

### 3. Resource management issues, objectives and summary of policies and methods to achieve the objectives in the Regional Policy Statement

This chapter provides an overview of the regionally significant resource management issues, (including the issues of significance to iwi authorities) addressed by the Regional Policy Statement. They are addressed under topic headings:

- air quality
- coastal environment
- energy, infrastructure and waste
- fresh water
- historic heritage
- indigenous ecosystems
- landscape
- natural hazards
- regional form, design and function
- resource management with tangata whenua
- soils and minerals.

Each topic includes a summary table showing all the objectives that relate to that topic and the titles of the policies and methods that will achieve those objectives. The table also includes a reference to other policies that need to be considered alongside to gain a complete view of the issue across the full scope of the Regional Policy Statement.



## 3.1 Air quality

Overall, the Wellington region has good air quality. This is because it has a windy climate, and there are few air polluting industries in the region. However, the region does experience localised air quality problems that impact on the amenity and health of the community and the mauri of air.

Some contaminants in air are associated with people's activities – such as smoke from fires, dust and other emissions – which may produce fumes or odours.

Of those discharges associated with people's activities:

- The most polluting air contaminant in the Wellington region is fine particulate matter. In winter almost all of this comes from domestic fires
- Odours, smoke and dust from people's activities can reduce the amenity of an area, affect people's health and social and cultural wellbeing, create annoyance, and sometimes cause poor visibility
- Our monitoring shows that cumulative discharges from motor vehicles in the region do not occur at levels that could adversely affect public health
- Industrial discharges from sources – such as abrasive blasting, wood processing and factory farms – can have localised adverse effects. Industries that discharge to air are largely concentrated around Seaview.

The amenity value of air depends on how clean and fresh it is. High amenity is associated with good visibility, low levels of deposited dust and people's ability to enjoy their outdoor environment is not impaired. Amenity is reduced by contaminants in the air affecting people's wellbeing – such as when dust and smoke reduces visibility or soils surfaces, or when odour is objectionable.

The National Environmental Standards for Air Quality were introduced in 2004. The standards are breached when the threshold concentration for fine particulate matter ( $PM_{10}$ ) is exceeded more than once in an airshed, in a 12 month period. The eight airsheds in the Wellington region are Kapiti, Porirua, Upper Hutt, Lower Hutt, Wainuiomata, central Wellington, Karori and Wairarapa.

Outdoor air quality monitoring has shown that during periods of cold calm weather, levels of fine particulate matter may build up, particularly in the Wairarapa (specifically Masterton) and Wainuiomata airsheds. On occasions, the levels of fine particulate matter have exceeded the National Environmental Standard for Air Quality.

The regionally significant resource management issues for air quality are:

Table 1: Air quality  
Objective 1

**1. Impacts on amenity and wellbeing from odour, smoke and dust**

Odour, smoke and dust affect amenity values and people's wellbeing. These effects are generally localised and result from the following activities or land uses:

- (a) odour from activities – such as, rendering, spray painting and solvent use, landfills, sewage treatment plants, silage feeding and effluent spreading
- (b) smoke from domestic fires and backyard burning
- (c) dust from land uses or activities – such as, earthworks, quarries, and land clearance.

Table 1: Air quality  
Objective 2

**2. Health effects from discharges of fine particulate matter**

Fine particulate matter predominantly discharged from domestic fires, occasionally reaches concentrations that can harm people's health. This can happen in valleys and areas where levels of fine particulate matter may build up during periods of cold calm weather.

Table 1: Air quality objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 1</b> Discharges of odour, smoke and dust to air do not adversely affect amenity values and people's wellbeing.	Policy 1: Reverse sensitivity associated with odour, smoke and dust – district plans	80	Method 1: District plan implementation	City and district councils	137
			Method 6: Information about reducing air pollution	Wellington Regional Council and city and district councils	138
			Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
			<b>Also see</b> – Energy, infrastructure and waste (Table 3) policies 6 & 7; Regional form, design and function (Table 9) policies 29; 30 & 31 <b>and consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60		
<b>Objective 2</b> Human health is protected from unacceptable levels of fine particulate matter.	Policy 2: Reducing adverse effects of the discharge of odour, smoke, dust and fine particulate matter – regional plans	81	Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 6: Information about reducing air pollution	Wellington Regional Council and city and district councils	138
			Method 26: Prepare airshed action plans	Wellington Regional Council	141
			Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
<b>Objective 2</b> Human health is protected from unacceptable levels of fine particulate matter.	Policy 2: Reducing adverse effects of the discharge of odour, smoke, dust and fine particulate matter – regional plans	81	<b>Also see</b> – Energy, infrastructure and waste (Table 3) policies 6 & 7 <b>and consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60		
			Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 6: Information about reducing air pollution	Wellington Regional Council and city and district councils	138
			Method 26: Prepare airshed action plans	Wellington Regional Council	141
<b>Objective 2</b> Human health is protected from unacceptable levels of fine particulate matter.	Policy 2: Reducing adverse effects of the discharge of odour, smoke, dust and fine particulate matter – regional plans	81	Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
			<b>Also see</b> – Energy, infrastructure and waste (Table 3) policies 6 & 7; <b>and consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60		



## 3.2 Coastal environment (including public access)

From Otaki around to the Wairarapa, the region's coastal environment contains significant habitats for a wide variety of plants and animals, and also provides for a diverse range of activities. The character ranges from the largely rural Wairarapa coast to the highly developed urban areas around Wellington and Porirua Harbours. The Kapiti coast has sandy beaches, and is experiencing rapid population growth. The south coast is rugged, yet because of its proximity to the Hutt Valley and Wellington city, is a popular place to visit.

Tangata whenua have strong links with the coastal environment, value its mauri, its mana and all it offers. The region's identity and significance to Maori are closely intertwined with the coastal environment. Many sites within the coastal environment are associated with iwi histories, traditions and tikanga. For example, mahinga maataitai (places to gather seafood) and tauranga waka (canoe landing places). Some of these sites embody spiritual and sacred values, such as urupa (burial places). Of particular concern to tangata whenua is the discharge of human and other wastes into the coastal environment, which causes a loss of mauri of the water body.

As well as its cultural importance, the coastal environment is important to the regional community for recreation and general enjoyment. It is also the location of many activities and structures that require a coastal location. Significant infrastructure – such as Centreport, the Cook Strait cable, and several state highway and rail corridors – is located in the coastal environment. This infrastructure is essential to the community's economic and social wellbeing. This region's coastal environment also has significant wind and marine energy resources.

The Regional Policy Statement must give effect to the New Zealand Coastal Policy Statement, which provides a policy framework for both the wet and dry parts of the coastal environment. This framework recognises the ecological, geographical, cultural, social, and economic linkages between land and sea, and the complementary responsibilities that different authorities have for coastal management.

The preservation of natural character in the coastal environment is a matter of national importance in the Resource Management Act. Matters that contribute to the natural character of the coastal environment include: the dynamic coastal processes and ecosystems of escarpments, sand dunes, estuaries and salt marshes, significant landscapes and seascapes, geological features and landforms, sand dunes and beach systems, sites of historic or cultural significance, an area's amenity and openness, and in some places its remoteness.

Natural character of the coast is being degraded through incremental loss and damage to coastal ecosystems including estuaries and salt-marshes, e.g. the Waikanae estuary, Pauatahanui Inlet, and Motuwaireka Stream estuary at Riversdale. It has largely been lost in the built-up area of Wellington Harbour extending from Kaiwharawhara to the airport, in the reclaimed and highly developed Wellington city area, and around the Onepoto Arm of

Porirua Harbour. Areas that still have high natural character are under increasing pressure for development, particularly along the Kapiti and Wairarapa coasts, and Pauatahanui Inlet.

