resources in different ways. The effects on the environment that result from activities in rural areas are often separated from those activities by time and space and the cumulative effects must be considered. The consistent administration of policy statements and plans is of key importance for the management of cumulative effects, and in order to achieve the objectives of policy statements and plans.

Rural land also has the potential to provide for urban settlement in the future, and it is important to ensure that this potential, which provides for the reasonably foreseeable needs of future generations, is not unnecessarily or prematurely compromised.

Problems that arise from the interaction of activities and resources include the following:

1. Some activities deplete the life supporting capacity, quality or diversity of rural resources (such as the effects of inappropriate agricultural practices on the quality of soil and water resources, clearance of bush, removal of vegetation from stream margins, and draining of wetlands).
2. Some activities reduce the accessibility of rural resources (such as the commitment of rural land to urban development and urban-related activities or the excessive subdivision of land with versatile soils).
3. Section 5 of the RM Act requires that rural resources be managed to meet present needs while maintaining options for future generations to meet their social, economic and cultural needs.

4. Conflicts arise because people value the resources in rural areas in different, and often conflicting, ways. e.g. Some farming activities, such as intensive animal keeping or orcharding, may give rise to effects beyond property boundaries such as odours, noise, or spray-drift.
5. In rural parts of the region some activities have reduced rural landscape quality and visual amenity and hence rural character.
6. Amenity values and safety are reduced due to the cumulative effects of increasing vehicular traffic movements on regional roads.

The scale and significance of issues in rural areas varies – not all are RM issues nor are they all of regional significance. Regional significance can arise through the scale of the issue, its area, extent, or because of actual or potential cumulative effects. These issues should be managed by the consistent administration of statutory resource management policies.

#### **Part II of the RM Act and Links with Other Chapters**

Recognising the versatility of the Region's rural resources enables people and communities to provide for their social, economic and cultural wellbeing (section 5). It also ensures that opportunities are maintained for future generations to make resource use choices in order to meet their own needs (section 5 (2) (a)). In addition, the protection of the soils of the Region is provided for in section 5(2) (b) of the Act which requires the safeguarding of the life-supporting capacity of air, water, soils and ecosystems. The importance of the amenity values of the rural areas (section 7(c)) is also recognised in this issue. Section 7(g) requires that particular regard shall be given to the finite characteristics of natural and physical resources. Policies relating to rural issues are specifically addressed within this chapter and the Water Quality, Air Quality, Soil Conservation, Water Conservation and Allocation, Heritage, Pests and Minerals chapters.

**2.3.4 Regionally significant physical resources, including infrastructure, are essential for the community's social and economic wellbeing. The location, development and redevelopment of infrastructure is of strategic importance in its effects on the form and growth of the region. However, the long term viability of regionally significant infrastructure and physical resources can be compromised by the adverse effects, including cumulative effects, of other activities. These regionally significant resources can equally give rise to adverse effects, including cumulative effects on the environment, and on communities. They can be adversely affected by conflicts if sensitive uses are allowed to develop near them or if they are inappropriately located**

#### **1. Regionally Significant Infrastructure**

The Auckland Region has a large amount of nationally and regionally significant utility services as well as physical structures such as factories, commercial centres, offices and tourist facilities.

Infrastructural services and facilities, including utility networks and services, are necessary to enable people and communities (and future generations) to meet their economic and social wellbeing.

Regional infrastructure includes ports, airports and airport flight paths, bulk water supply and drainage reticulation and associated works, solid waste disposal, energy transmission (electricity, gas and oil), transport networks (land and sea), telecommunications and radio communications networks and associated installations, and defence establishments. Universities and other tertiary institutions, large public hospitals and regional parks and reserves are also significant public infrastructure and services. Examples of significant regional infrastructure are given in Appendix D.

The key issues involving regional infrastructure are:

- Provision (or non-provision) of infrastructure is a major influence in the overall pattern and direction of regional development.
- The need for expansion, replacement or upgrading of infrastructure in order to avoid environmental problems and/or to increase the capacity of infrastructure to accommodate growth.
- The need to avoid, remedy or mitigate the adverse effects generated by proposed changes to infrastructure and to consider alternative ways of avoiding or remedying them. Relocation of infrastructure or restrictions on the location of infrastructure or restrictions on the establishment of sensitive land uses in close proximity may be required to overcome the environmental problems faced.
- An absence of co-ordination between infrastructure providers and other agencies responsible for urban growth and development may increase the likelihood of adverse effects.