The maintenance of public access to and along the coastal marine area is another matter of national importance in the Resource Management Act. Where land is publicly owned, public access can be enhanced by providing walking tracks and recreational areas. Where land is privately owned, city and district councils can take esplanade reserves or strips as part of subdivisions. To date, there has been no strategic planning in the region that has identified where public access should be enhanced. Where esplanade reserves and strips have been taken for public access, city and district councils sometimes struggle to maintain them. Even where there is legal access, it is not always aligned with access that is physically possible.

The coastal marine area is the final receiving environment for contaminants carried in streams and stormwater from rural and urban land uses. In addition, there are four discharges of treated sewage effluent from the region's four main cities, numerous sewage 'overflow' discharges and other minor discharges. Sediment from earthworks is affecting coastal water quality and shellfish beds, and stormwater sediments contaminated with heavy metals and other toxic substances are building up on the sea bed of Wellington and Porirua harbours to levels that could adversely affect aquatic life. High levels of microbial contamination in sewage and stormwater discharges can make coastal water unsuitable for swimming and could transmit diseases to marine mammals.

Seawalls, vehicle use in the coastal environment and earthworks are examples of activities that modify dunes, foreshores and the seabed. They cause adverse effects on the natural physical and ecological processes that underpin the proper functioning of the coastal environment, including the coastal marine area.

The regionally significant resource management issues for the coastal environment are:

#### **1. Adverse effects on the natural character of the coastal environment**

The natural character of the region's coastal environment has been, and continues to be, adversely affected by activities such as earthworks, changes in land use and the placement of structures.

#### **2. Coastal water quality and ecosystems**

Discharges of stormwater, sewage, sediment and other contaminants to the coast are adversely affecting the health of coastal ecosystems, the suitability of coastal water for recreation and shellfish gathering, mauri and amenity.

#### **3. Human activities interfere with natural coastal processes**

Human activities have modified and continue to interfere with natural physical and ecological coastal processes. For example:

- (a) Seawalls alter sediment movement along beaches and estuaries and can cause erosion problems in some areas and deposition problems in others
- (b) Sand dunes and dune vegetation are being destroyed by development, vehicles, and trampling by people and animals
- (c) Some land uses and earthworks can cause increased rates of sedimentation in low energy receiving environments, smothering aquatic life, for example in Porirua Harbour.

#### **4. Public access to and along the coastal marine area, lakes and rivers**

There have been inconsistent approaches to the taking of access strips or esplanade reserves as part of subdivisions. This has meant that public access to and along the coastal marine area, lakes and rivers is not always provided, or has been provided in places where people can not take advantage of it. Even where physical access is available, it is not always possible if access ways are not well maintained.

Table 2: Coastal environment  
Objectives 3, 4 & 5

Table 2: Coastal environment  
Objective 6  
Table 6a:  
Indigenous ecosystems  
Objective 16

Table 2: Coastal environment  
Objective 7  
Table 8a:  
Natural hazards  
Objectives  
18 & 19

Table 2: Coastal environment  
Table 4: Fresh water  
Objective 8

Table 2: Coastal environment objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page
<p><b>Objective 3</b> Habitats and features in the coastal environment are protected because of their significant indigenous biodiversity, recreational, cultural, historical, or landscape values.</p>	<p>Policy 4: Identifying the landward extent of the coastal environment – district plans</p>	82	Method 1: District plan implementation	City and district councils	137
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141
			Method 49: Prepare a regional landscape character description	Wellington Regional Council* and city and district councils	144
	<p>Policy 21: Protecting historic heritage values – district and regional plans</p>	91	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
<p>Policy 23: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans</p>	92	<p><b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 &amp; 27; Regional form, design and function (Table 9) policies 29, 30 &amp; 31 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 52; Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141
			Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
<p>Policy 23: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans</p>	92	<p><b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Fresh water (Table 4) policies 16 &amp; 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6b) policy 61; Landscape (Table 7) policies 25 &amp; 27 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 52; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 42 &amp; 52; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141
			Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page	
<b>Objective 3</b> (Continued)	Policy 25: Protecting outstanding natural features and landscape values – district and regional plans	94	Method 1: District plan implementation	City and district councils	137	
			Method 2: Regional plan implementation	Wellington Regional Council	137	
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141	
				<b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Fresh water (Table 4) policies 16 & 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policy 27 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 & 52; Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
	Policy 27: Maintaining and enhancing significant amenity landscape values – district and regional plans	95	Method 1: District plan implementation	City and district councils	137	
			Method 2: Regional plan implementation	Wellington Regional Council	137	
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141	
				<b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Fresh water (Table 4) policies 16 & 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policy 25 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 & 52; Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
	Policy 34: Preserving the natural character of the coastal environment – consideration	102	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137	
			Method 7: Information about high natural character in the coastal environment	Wellington Regional Council	138	
			<b>Also consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48			
Policy 37: Identifying the landward extent of the coastal environment – consideration	105	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137		
		<b>Also consider</b> – Resource management with tangata whenua (Table 10) policies 47 & 48				

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page		
<b>Objective 4</b> The natural character of the coastal environment is protected from the adverse effects of inappropriate subdivision, use and development.	Policy 3: Discouraging development in areas of high natural character in the coastal environment – district and regional plans	81	Method 1: District plan implementation	City and district councils	137		
			Method 2: Regional plan implementation	Wellington Regional Council	137		
			Method 7: Information about high natural character in the coastal environment	Wellington Regional Council	138		
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141		
			Method 49: Prepare a regional landscape character description	Wellington Regional Council* and city and district councils	144		
			<b>Also see</b> – Coastal environment (Table 2) policy 4; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 16 & 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policy 25 <b>and consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48				
						City and district councils	137
Policy 4: Identifying the landward extent of the coastal environment – district plans	82	Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141			
		Method 49: Prepare a regional landscape character description	Wellington Regional Council* and city and district councils	144			
		<b>Also see</b> – Historic heritage (Table 5) policy 20; Indigenous ecosystems (Table 6a) policy 22; Landscape (Table 7) policies 24 & 26 and consider – Resource management with tangata whenua (Table 10) policies 47 & 48					
					Wellington Regional Council and city and district councils	137	
					Wellington Regional Council	138	
		<b>Also consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48					
					Wellington Regional Council and city and district councils	137	
Policy 34: Preserving the natural character of the coastal environment – consideration	102	Method 7: Information about high natural character in the coastal environment	Wellington Regional Council	138			

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page
<b>Objective 4</b> (Continued)	Policy 35: Discouraging development in areas of high natural character in the coastal environment – consideration	103	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 7: Information about high natural character in the coastal environment	Wellington Regional Council	138
			<b>Also consider</b> – Coastal environment (Table 2) policy 52, Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53, 54, 55, 57; Resource management with tangata whenua (Table 10) policies 47 & 48		
	Policy 37: Identifying the landward extent of the coastal environment – consideration	105	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
<b>Objective 5</b> Areas of the coastal environment where natural character has been degraded are restored and rehabilitated.	Policy 64: Supporting environmental enhancement initiatives – non-regulatory	129	<b>Also consider</b> – Coastal environment (Table 2) policy 52; Landscape (Table 7) policy 49; Natural hazards (Table 8) policy 50; Resource management with tangata whenua (Table 10) policies 47 & 48		
			Method 8: Information to assist with restoration and enhancement of degraded water bodies and the natural character of the coastal environment	Wellington Regional Council and city and district councils	138
			Method 27: Integrate management across mean high water springs	Wellington Regional Council and city and district councils	141
			Method 28: Prepare a coastal and marine ecosystems action plan	Wellington Regional Council	141
			Method 29: Take a whole of catchment approach to works, operations and services	Wellington Regional Council* and city and district councils	141
<b>Objective 6</b> The quality of coastal waters is maintained or enhanced to a level that is suitable for the health and vitality of coastal and marine ecosystems.	Policy 5: Maintaining and enhancing coastal water quality for aquatic ecosystem health – regional plans	82	Method 52: Support community restoration initiatives for the coastal environment, rivers lakes and wetlands	Wellington Regional Council and city and district councils	144
			Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 34: Prepare a regional stormwater action plan	Wellington Regional Council* and city and district councils	142
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
			<b>Also see</b> – Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 11, 13, 14, 15, 16 & 17; Indigenous ecosystems (Table 6a) policy 23 Soils and minerals (Table 11) policy 14 <b>and consider</b> – Coastal environment (Table 2) policies 34 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 & 42; Indigenous ecosystems (Table 6a) policy 46; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48		

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page
<b>Objective 6</b> (Continued)	Policy 39: Maintaining and enhancing aquatic ecosystem health – consideration	106	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137
			Method 34: Prepare a regional stormwater action plan	Wellington Regional Council* and city and district councils	142
<b>Objective 7</b> The integrity, functioning and resilience of physical and ecological processes in the coastal environment are protected from the adverse effects of subdivision, use and development.	Policy 36: Safeguarding life-supporting capacity of coastal ecosystems – consideration	104	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 36 & 37; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 40, 41 & 42; Indigenous ecosystems (Table 6a) policy 46; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
<b>Objective 8</b> Public access to and along the coastal marine area, lakes and rivers is enhanced.	Policy 52: Public access to and along the coastal marine area, lakes and rivers – consideration	117	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 50: Identify areas for improved public access	Wellington Regional Council* and city and district councils	144
			<b>Also consider</b> – Coastal environment (Table 2) policies 34 & 35; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 42 & 52; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Resource management with tangata whenua (Table 10) policies 47 & 48		



## 3.3 Energy, infrastructure and waste

### Energy

New Zealand's energy needs have largely been met from coal, oil, gas, hydro and geothermal resources. New Zealand relies on imported oil for around half of its energy needs. Electricity supply has been dominated by hydro generation, with fossil fuels used as a backup to meet peak demand and in dry years.

In 2009, the Hau Nui wind farm, near Martinborough, a small hydro generation site at Kourarau Dam near Gladstone in the Wairarapa, and two landfill gas generation plants at the Silverstream and Wellington City Southern landfill were the only energy generation sites in the Wellington region.

Energy is distributed to and utilised by five main sectors in the region: transport, agriculture, industrial, commercial and residential. Demand for energy from all sectors continues to grow, with the most significant growth coming from transport.

Traditional energy sources will not be able to meet increasing energy demand. The region is vulnerable to oil supply disruptions (as a result of international circumstances) and fluctuations to hydro generation during dry years.

In the long term, energy prices are likely to rise as global oil demand approaches, and then exceeds, the ability to supply. Many aspects of society – such as transport, agriculture, trade, tourism, and manufacturing – are heavily dependent on oil, and continuing oil price rises and other risks to supply may lead to severe impacts on the Wellington region's economy. Appropriate use and management of such resources will be critical in meeting the region's quality of life in the future.

There is also the challenge of reducing greenhouse gas emissions from fossil fuels to meet international climate change obligations.

The region faces several major long-term energy challenges, including responding to climate change and tackling carbon emissions, especially from transportation. Other challenges are securing clean energy at affordable prices and using it efficiently, as well as responding to impacts on the region from oil depletion and the rising costs of oil. This means looking to make better use of existing energy resources through energy conservation and efficiency, better utilising the region's renewable energy resources, and looking at ways that the impacts from oil price increases and oil depletion can be mitigated.

The New Zealand Energy Strategy (2007), the New Zealand Energy Efficiency and Conservation Strategy (2007) and the New Zealand Transport Strategy (2008) outline New Zealand's actions on energy and climate change. The objectives, policies and methods on energy in this Regional Policy Statement will assist with making progress towards national targets. There are, however, a number of targets – such as reducing carbon dioxide-equivalent emissions from transport – where the Regional Policy Statement has limited influence.

The region contains significantly greater renewable energy resources than are currently used. Wind, biofuels and solar (for hot water systems), have been identified as possible renewable energy generation sources for the region. There is also the potential for small-scale renewable energy generation including small-scale hydro in the region. Tidal currents in Cook Strait and, to a lesser extent, wave action in Cook Strait and off the Wairarapa coast are also significant renewable energy resources, but technological advances are required to realise this potential.

### **Infrastructure**

The transport network, airports, the port, telecommunication facilities, the rail network and other utilities, including energy transmission and distribution networks, are significant physical resources. This infrastructure forms part of national or regional networks and enables communities to provide for their social, economic, and cultural wellbeing and their health and safety. The efficient use and development of such infrastructure can be adversely affected by development. For example, land development can encroach on infrastructure or interfere with its efficient use.

The National Policy Statement on Electricity Transmission (2008) sets out objectives and policies to enable the management of effects on the electricity transmission network under the Resource Management Act. The Statement recognises that efficient and secure electricity transmission plays a vital role in the well-being of New Zealand and makes it explicit that electricity transmission is to be considered a matter of national significance.

### **Waste**

Dealing with waste is a mounting problem because some of the resources discarded still have value, landfills use land that could be otherwise productive and landfill disposal has adverse effects on the environment. These can include reverse sensitivity effects, whereby a newly established activity may be adversely affected by an existing landfill and may need to protect itself from these effects.

Landfills should be the last resort for unwanted materials. This is because they produce leachate and methane gas from the degradation of materials and organic matter, and because landfill space is finite. In 2004 there were 10 municipal landfills in the Wellington region, in 2007 there were five, and two more will close over the next ten years.

The amount of waste needs to be reduced to ensure potentially valuable resources are used efficiently, reduce the need to develop new landfills and extend the life of existing landfills. In 2007 nearly 400,000 tonnes of material was sent to landfills in the Wellington region. At least 20 per cent and in some areas as much as 60 to 70 per cent could have been recycled or composted. This occurs because there is no market for the final product or there are no facilities in New Zealand to process the materials. While some materials are sent overseas for recycling or resource recovery, this option may not be viable in the long-term, so finding local solutions will become more important.

The Local Government Act requires city and district councils to prepare waste management plans that make provision for the collection and reduction, reuse, recycling, recovery, treatment, or disposal of waste in the district, and provide for its effective and efficient implementation. The Regional Policy Statement has no role in the development or implementation of waste management plans.

The regionally significant resource management issues for energy, infrastructure and waste are:

### 1. Energy

The Wellington region is dependant on externally generated electricity and overseas-sourced fossil fuels and is therefore vulnerable to supply disruptions and energy shortages. However, significant renewable energy resources exist within the region.

Table 3: Energy, infrastructure and waste Objectives 9 & 10

Table 9: Regional form Objective 21

### 2. Infrastructure

Infrastructure enables communities to provide for their social, economic and cultural wellbeing. The management, use and operation of infrastructure can be adversely affected when incompatible land uses occur under, over, on, or alongside.

Table 3: Energy, infrastructure and waste Objective 10

### 3. Waste

We cannot continue to generate the current waste volumes because of the costs of disposal, limited space in existing landfills and because it is inefficient to dispose of potentially valuable resources. Developing new landfills also poses significant challenges economically, environmentally and socially.