In recent years, utility services have undergone structural change through a process of privatisation and corporatisation. These utility companies are required to focus on their own areas of responsibility, and any co-ordination of utility provision will be on the basis of inter-agency co-operation. There is a need for infrastructure providers to co-ordinate the provision of regional infrastructure so as to properly provide for the economic and social wellbeing of the regional community. At the regional level, the ARC will promote such co-ordination, where appropriate, as a means of achieving integrated management of the natural and physical resources and the strategic direction of the RPS.

Regionally significant infrastructure has had an important influence on the form and direction of the Region's development. New and upgraded infrastructure, particularly roads, public transport facilities and sewerage systems, can also play a major role in reinforcing the desired regional form which is aimed at increasing efficiency and the enhancement and protection of amenity values and significant heritage. In some instances the effects of regionally significant infrastructure may give rise to the need to evaluate the options for redeveloping, relocating, or restricting regional infrastructure or neighbouring sensitive activities.

## 2. Utility Servicing Thresholds

Auckland is facing a number of development thresholds as the demands on several major utility services and part of the transport network approach design capacities.

The size of population being served by the Mangere Wastewater Treatment Plant is approaching the design capacity of the treatment plant. The extent and magnitude of urban development in West Auckland is nearing the capacity of the trunk sewer serving that area. The Orakei Main Sewer and the Eastern Interceptor are nearing capacity and could be overloaded by population increase. These are major thresholds with wide strategic implications.

In addition, the effects of overflows from the old combined sewerage system during rainfall have become less acceptable as public concern about environmental standards has risen. This has resulted in limitations on public use of those parts of the Waitemata Harbour which are significantly affected.

In relation to both sanitary drainage and stormwater, much of the presently urbanised area requires significant expenditure to upgrade existing services or to remedy or mitigate adverse environmental effects which are occurring. For example, measures are needed to deal with the effects of the combined sewerage system which serves much of the inner part of the Auckland isthmus. In addition, stormwater discharge from existing urban areas is known to be having detrimental environmental effects. Mitigation of these effects will require treatment and preventive measures to be implemented. Policy is being developed in conjunction with TAs to prioritise catchments for stormwater treatment.

Electricity networks and services are approaching capacity thresholds in some parts of the Region. The National Grid is reaching capacity limits with respect to developments on the North Shore and additional high voltage transmission lines may be required from the south across the isthmus. Continued development in the central city may cause the present local supplies to reach their limits, requiring upgrading of networks. Developments in the south are not taxing the National Grid supplying the area.

The gas supply is far from reaching capacity. It is sufficient to enable extension of the service to previously unserved parts of the Region.

Because of the developmental and environmental consequences which can arise when utility services are provided or extended, it will be essential to ensure that such works are planned and programmed within a strategic framework. Such services should, where practicable, be designed to support a direction of urban development which gives effect to the purposes of the RM Act.

### 3. Industrial Areas, and Commercial Centres

Auckland is the key industrial and commercial centre for New Zealand. Important privately owned industrial and commercial buildings and facilities provide employment for most of the Region's workforce (almost 400,000 full-time equivalents in 1994).

Important centres for industry and commerce are situated throughout the Region in areas such as the central city and CBD, Penrose and Mt Wellington, East Tamaki, Manukau and the airport. There are also major retail centres including areas such as the CBD, Newmarket, St Luke's Centre, Manukau, Henderson, New Lynn, Takapuna, and Albany and many other slightly smaller centres such as Pakuranga, Papatoetoe, Glenfield, Howick, Browns Bay, Manurewa, etc. A range of smaller centres of trade and production are also established in many other parts of the Region.

The relative importance of commercial centres changes over time due to competition and new developments. It is important that plans recognise the dynamics of change and also that the adverse effects of change on the environment including the form and direction of urban growth are adequately considered and monitored. The grouping of activities having similar environmental effects is supported where such grouping would enable the avoidance, remedying or mitigation of any adverse environmental effects that might otherwise be caused. Whether such activities are grouped or not, it is important that their location and design serves to enable the effective management of adverse environmental effects. Retail and other commercial centres can be important community focal points particularly where they provide opportunities for the public and private sectors to co-ordinate their services, including transport, for the benefit and accessibility of the community.