Table 3: Energy, infrastructure and waste Objective 11

Table 3: Energy, infrastructure and waste objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<p><b>Objective 9</b> The region's energy needs are met in ways that:</p> <ul style="list-style-type: none"> <li>(a) improve energy efficiency and conservation;</li> <li>(b) diversify the type and scale of renewable energy development;</li> <li>(c) maximise the use of renewable energy resources;</li> <li>(d) reduce dependency on fossil fuels; and</li> <li>(e) reduce greenhouse gas emissions from transportation.</li> </ul>	<p>Policy 6: Recognising the benefits from regionally significant infrastructure and renewable energy – regional and district plans</p>	83	<p>Method 1: District plan implementation</p> <p>Method 2: Regional plan implementation</p> <p><b>Also see</b> – Air quality (Table 1) policies 1 &amp; 2; Coastal environment (Table 2) policies 3 &amp; 5; Energy, infrastructure and waste (Table 3) policies 7, 8 &amp; 10; Fresh water (Table 4) policies 11, 12, 13, 16, 17 &amp; 19; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 &amp; 27; Natural hazards (Table 8a) policy 28 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41, 42 &amp; 43; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54, 55, 56 &amp; 57; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>City and district councils</p> <p>Wellington Regional Council</p>	<p>137</p> <p>137</p>
	<p>Policy 8: Reducing the use and consumption of non-renewable transport fuels and carbon dioxide emissions from transportation – Regional Land Transport Strategy</p>	85	<p>Method 3: Wellington Regional Land Transport Strategy implementation</p> <p><b>Also see</b> – Energy, infrastructure and waste (Table 3) policy 9; Regional form, design and function (Table 9) policy 32</p>	<p>Wellington Regional Council</p>	137
<p>Policy 9: Promoting travel demand management – district plans and the Regional Land Transport Strategy</p>	85	<p>Method 1: District plan implementation</p>	<p>City and district councils</p>	137	
		<p>Method 3: Wellington Regional Land Transport Strategy implementation</p>	<p>Wellington Regional Council</p>	137	
<p>Policy 10: Promoting energy efficient design and small scale renewable energy generation – district plans</p>	85	<p>Method 9: Information about travel demand management</p> <p><b>Also see</b> – Air quality (Table 1) policy 2; Energy, infrastructure and waste (Table 3) policies 6, 7, 8 &amp; 10; Regional form, design and function (Table 9) policies 30 &amp; 31 <b>and consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policies 54, 55, 56 &amp; 57; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>Wellington Regional Council* and city and district councils</p>	138	
		<p>Method 1: District plan implementation</p> <p>Method 10: Information about energy efficient subdivision, design and building development</p> <p><b>Also see</b> – Air quality (Table 1) policy 2; Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policies 6, 7, 8 &amp; 9; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 &amp; 27 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39 &amp; 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policies 49; Regional form, design and function (Table 9) policies 53, 55 &amp; 56; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>City and district councils</p> <p>Wellington Regional Council* and city and district councils</p>	<p>137</p> <p>138</p>	

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 9</b> (Continued)	Policy 38: Recognising the benefits from regionally significant infrastructure and renewable energy – consideration	105	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans  <b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 37; Fresh water (Table 4) policies 39, 40, 41 & 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54, 55, 56 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60	Wellington Regional Council and city and district councils	137
	Policy 56: Integrating land use and transportation – consideration	120	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans  Method 25: Information about the provision of walking, cycling and public transport for development	City and district councils  Wellington Regional Council	137  140
	Policy 65: Promoting efficient use and conservation of resources – non-regulatory	130	<b>Also consider</b> – Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policies 53, 54, 55 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60  Method 10: Information about energy efficient subdivision, design and building development  Method 32: Identify sustainable energy programmes  Method 55: Assist the community to reduce waste, and use water and energy efficiently	Wellington Regional Council* and city and district councils  Wellington Regional Council and city and district councils  Wellington Regional Council and city and district councils	138  141  144
<b>Objective 10</b> The social, economic, cultural and environmental, benefits of regionally significant infrastructure are recognised and protected.	Policy 6: Recognising the benefits from regionally significant infrastructure and renewable energy – regional and district plans	83	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
			<b>Also see</b> – Air quality (Table 1) policies 1 & 2; Coastal environment (Table 2) policies 3 & 5; Energy, infrastructure and waste (Table 3) policies 7 & 10; Fresh water (Table 4) policies 11, 12, 13, 16, 17 & 19; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 & 27; Natural hazards (Table 8a) policy 28 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41, 42 & 43; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54, 55, 56 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48		

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 10</b> (Continued)	Policy 7: Protecting regionally significant infrastructure – regional and district plans	84	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
			<b>Also see</b> – Air quality (Table 1) policies 1 & 2; Coastal environment (Table 2) policies 3 & 5; Energy, infrastructure and waste (Table 3) policy 6; Fresh water (Table 4) policies 11, 12, 13, 16 & 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 & 27; Natural hazards (Table 8a) policy 28 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 37; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41 & 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54, 55, 56 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48		
	Policy 38: Recognising the benefits from regionally significant infrastructure and renewable energy – consideration	105	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 37; Fresh water (Table 4) policies 39, 40, 41 & 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54, 55, 56 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48		
<b>Objective 11</b> The quantity of waste disposed of is reduced.	Policy 65: Promoting efficient use and conservation of resources – non-regulatory	130	Method 17: Information about waste management	Wellington Regional Council and city and district councils	139
			Method 55: Assist the community to reduce waste, and use water and energy efficiently	Wellington Regional Council and city and district councils	144



## 3.4 Fresh water (including public access)

Fresh water is integral to our health, wellbeing, livelihood and culture. It helps drive our economy, defines our landscape and sustains ecosystems. People value clean fresh water for many reasons – economic, recreational, aesthetic, ecological and cultural. It is a matter of national importance to protect wetlands, lakes, rivers and streams from inappropriate use and development.

Maori consider fresh water to be a significant taonga (valued resource) that plays a central role in both spiritual and secular realms. In the Maori world view, water represents the life blood of the land. The condition of water is a reflection of the state of the land, and this in turn is a reflection of the health of the people.

In their natural state, river catchments and wetlands cleanse and purify water, recharge groundwater and reduce the extremes of flooding. Rivers, lakes and wetlands provide habitat for aquatic life, but when they and their catchments are degraded the water bodies' ability to support healthy functioning aquatic ecosystems is reduced.

Monitoring of the region's rivers shows that many urban and lowland pastoral streams regularly fail water quality guidelines. The most common reasons for failing are high levels of nutrients or bacteria, or poor clarity. Biological monitoring shows that aquatic health is also poorest in these streams.

Urban streams are affected by stormwater discharges, especially when there are high proportions of impervious surface cover – such as roofs and roads – in the catchment. Stormwater, which generally has little or no treatment, contains sediments and bacteria, as well as persistent contaminants – like heavy metals – which accumulate in stream sediments and eventually in the coastal environments where the streams discharge. These contaminants affect freshwater fish and invertebrates and can have chronic long-term adverse effects on river and coastal ecosystems. Urban land uses also affect water quality in rivers and streams and can cause other pressures on freshwater habitat by creating the demand to pipe or fill in small streams.

There are eight major discharges of treated sewage to fresh water in the region – one from the treatment plant at Paraparaumu, one from Rathkeale College in Masterton, with the rest from the Wairarapa towns of Masterton, Castlepoint, Carterton, Greytown, Featherston and Martinborough. Treated sewage often contains high levels of disease-causing organisms that can make the rivers unsafe for recreational use, as well as nutrients, which can promote nuisance aquatic weed and algal growth. Discharges of wastes into water bodies are of particular concern to tangata whenua because waste, particularly sewage waste, degrades the mauri (life force) of the water body.

Land uses affect the state of rivers and streams and, consequently, the coast. Nearly half the land in the region is used for agriculture. Rivers and streams in these catchments have poor biological health and water quality, and are more likely to suffer from algal growth in late summer when conditions are driest and warmest, and river flows are at their lowest. Groundwater around Te Horo, Otaki and in the Wairarapa valley is also affected by land uses, and in some areas has elevated levels of nitrate. This could be from farming or from septic tanks.

Accommodating people's needs for water is becoming more and more difficult because some water resources in the region are already fully allocated and others are close to full allocation. In the Wairarapa, the amount of water taken for farm pasture irrigation has more than doubled over the last 10 years and increasing populations in the region's urban areas means demand for water supply is expected to increase. The pressure on water resources is also likely to increase as a result of climate change. Some predicted effects are that the central and eastern Wairarapa will become drier, and droughts will occur more frequently and persist for longer periods.

Groundwater levels in some Wairarapa aquifers are declining year by year. Lowered groundwater levels can affect the flow of springs and rivers and streams, and water levels in wetlands, which can eventually dry up. If continued abstractions keep the groundwater level low, the dependent ecosystems can be permanently affected.

Prolonged low flows in rivers mean there is less habitat available for aquatic life and the adverse effects of contamination are worse because of reduced dilution. Low flows in summer mean water temperatures and algal growths increase, especially if there is no riparian vegetation. Because people's need to take water is greatest at times of low rainfall, abstractions generally lower river flows when aquatic life is already stressed.

The introduction and spread of aquatic pests are a threat to the health of aquatic ecosystems. In wetlands, exotic plants such as willows and blackberry can displace wetland plants and do not provide suitable habitat for wetland species. Pests – such as didymo and pest fish – also have potential for significant adverse effects.

It is a matter of national importance to maintain and enhance public access to and along rivers and lakes. There is little information about the state of public access to rivers and lakes in the region. Where land is publicly owned, public access has generally been enhanced with the provision of walking tracks and recreational areas. For example, major rivers such as the Hutt, Waikanae and Ruamahanga, which are managed for flood protection or soil conservation purposes, have good access for recreational use.

Where land is privately owned, city and district councils can take esplanade reserves or strips as part of subdivisions. To date, there has been no strategic planning in the region that has identified where public access should be enhanced. Where esplanade reserves and strips have been taken for public access, city and district councils sometimes struggle to maintain them. Even where there is legal access, it is not always aligned with access that is physically possible.

The regionally significant resource management issues for fresh water are:

**1. Pollution is affecting water quality in water bodies**

The water quality of rivers and streams, lakes, wetlands and groundwater in the region is being polluted by discharges and by intensive land uses.

Table 4: Fresh water Objective 12

**2. Poor ecosystem function in rivers, lakes and wetlands**

The ecosystem function of some rivers, lakes and wetlands has been impaired, with some wetland and lowland stream ecosystems coming under particular pressure. Some activities that can impair ecosystem function are:

Table 4: Fresh water Objectives 12 & 13;  
Table 6a: Indigenous ecosystems Objective 16

- (a) filling in gullies and ephemeral streams and straightening or piping small streams
- (b) lining stream banks and beds with rock or concrete
- (c) removing streamside vegetation
- (d) works in rivers, particularly during low flows
- (e) the introduction and spread of aquatic pests, including didymo and pest fish, and weeds in wetlands which displace wetland plants
- (f) stock access to river and stream beds, lake beds and wetlands, and their margins
- (g) creating impermeable land within a catchment through asphaltting, concreting and building structures
- (h) taking water from rivers and groundwater connected to rivers, wetlands and springs.

**3. There is increasing demand on limited water resources**

There is a limited amount of water in rivers and groundwater aquifers available for human use and demand is increasing. The amount of water taken for farm pasture irrigation has more than doubled over the last 10 years. Increasing populations in the region's urban areas also mean increased demand for water.

Table 4: Fresh water Objective 14

An additional issue shared with the coastal environment is:

**4. Public access to and along the coastal marine area, lakes and rivers**

There have been inconsistent approaches to the taking of access strips or esplanade reserves as part of subdivisions. This has meant that public access to and along the coastal marine area, lakes and rivers is not always provided, or has been provided in places where people can not take advantage of it. Even where physical access is available, it is not always possible if access ways are not well maintained.

Table 2: Coastal environment  
Table 4: Fresh water Objective 8

Table 4: Fresh water objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<p><b>Objective 12</b> The quantity and quality of fresh water:</p> <p>(a) meet the range of uses and values for which water is required;</p> <p>(b) safeguard the life-supporting capacity of water bodies; and</p> <p>(c) meet the reasonably foreseeable needs of future generations.</p>	Policy 11: Maintaining and enhancing aquatic ecosystem health in water bodies – regional plans	86	Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 33: Prepare a regional water strategy	Wellington Regional Council* and city and district councils	142
			Method 34: Prepare a regional stormwater action plan	Wellington Regional Council* and city and district councils	142
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
			<p><b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policies 13, 14, 15, 16 &amp; 17; Indigenous ecosystems (Table 6a) policy 23; Soils and minerals (Table 11) policy 14 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36 &amp; 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41 &amp; 42; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>		
	Policy 12: Allocating water – regional plans	86	Method 2: Regional plan implementation	Wellington Regional Council	137
			<p><b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policies 11, 16, 17, 18 &amp; 19; Indigenous ecosystems (Table 6a) policy 23 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36 &amp; 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 42, 43 &amp; 44; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48; Soils and minerals (Table 11) policy 59</p>		
	Policy 13: Minimising contamination in stormwater from new development – regional plans	87	Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 33: Prepare a regional water strategy	Wellington Regional Council* and city and district councils	142
			Method 34: Prepare a regional stormwater action plan	Wellington Regional Council* and city and district councils	142
			<p><b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policies 11, 14, 16 &amp; 17; Indigenous ecosystems (Table 6a) policy 23; Soils and minerals (Table 11) policy 14 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 &amp; 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 &amp; 42; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>		

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 12</b> (Continued)	Policy 14: Minimising the effects of earthworks and vegetation disturbance – district and regional plans	87	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
	Policy 30: Protocols for management of earthworks and air quality between local authorities	141	Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
			Method 34: Prepare a regional stormwater action plan	Wellington Regional Council* and city and district councils	142
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
	Policy 15: Promoting discharges to land – regional plans	88	<b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policy 6; Fresh water (Table 4) policies 11, 13, 16 & 17; Indigenous ecosystems (Table 6a) policies 23; Landscape (Table 7) policies 25 & 27; Natural hazards (Table 8a) policy 28 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 41, 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60	Wellington Regional Council	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
	Policy 39: Maintaining and enhancing aquatic ecosystem health – consideration	106	<b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 11, 13, 14, 16 & 17; Indigenous ecosystems (Table 6a) policy 23; Soils and minerals (Table 11) policy 14 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 & 42; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Resource management with tangata whenua (Table 10) policies 47 & 48	City and district councils	137
			Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137
Method 34: Prepare a regional stormwater action plan			Wellington Regional Council* and city and district councils	142	
Policy 35: Support industry-led environmental accords and codes of practice	142	Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142	
		<b>Also consider</b> – Coastal environment (Table 2) policies 34, 36 & 37; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 40, 41 & 42; Indigenous ecosystems (Table 6a) policy 46; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48	Wellington Regional Council and city and district councils	142	

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 12</b> (Continued)	Policy 40: Minimising the effects of earthworks and vegetation disturbance – consideration	107	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and City and district councils	137
			Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 41, 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 59		
	Policy 41: Minimising contamination in stormwater from development – consideration	108	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and City and district councils	137
			Method 34: Prepare a regional stormwater action plan	Wellington Regional Council* and city and district councils	142
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 & 42; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
<b>Objective 13</b> The region's rivers, lakes and wetlands support healthy functioning ecosystems.	Policy 16: Protecting aquatic ecological function of water bodies – regional plans	88	Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 29: Take a whole of catchment approach to works, operations and services	Wellington Regional Council* and city and district councils	141
			<b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 11, 13, 14, 16 & 17; Indigenous ecosystems (Table 6a) policy 23; Soils and minerals (Table 11) policy 14 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 & 42; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48		

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page	
<b>Objective 13</b> (Continued)	Policy 17: Protecting significant values of rivers and lakes – regional plans	89	Method 2: Regional plan implementation	Wellington Regional Council	137	
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and City and district councils	141	
		Policy 42: Protecting aquatic ecological function of water bodies – consideration		<b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 11, 13, 14 & 16; Indigenous ecosystems (Table 6a) policy 23; Soils and minerals (Table 11) policy 14 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 & 42; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48		
	108		Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and City and district councils	137	
			Method 29: Take a whole of catchment approach to works, operations and services	Wellington Regional Council* and city and district councils	141	
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40 & 41; Indigenous ecosystems (Table 6a) policy 46; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48			
	Policy 64: Supporting environmental enhancement initiatives – non-regulatory	129	Method 8: Information to assist with restoration and enhancement of degraded water bodies and the natural character of the coastal environment	Wellington Regional Council	138	
			Method 29: Take a whole of catchment approach to works, operations and services	Wellington Regional Council* and city and district councils	141	
			Method 52: Support community restoration initiatives for the coastal environment, rivers lakes and wetlands	Wellington Regional Council and City and district councils	144	
<b>Objective 14</b> Water is used efficiently and is not wasted.	Policy 18: Using water efficiently – regional plans	89	Method 2: Regional plan implementation	Wellington Regional Council	137	
			Method 33: Prepare a regional water strategy	Wellington Regional Council* and city and district councils	142	
			Method 47: Investigate the use of transferable water permits	Wellington Regional Council	143	
			<b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 11, 12 & 16 <b>and consider</b> – Coastal environment (Table 2) policies 36 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 39, 42 & 43; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 59			