Recognition of the important industrial and commercial base of the Region is essential in resource management and strategic planning. It is crucial for the economic and

social wellbeing of the community. Local authorities should ensure that the introduction of mixed use zones (e.g., residential and industrial) or encroachment of housing on quarrying and industrial areas, especially those storing or using hazardous substances, do not impose high costs on or prejudice the future use of industrial sites due to incompatibility of uses.

### Part II of the RM Act and Links with Other Chapters

As with Issue 2.3.1, this issue is also linked to section 5 of the Act. Regionally significant infrastructure enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety. In meeting the needs of future generations and, in some cases, dealing with major environmental and public health issues, infrastructure is also linked closely to section 5(2)(a), (b) and (c). In addition, section 7 of the Act requires that particular regard shall be given to:

- The efficient use and development of natural and physical resources.
- The maintenance and enhancement of amenity values.
- The maintenance and enhancement of the quality of the environment.

All these provisions have particular relevance to the significant infrastructure of the Region. Part I of the Second Schedule (Clause 6) also provides that "The scale, sequence, timing and relative priority of regional public works, goods, and services, including public utility networks which cross district boundaries" are matters which may be provided for in policy statements and plans. Policies relating to infrastructure issues are specifically addressed within this chapter and the Transport, Energy, Water Quality and Coastal Environment chapters.

#### 2.3.5 Auckland's transportation system is essential for the community's social and economic wellbeing and some parts of it are nearing significant thresholds. The transportation system may also give rise to adverse effects

Past development of Auckland's transport system has provided Aucklanders with a level of mobility and accessibility that is high by world standards and is based on the private use of motor vehicles. Investment from

the 1960s onward in the development of motorways has encouraged outward expansion and decentralisation of the city.

Now, however, parts of the motorway and arterial roading system are congested, especially at peak travel times. This reflects the inefficiency of Auckland's expansive low density form, and the diminishing effectiveness of the public transport system. Longer travel times and greater numbers of vehicles exacerbate the adverse environmental effects of transport activities.

In addition, the public transport system has become primarily a commuter service, carrying a steadily diminishing proportion of workers and servicing mainly the central city, a destination which is no longer the Region's only significant employment focus.

There is growing recognition of the environmental costs of the transport system and of the low density urban form and lifestyle it supports. These costs include:

- the continuing expansion of the urban area onto land which is valued for its agricultural, ecological and aesthetic qualities;
- the emission into the air of a variety of pollutants, including greenhouse gases;
- the lowering of water quality in waterways and harbours by polluted runoff from roads, including lead, zinc, copper, hydrocarbons and petrochemicals;
- relatively high use of energy and reliance on consumption of non-renewable resources both in fuel use and in land use.

It is essential that future investments in public transport systems, and in the land transportation network, are designed to maintain an efficient and effective system and to support urban development which best gives effect to the purposes and principles expressed in Part II of the RM Act.

The Gulf Islands face particular transport issues including the need to relate access opportunities to the ability of the environment to cope with development and visitors and the need for special planning measures at key entry points (wharves and airports).

#### **Part II of the RM Act and Links with Other Chapters**

The transportation system is essential for the social and economic wellbeing of the community. It is an important

shaper of the Region's development, is a high user of energy, and also has an impact on the environment. The roading network is a highly significant component of Auckland's infrastructure (refer to Issue 2.3.2 for further details of this issue). Energy is included in the meaning of natural and physical resources and its efficient use is a matter requiring particular regard under section 7(b) of the Act. The environmental effects of transportation can be significant and avoiding, remedying, or mitigating those effects are provided for in section 5 of the Act. Policies relating to transport issues are specifically addressed in the Transport, Energy, Air Quality and Water Quality chapters.

#### **2.3.6 Auckland's coastal environment is a fundamental part of its heritage and is sensitive to the adverse effects of inappropriate subdivision, use and development. It is also essential for the Region's social and economic wellbeing**

In this Region water quality is of major significance. Auckland's maritime setting is crucial to its identity and economy. The coastal marine area (CMA) represents 69% of the total area of the Auckland Region. The Region's coastline is lengthy and diverse, ranging from the rugged and wind-swept west coast to the protected harbours and beaches along the east coast and gulf islands.