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page
<b>Objective 14</b> (Continued)	Policy 19: Prioritising water abstraction for the health needs of people – regional plans	90	Method 2: Regional plan implementation	Wellington Regional Council	137
	Policy 43: Managing water takes to ensure efficient use – consideration	109	<b>Also see</b> – Coastal environment (Table 2) policy 5; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 11, 12 & 16 <b>and consider</b> – Coastal environment (Table 2) policies 36 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 39, 42, 43 & 44; Regional form, design and function (Table 9) policies 53, 54, 55 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 59	Wellington Regional Council	137
<b>Objective 8</b> Public access to and along the coastal marine area, lakes and rivers is enhanced.	Policy 44: Using water efficiently – consideration	109	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council	137
	Policy 65: Promoting efficient use and conservation of resources – non-regulatory	130	<b>Also consider</b> – Coastal environment (Table 2) policy 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 39, 42 & 43; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 59	City and district councils	137
<b>Objective 8</b> Public access to and along the coastal marine area, lakes and rivers is enhanced.	Policy 52: Public access to and along the coastal marine area, lakes and rivers – consideration	117	Method 11: Information about water conservation and efficient use	Wellington Regional Council and City and district councils	139
			Method 33: Prepare a regional water strategy	Wellington Regional Council* and city and district councils	142
			Method 55: Assist the community to reduce waste, and use water and energy efficiently	Wellington Regional Council and City and district councils	144
			Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137
			Method 50: Identify areas for improved public access	Wellington Regional Council* and city and district councils	144
			<b>Also consider</b> – Coastal environment (Table 2) policies 34 & 35; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 50; Resource management with tangata whenua (Table 10) policies 47 & 48		



## 3.5 Historic heritage

Historic heritage provides a connection to those who lived before us. It helps us define who we are and contributes to our sense of place. Once destroyed, it cannot be replaced.

Our history is found in both the tangible physical remains and in the intangible values associated with our ancestors. Historic heritage is not just about history, but also culture, archaeology, architecture, science and technology. For Maori, places of cultural and historic heritage are integral to wellbeing. Historic heritage resources provide continuity between the past and the present that, properly maintained, will continue into the future.

In the Wellington region, there is a wide range of historic heritage resources. The region's built heritage documents important aspects of our past. Archaeological sites contain evidence of how people have lived in the past, perhaps for centuries. For tangata whenua, there are many sites of cultural significance that provide important connections with ancestors.

In the Wellington region, many heritage places still retain high integrity and are in good condition. However, some have suffered from inappropriate subdivision, use and development. Incremental development is resulting in a loss of historic heritage in some of the region's towns, particularly in higher density inner centres where heritage buildings are being inappropriately modified or replaced by new buildings. Archaeological sites have been destroyed, sometimes without being properly recorded, and the evidence they contained about life in the past can never be recovered.

Since 2003, Wellington Regional Council and the region's district and city councils have had an obligation under the Resource Management Act to identify and provide for the protection of the region's historic heritage. Until then councils were only required to have "particular regard" to the protection of heritage values. Councils have improved district plan protection for historic heritage since this change. All district and city councils in the Wellington region require resource consent for the demolition, relocation or for substantial alterations of heritage buildings listed in plans. However, more work is still required, particularly for archaeological sites.

The regionally significant resource management issue for historic heritage is:

### 1. Inappropriate modification and destruction of historic heritage.

Loss of heritage values as a result of inappropriate modification, use and destruction of historic heritage.

Table 5: Historic heritage Objective 15

Table 10: Resource Management with tangata whenua Objective 27

Table 5: Historic heritage objective and titles of policies and methods to achieve the objective

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<p><b>Objective 15</b> Historic heritage is identified and protected from inappropriate modification, use and development.</p>	<p>Policy 20: Identifying places, sites and areas with significant historic heritage values – district and regional plans</p>	90	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 20: Information to assist with the identification of places, sites and areas with significant historic heritage values	Wellington Regional Council* and city and district councils	140
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141
			<p><b>Also see</b> – Coastal environment (Table 2) policy 4; Indigenous ecosystems (Table 6a) policy 22; Landscape (Table 7) policies 24 &amp; 26; Regional form, design and function (Table 9) policies 29 &amp; 30 <b>and consider</b> – Coastal environment (Table 2) policy 35 &amp; 52; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>		
	<p>Policy 21: Protecting historic heritage values – district and regional plans</p>	91	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141
			<p><b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 &amp; 27; Regional form, design and function (Table 9) policies 29, 30 &amp; 31 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 52; Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>		
	<p>Policy 45: Managing effects on historic heritage values – consideration</p>	110	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			<p><b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 52; Energy, infrastructure and waste (Table 3) policy 38; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>		



## 3.6 Indigenous ecosystems

An ecosystem may be described as a community of plants, animals and micro-organisms interacting with each other and their surrounding environment.

Healthy ecosystems provide us with life's essentials – such as plants and animals for food, fibre for clothing, timber for construction. This is true even in an industrialised age, although the connections are less immediately obvious. Healthy ecosystems supply us with 'services' that support life on this planet – such as:

- processes that purify air and water
- decomposition and detoxification of wastes
- creation and maintenance of productive soils
- reduction of the impact of climate extremes
- capture of carbon and maintenance of a functioning atmosphere.

Ecosystems are dynamic (constantly changing) and the many diverse natural processes that drive ecosystems are as important as the species within them. In addition, all parts of an ecosystem are interconnected. The species that make up an ecosystem, including humans, cannot exist in isolation from the other species and non-living parts of the ecosystem. The primacy of healthy ecosystems is central to Maori cultural values, whereby harm to mauri directly affects the wellbeing of the people. More specifically, degradation of ecosystems threatens mahinga kai (places where food is gathered) and other natural resources used for customary purposes.

The Wellington region has a distinctive range of ecosystems – such as forests, mountains, wetlands, lakes, rivers and coastal and marine ecosystems. Some ecosystems have a high degree of 'indigenesness'- such as the Tararua and Orongorongo ranges, while others are dominated by exotic species– such as pastoral farmlands.

The area of indigenous ecosystems has been in decline since humans first settled in our region. This loss greatly accelerated from the time of European settlement. Around 70 per cent of the indigenous forest and more than 90 per cent of the wetlands that existed as recently as 1840, have been cleared for agriculture and urban development. Indigenous forest continues to be lost in the region. Most of the remaining forest and wetlands and dune systems have been degraded or modified in some way. In addition, many of the processes that ensure ecosystems remain healthy and viable into the future have been compromised, including reproduction, recruitment, dispersal and migration.

Human actions that continue to impact on the remaining indigenous ecosystems include:

- modification and, in some cases, destruction of ecosystems by pest plants and animals, grazing animals and clearance of indigenous vegetation
- contamination of aquatic ecosystems by sediment, pollutants and nutrients
- destruction of ecosystems as a result of development
- draining wetlands and channelling or piping of natural waterways
- contamination of coastal ecosystems by stormwater and sewage discharges.

Ecosystem health can be measured in a number of ways, including loss of individual species, loss of overall diversity of species, loss of an ecosystem's ability to function on an ongoing basis, and loss of complete ecosystems and types of ecosystems. While the dramatic collapse of species or whole ecosystems can capture attention, the gradual erosion of ecosystems' sustainability is also a significant issue.

The regionally significant resource management issues for indigenous ecosystems are:

**1. The region's indigenous ecosystems are reduced in extent**

The region's indigenous ecosystems have been significantly reduced in extent, specifically:

- (a) wetlands
- (b) lowland forests
- (c) lowland streams
- (d) coastal dunes and escarpments
- (e) estuaries
- (f) eastern 'dry land' forests.

**2. The region's remaining indigenous ecosystems are under threat**

The region's remaining indigenous ecosystems continue to be degraded or lost.

Table 6: Indigenous ecosystems  
Objective 16

Table 6: Indigenous ecosystems  
Objective 16

Table 6a: Indigenous ecosystems objective and titles of policies and methods to achieve the objective

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page		
<p><b>Objective 16</b> Indigenous ecosystems and habitats with significant biodiversity values are maintained and restored to a healthy functioning state.</p>	<p>Policy 22: Identifying indigenous ecosystems and habitats with significant biodiversity values – district and regional plans</p>	92	Method 1: District plan implementation	City and district councils	137		
			Method 2: Regional plan implementation	Wellington Regional Council	137		
			Method 21: Information to assist with the identification of indigenous ecosystems and habitats with significant biodiversity values	Wellington Regional Council* and city and district councils	140		
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141		
			<p><b>Also see</b> – Coastal environment (Table 2) policy 4; Historic heritage (Table 5) policy 20; Indigenous ecosystems (Table 6b) policy 61; Landscape (Table 7) policies 24 &amp; 26 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 36; Fresh water (Table 4) policies 42 &amp; 52; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>				
	<p>Policy 23: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans</p>	92	Method 1: District plan implementation	City and district councils	137		
			Method 2: Regional plan implementation	Wellington Regional Council	137		
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141		
			<p><b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Fresh water (Table 4) policies 16 &amp; 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6b) policy 61; Landscape (Table 7) policies 25 &amp; 27 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 52; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 42 &amp; 52; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>				

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 16</b> (Continued)	Policy 46: Managing effects on indigenous ecosystems and habitats with significant indigenous biodiversity values – consideration	110	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans  <b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 52; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 42 & 52; Indigenous ecosystems (Table 6a) policy 46 & (Table 6b) policy 61; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 53; Resource management with tangata whenua (Table 10) policies 47 & 48	Wellington Regional Council and city and district councils	137
	Policy 64: Supporting environmental enhancement initiatives – non-regulatory	129	Method 12: Information about techniques to maintain and enhance indigenous ecosystems  Method 29: Take a whole of catchment approach to works, operations and services  Method 53: Assist landowners to maintain, enhance and restore indigenous ecosystems	Wellington Regional Council and city and district councils  Wellington Regional Council* and city and district councils  Wellington Regional Council and city and district councils	139  141  144

Table 6 (b): Allocation of functions for indigenous biodiversity in accordance with the Resource Management Act

Section 62(1)(i)(iii) "Content of regional policy statements".	Policy 61: Allocation of responsibilities for land use controls for indigenous biodiversity	125	Method 5: Allocation of responsibilities  <b>See</b> – Coastal environment (Table 2) policy 5; Fresh water (Table 4) policies 11, 16 & 17; Indigenous ecosystems (Table 6) policies 22, 23, 46 & 64	Wellington Regional Council and city and district councils	138
--	---	-----	---	--	-----



## 3.7 Landscape

Landscape is shaped and constantly re-shaped by a combination of natural processes and human actions. The landscape is the result of geological and ecological processes over time – such as plate tectonics, landslide and weathering, water flow under and over the surface, the climate, and the influence of plants and animals – all overlaid by the effects of a wide range of human activities.

The Wellington region has a diversity of distinctive landscapes – such as wild coasts, sheltered harbours, river plains, crowded urban hills and valleys, forested mountain ranges, islands, rolling pasture and coastal dunes. We attribute different values to these landscapes, depending on their characteristics and our own culture, personal history, relationship with the land and ideas about what is significant.

Within all communities in the region there is an increasing awareness of the distinctive character of local landscapes and natural features, and their importance to our quality of life. Landscapes influence our sense of identity and our experiences of the places we live. Landscape is regarded as a physical resource that shapes and is shaped by many of our activities such as farming, tourism, forestry and urban development. For Maori it provides earthly links with ancestors and tribal history, and is intrinsic to the wellbeing of the people of that place. The rohe, or tribal area for tangata whenua, is often associated with landscapes and features and therefore they have powerful cultural significance.

Landscape change is inevitable, even without human action. However, the degree of change caused by human activities has been accelerating. The distinctive aspects of the Wellington region's landscapes are at risk of being lost or degraded.

Urban and rural residential developments are bringing new types and patterns of land use into peri-urban areas, as well as into more rural and remote areas. This particularly affects more sensitive landscapes – such as on ridgelines and the coast. Modern earth-moving machinery can reshape landform so quickly and drastically that natural patterns of land, drainage and vegetation cover are dramatically altered or destroyed. Even small changes in land use and development patterns can have cumulative impacts on landscapes.

The regionally significant resource management issue for landscape is:

- 1. Inappropriate modification and destruction of outstanding natural features and landscapes, and significant amenity landscapes**

Inappropriate modification and destruction of outstanding natural features and landscapes, and significant amenity landscapes, is causing a loss of the values associated with those landscapes and features.

Table 7: Landscape Objective 17

Table 7: Landscape objective and titles of policies and methods to achieve the objective

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page	
<p><b>Objective 17</b> The region's outstanding natural features, landscapes and significant amenity landscapes, are identified and their values protected, maintained or enhanced.</p>	<p>Policy 24: Identifying outstanding natural features and landscapes – district and regional plans</p>	93	Method 1: District plan implementation	City and district councils	137	
			Method 2: Regional plan implementation	Wellington Regional Council	137	
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141	
			Method 49: Prepare a regional landscape character description	Wellington Regional Council* and city and district councils	144	
	<p>Policy 25: Protecting outstanding natural features and landscape values – district and regional plans</p>	94	<p><b>Also see</b> – Coastal environment (Table 2) policies 3 &amp; 4; Historic heritage (Table 5) policy 20; Indigenous ecosystems (Table 6a) policy 22; Landscape (Table 7) policy 26 <b>and consider</b> – Coastal environment (Table 2) policies 35 &amp; 52; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>			
			Method 1: District plan implementation	City and district councils	137	
			Method 2: Regional plan implementation	Wellington Regional Council	137	
			Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141	
			<p><b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policy 7; Fresh water (Table 4) policies 16 &amp; 17; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policy 27 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 52; Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>			
			Method 1: District plan implementation	City and district councils	137	
Method 2: Regional plan implementation	Wellington Regional Council	137				
<p>Policy 26: Identifying significant amenity landscapes – district and regional plans</p>	94	<p><b>Also see</b> – Coastal environment (Table 2) policies 3 &amp; 4; Historic heritage (Table 5) policy 20; Indigenous ecosystems (Table 6a) policy 22; Landscape (Table 7) policy 24 <b>and consider</b> – Coastal environment (Table 2) policy 35 &amp; 52; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>				
		Method 1: District plan implementation	City and district councils	137		
		Method 2: Regional plan implementation	Wellington Regional Council	137		
		Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141		
<p>Method 49: Prepare a regional landscape character description</p>	144	<p><b>Also see</b> – Coastal environment (Table 2) policies 3 &amp; 4; Historic heritage (Table 5) policy 20; Indigenous ecosystems (Table 6a) policy 22; Landscape (Table 7) policy 24 <b>and consider</b> – Coastal environment (Table 2) policy 35 &amp; 52; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>				
		Method 49: Prepare a regional landscape character description	Wellington Regional Council* and city and district councils	144		

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 17</b> (Continued)	Policy 27: Maintaining and enhancing significant amenity landscape values – district and regional plans	95	Method 1: District plan implementation Method 2: Regional plan implementation Method 31: Engage tangata whenua and the community in identifying and protecting significant values	City and district councils Wellington Regional Council Wellington Regional Council and city and district councils	137 137 141
	Policy 49: Managing effects on outstanding natural features and landscapes, and significant amenity landscapes – consideration	114	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans <b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 52; Energy, infrastructure and waste (Table 3) policy 38; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48	Wellington Regional Council and city and district councils	137



## 3.8 Natural hazards

A natural hazard is defined in the Resource Management Act as any atmospheric, earth or water related occurrence (including earthquake, tsunami, erosion, volcanic, and geothermal activity, landslide, subsidence, sedimentation, wind, drought, fire, or flooding) which may adversely affect human life, property, or other aspects of the environment. On their own, natural processes do not constitute a hazard. Natural events become hazardous when they may adversely affect human lives.