The Hauraki Gulf and its islands are resources of regional and national significance for navigation and port purposes, fishing, recreation, tourism and settlement. An integrated management approach (including national, regional and local levels) is required to sustain these activities while avoiding the risk of environmental damage. The main harbours of the Kaipara, Waitemata and Manukau are semi-enclosed bodies of water which are susceptible to the adverse effects of stormwater runoff from land development and urban and rural activities. Stormwater runoff impacts water quality and has effects on ecology and the marine habitat. The Region's coastline includes a number of other significant harbours (Mahurangi, Whangateau, Bon Accord, Matiatia, Fitzroy and Tryphena), and many estuaries and rivers (such as the Matakana, Puhoi, Orewa, Weiti, Okura, and Wairoa). All of these are of ecological, recreational and visual significance to the regional community. They are all sensitive to the ways in which land in their catchments is developed and used.

Harbours, such as the Mahurangi, sustain a variety of recreational uses as well as commercial shell fisheries. The catchment also contains large tracts of forest and some urbanisation. These potentially conflicting uses must be carefully managed to ensure this diversity of use is sustainable and the resource qualities are maintained.

The coast is a public asset which not only provides much of the character and identity of the Auckland Region but is important to the social, economic and cultural wellbeing of its residents. Maintaining or improving public access to the coast is a matter of national importance to be promoted and negotiated with landowners.

Development on the coast for such purposes as the port, marinas, and some particular forms of commerce, may affect the natural character of the coastal environment and may not be appropriate in all coastal areas. It can also be a catalyst for urbanisation with additional effects on the marine environment. It is therefore important that its location and effects be planned and managed within the strategic framework for regional development. Development along the coast should also take into account potential hazards from coastal erosion and the unpredictability of the effects of global climate change.

Most of urban Auckland drains into harbours, estuaries, or coastal waters which are valued and used in a wide variety of ways. The protection of these areas already imposes unavoidable costs, in terms of managing the environmental consequences and treatment of stormwater runoff. Continuing urban expansion would extend these effects and increase the costs of mitigating or remedying adverse effects on the Region's marine areas.

Growing awareness of the pollutive effects of urban stormwater was brought into focus by the Manukau Harbour Water Quality Management Plan, 1990. It showed stormwater runoff from urban areas to be the greatest contributor of toxic contaminants to that harbour. Urban stormwater is contaminated by a wide range of sources, including spills by industries, products of vehicle operation washed from roads, faeces of domestic pets, and sediments from land under development and from home gardens.

This requires a combination of approaches such as public education to reduce contamination at source and prioritising catchments for appropriate stormwater treatment.

## Part II of the RM Act and Links with Other Chapters

This particular issue is linked to the provisions of Part II of the Act, in particular, section 5 and Matters of National Importance, section 6(a) which provides for the preservation of the natural character of the coastal environment. Policies relating to coastal environment issues are specifically addressed in the Coastal Environment, Heritage, Water Quality, Natural Hazards and Matters of Significance to Iwi chapters.

### 2.3.7 Auckland's heritage is important because it gives Auckland its uniqueness and sense of identity, but some of this is under threat

Auckland has a unique and distinctive natural and cultural heritage which is central to the identity of communities, groups and individuals in the Region. It is also important for the economic, social and cultural wellbeing of the Region. In addition, the intrinsic values of Auckland's ecosystems and natural areas and their biodiversity are important and in need of protection.

At a strategic level, the Waitemata and Manukau Harbours, Waitakere Ranges, Hauraki Gulf Islands, important bush-clad escarpments and volcanic features (cones and craters) are major features of natural heritage which contribute to Auckland's identity. Many of these features also hold associations with the past for the Tangata Whenua of the Region. In many places in the Region indigenous vegetation has been reduced to a level where the remaining remnants are no longer sustainable as viable ecosystems. Wetlands have been progressively drained so that the remaining wetlands are now of special value because of their rarity. It is also essential to control plant and animal pests which can damage important natural heritage in urban and rural areas.

Historic and special character buildings, sites and places also play an important part in the retention of the Region's heritage. It is essential that these buildings be identified and given appropriate classification and protection in district plans and through the provisions of the Historic Places Act (HP Act).

Respect for the vital contribution heritage makes to the identity of Auckland and recognition of the importance of the life-supporting capacity of ecosystems and natural features are constraints which mould the form and direction of development in the Region.

### Part II of the RM Act and Links with Other Chapters

The protection of the Region's heritage (natural and cultural) is provided for in Part II of the Act. In particular: section 6(b) provides for the protection of outstanding natural features and landscapes; section 6(c) provides for the protection of significant indigenous vegetation and habitats; and section 6(e) provides for the relationship of Maori with their ancestral lands, water, sites, waahi tapu and other taonga, all as matters of national importance. In addition, particular regard shall be given to the recognition and protection of heritage values of sites, buildings, places, or areas (section 7(e)). Policies relating to heritage issues are specifically addressed in the Heritage, Matters of Significance to Iwi and Pests chapters.

#### 2.3.8 Tangata Whenua are under increasing pressure to manage their ancestral taonga

Management of the ancestral taonga by Tangata Whenua is being affected by:

- The effects of Auckland's regional growth and development on the relationship of Tangata Whenua with their ancestral taonga. Growth and development has also been associated with pollution of waterways, reduction in natural and cultural heritage, and reduced access to heritage and sites of significance to Tangata Whenua.
- Impediments to Tangata Whenua in their effective involvement in sustainable management of their ancestral taonga. These impediments include misunderstandings, lack of awareness of rights and responsibilities, limited resources to participate, and difficulties in dealing with official structures and systems.
- Lack of recognition of the Treaty of Waitangi in the administration of resource management. With the RM Act, Tangata Whenua have expectations that new procedures will be in place to ensure that, as far as practicable, future Treaty grievances pertaining to the management of natural and physical resources will be avoided.

### Part II of the RM Act and Links with Other Chapters

This issue is linked to sections 6, 7 and 8 of the Act. Section 6 provides for the relationship of Maori with their

taonga as a matter of national importance; section 7(a) states that particular regard shall be had to kaitiakitanga; and section 8 states that the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) shall be taken into account in exercising powers and functions under the Act. Policies relating to Tangata Whenua issues are specifically addressed in the Matters of Significance to Iwi Chapter and in most other chapters.

## 2.4 From Issues to Strategic Direction

The RM Act requires the RPS to provide an overview of the resource management issues relevant to the Region together with policies and methods necessary to enable the resources of the Region to be managed in a sustainable and integrated manner.

Essentially this requires, in addition to the protection of the natural environment, recognition of those other resources and activities which enable people to provide for their continuing economic, social and cultural wellbeing and their health and safety, and the identification of the issues which need to be addressed. Section 5 of the RM Act also requires consideration of three conditions over the management of the use, development and protection of the natural and physical resources of the Region.

The first stated requirement is to sustain resources to meet the reasonably foreseeable needs of future generations. The Strategic Direction recognises the needs of future generations by:

- ensuring the Region has the capacity to accommodate growth and development;
- enabling the providers of significant regional resources to meet economic and social needs of the community while ensuring that adverse environmental effects are avoided remedied or mitigated;
- improving urban efficiency.

Guiding development in a way which avoids foreclosing future options ensures that future generations will be in a position to make appropriate resource use choices in order to meet their own needs.

The second requirement stated in the Act is to safeguard the life-supporting capacity of air, water, soil and ecosystems. The Strategic Direction is concerned with the protection of the life-supporting capacity of these

resources in the Region. It also recognises that some of these resources have already been degraded and seeks their remediation.

The third requirement is that measures be taken relating to any adverse effects on the environment. Where an activity or the use or development of any resource results in, or is likely to result in, some adverse effects on the environment, the RM Act identifies three approaches to achieving a balance of competing values and interests involved. These are to 'avoid' adverse effects, to 'mitigate' the effects, or where the resources are already affected, to 'remedy' the adverse effects.

The strategic response is to avoid significant adverse effects, especially where the effects are not easily anticipated or, where cumulatively over time, they carry costs (social, economic or environmental). Failure to respond effectively can lead to significant irreversible impacts which cannot be remedied or mitigated. It is also recognised that not all adverse effects can be avoided as a result of development processes. In such circumstances the strategic response is to seek a direction that leads to the least adverse effect which is most capable of being managed over the long term.

The key factors to be considered in the integrated management of the Region's natural and physical resources are:

- Auckland is the largest growth centre in New Zealand, in terms of population increase, urban development and the physical take-up of land, and nearly all of the Region's resource management issues stem from the impacts of this development on natural and physical resources.
- The continuing growth of urban population results in an ongoing need for more housing, jobs, regional infrastructure, transport facilities, and other services, with cumulative effects on the land and water resources of the Region, and on its air quality.
- The effects of urban development and a large urban population extend widely over the rural parts of the Auckland Region. These effects create pressure for urban-generated countryside living, resource-based recreation, and growing markets for rural produce.
- New regional infrastructure and transportation and the extension of existing services can have a profound impact on the form and direction of the Region's development and consequential, as well as direct, potential impacts on the environment.

- Auckland's regionally significant resources, including infrastructure, and facilities and services for transport and energy are essential to the community's social and economic wellbeing. New infrastructure and the extension of existing services can have a profound impact on the form and direction of the Region's development.
- Auckland already has a number of serious environmental concerns which need attention. These include degradation of some waterways, air quality concerns in some urban areas and loss of natural and cultural heritage. Developmental pressures have the potential to exacerbate those problems.

In the development of a regional strategy, the form and direction of future growth provides a focus around which the integrated management of natural and physical resources can best be achieved. This is because, in determining an appropriate direction and form for Auckland's future development, all resource management objectives need to be considered. That is, land management, water quality, heritage, coastal, air quality, landscape, social, economic, energy, transportation and other infrastructure objectives all have to be recognised and taken into account in order to provide for the integrated management of all the Region's resources.

For the above reasons, it is concluded that the strategic direction for the Region should guide development in a direction and towards a form which will provide appropriately for the Region's growth while managing the resources of the Region in a sustainable and integrated manner, as required by section 59 of the RM Act.

An overview of the issues arising in the Region leads to the conclusion that to achieve the purposes of the RM Act it is necessary to:

- contain expansion of Auckland's urban development while still providing for population and economic growth;
- guide urban development and countryside living in directions which are efficient in terms of travel patterns and energy use, and avoid, remedy, or mitigate adverse effects on the Region's natural and physical resources including existing infrastructure;
- guide the providers of urban infrastructure and transport facilities or services so that they plan and programme their facilities or services so as to support an efficient urban form which enables

future growth and development while avoiding, remedying, or mitigating adverse environmental effects;

- remedy or mitigate degraded natural resources which are life-supporting (air, water, soils and ecosystems), and protect those significant natural and physical resources which provide for the foreseeable needs of future generations.

## 2.5 The Strategic Direction

The Strategic Direction for the Auckland Region which comprises the following Strategic Objectives and Policies, promotes the sustainable management of the natural and physical resources of the Auckland Region. It is based on Part II of the RM Act, consideration of the overview issues in 2.3 of the RPS, the ARC's functions under the RM Act and the provision of policies and methods to achieve integrated management of the natural and physical resources of the whole Region. These objectives and policies are to be considered in conjunction with the objectives and policies in other chapters of the RPS.

### 2.5.1 Strategic Objectives

1. *To ensure that provision is made to accommodate the Region's growth in a manner which gives effect to the purposes and principles of the Resource Management Act, and is consistent with these Strategic objectives and with the provisions of this RPS.*
2. *To maintain and enhance the overall quality of the environment of metropolitan Auckland, including its unique maritime setting, volcanic features, cultural heritage values, and public open space.*
3. *To protect the soil resources, amenity values, rural character, landscape values, and mineral resources of rural areas, from the regionally significant effects of inappropriate subdivision, use or development.*
4. *To preserve the natural character of the coastal environment, whilst ensuring that the use of the coastal environment by those industries and activities which serve the needs of the Region and which depend on a coastal location is appropriate and efficient.*

5. *To protect the intrinsic values of the Region's natural resource base, and to make appropriate provision for the avoidance, remediation or mitigation of adverse effects on the Region's environment, including the identification of significant natural features and landscapes, and areas of significant indigenous vegetation and habitat, and protection of these from inappropriate subdivision use and development.*
6. *To promote transport efficiency, and to encourage the efficient use of natural and physical resources, including urban land, infrastructure, and energy resources.*
7. *To preserve and protect a representative range of the Region's heritage resources.*
8. *To manage the Region's natural and physical resources in an integrated manner.*
9. *To involve the Tangata Whenua as kaitiaki of the Region's natural resources.*

### 2.5.2 Strategic Policies

1. *The use, development and protection of natural and physical resources in the Region is to be managed so that the Region's growth is accommodated in a manner and in locations which are consistent with the Strategic Objectives and which promote the sustainable management of those resources.*
2. *Where significant degradation of water, air, ecosystems and land has occurred it is to be remedied or its adverse effects mitigated.*
3. *Urban development is to be contained, within the metropolitan urban limits shown on Map Series 1 and the limits of rural and coastal settlements as defined so that:*
  - (i) *expansion of urban activities outside the metropolitan urban limits as defined and shown in the RPS from time to time is not permitted;*
  - (ii) *environmental values protected by the metropolitan urban limits and/or the limits of rural or coastal settlements are not adversely affected, and that the integrity of those limits is maintained;*