The Wellington region has one of the most physically diverse environments in New Zealand. It is also one of the most populous regions and, consequently, our communities are affected by a wide range of natural hazards. With the exception of geothermal activity, the region is subject to all types of natural hazard events. Commonly, there are two or more hazards associated with a given event. For example, a rainstorm may cause flooding and landslips.

The three most potentially damaging and costly natural hazards events that can occur in the region are:

- **Earthquake:** High magnitude earthquake (7.0+) from the rupture of a local fault (especially the Wellington Fault) affecting Wellington city, Hutt valley, Porirua, Kapiti Coast and towns in Wairarapa District.
- **Flooding:** Major river flooding in the Hutt valley, Kapiti Coast and the central Wairarapa plains. Flooding is the most frequently occurring hazard event in the region.
- **Tsunami:** Large tsunami (particularly one that is locally generated) affecting low-lying areas around Wellington Harbour and the southern bays, settlements along the southern and eastern Wairarapa coast, Porirua Harbour and the Kapiti Coast.

Other natural hazards have more localised impacts but occur more frequently. These include:

- **Localised flooding and inundation** from streams and stormwater overflow. This can occur throughout the region in low-lying areas – such as Porirua – around tributary streams of the larger rivers – such as the Hutt River – and in areas that have short steep catchments – such as Paekakariki.
- **Coastal erosion and inundation**, often associated with storm surge, affects some seafront and low lying coastal developments in the region. Some sections of the coastline are in long term retreat – such as Paekakariki and Te Kopi. Other areas have episodes of erosion that form part of a cycle of erosion and deposition – such as Paraparaumu or Riversdale.
- **Landslips** in the hill suburbs of Wellington city, the Hutt valley, Eastbourne, Wainuiomata, Paekakariki and in the Wairarapa hill country.

- Drought, especially in central Wairarapa and the coastal hills between Flat Point and Castle Point.
- Wild fire, particularly in hill suburbs on urban fringes near heavily vegetated slopes, including western and southern Wellington suburbs, Eastbourne, Wainuiomata, Hutt valley and Porirua, and farmland in the eastern Wairarapa hill country.
- High winds that can occur throughout the region and cause widespread damage to buildings, infrastructure and forestry.
- Sedimentation and erosion of rivers and streams, river mouths and tidal inlets, that can exacerbate the flood risk by raising bed levels and undermining banks.

People's actions, including mitigation measures and ongoing development in areas at high risk from natural hazards, can cause or increase the risk from natural hazards. Examples include seawalls or groynes that can cause localised erosion of the adjacent shoreline, and building on landslip prone slopes. Stopbanks and seawalls can also create a sense of security and encourage further development, increasing the extent and value of the assets at risk.

In the medium to long term, climate change effects have the potential to increase both the frequency and magnitude of natural hazard events that already occur in the region.

A major consequence of climate change is sea level rise. The sea level is expected to rise over half a metre by 2100.<sup>1</sup> The main natural hazards associated with a rise in sea levels are coastal erosion and inundation. Sea level rise will also put increasing pressure on the coastal margin. As the shoreline adjusts, sediment will be redistributed around the coast and may cause shorelines to form new orientations. Beaches that are currently stable may begin to erode as the shoreline adjusts to a higher water level, while those that are currently eroding may experience an increased rate of retreat.

Climate change is expected to increase the intensity and duration of westerly weather systems and reduce easterly conditions. This will exacerbate differences in the regional climate, by bringing higher rainfall to the west and reducing coastal rains in the east. It will also bring longer periods of northerly gales to the entire region, particularly in the spring months. Western and southern areas of the region may also have higher rainfall in the winter, increasing the landslide risk during wet winters, particularly in extreme rainfall events. This will put pressure on stormwater systems and flood protection works. Higher rainfall may also result in higher rates of sedimentation at river mouths and in estuaries, increasing the flood risk in those areas by raising the base level of the river bed.

It is also expected that central and eastern Wairarapa will become drier over the next 100 years. Droughts will occur more frequently and persist for longer periods. Research suggests that winter rainfall will decline in the long term, which may lead to a reduction in groundwater recharge rates and pressure on water resources. Dry conditions also result in a heightened risk of wild fire.

---

<sup>1</sup> Intergovernmental Panel on Climate Change (IPCC) (2007), *Climate Change 2007: The Physical Science Basis. Summary for Policymakers. Contribution of working group I to the fourth assessment report of the IPCC*, 18pp.

The regionally significant resource management issues for natural hazards are:

**1. Effects of natural hazards**

Natural hazard events in the Wellington region have an adverse impact on people and communities, businesses, property and infrastructure.

Table 8a: Natural hazards Objectives 18, 19 & 20

**2. Human actions can increase risk and consequences from natural hazards**

People's actions including mitigation measures and ongoing development in areas at risk from natural hazards can cause, or increase, the risk and consequences from natural hazards.

Table 8a: Natural hazards Objective 20

**3. Climate change will increase both the magnitude and frequency of natural hazard events**

Climate change will increase the risks from natural hazard events that already occur within the region, particularly:

Table 8a: Natural hazards Objectives 18, 19 & 20

- (a) sea level rise, exacerbating the effects of coastal erosion and inundation and river flooding in low lying areas, especially during storm surge
- (b) increased frequency and intensity of storm events, adding to the risk from floods, landslides, severe wind, storm surge, coastal erosion and inundation
- (c) increased frequency of drought, placing pressure on water resources and increasing the wild fire risk

Table 8a: Natural hazards objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<p><b>Objective 18</b> The risks and consequences to people, communities, their businesses, property and infrastructure from natural hazards and climate change effects are reduced.</p>	<p>Policy 28: Avoiding subdivision and development in areas at high risk from natural hazards – district plans</p>	96	Method 1: District plan implementation	City and district councils	137
			Method 14: Information about natural hazard and climate change effects	Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group	139
			Method 22: Information about areas at high risk from natural hazards	Wellington Regional Council* and city and district councils	140
<p>Policy 50: Minimising the risks and consequences of natural hazards – consideration</p>	115	<p><b>Also see</b> – Coastal environment (Table 2) policies 3 &amp; 4; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policies 14 &amp; 16; Natural hazards (Table 8b) policy 62; Regional form, design and function (Table 9) policies 29, 30 &amp; 31 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policies 50 &amp; 51; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 14: Information about natural hazard and climate change effects	Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group	139
			Method 22: Information about areas at high risk from natural hazards	Wellington Regional Council* and city and district councils	140
<p><b>Objective 19</b> Hazard mitigation measures, structural works and other activities do not increase the risk and consequences of natural hazard events.</p>	<p>Policy 51: Minimising adverse effects of hazard mitigation measures – consideration</p>	116	<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
			Method 4: Consideration – resource consents, notices of requirement and when changing, varying or reviewing plans	Wellington Regional Council and city and district councils	137
			Method 14: Information about natural hazard and climate change effects	Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group	139
	Method 23: Information about natural features to protect property from natural hazards			Wellington Regional Council* and city and district councils	140
	<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48				

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page	
<p><b>Objective 20</b> Communities are more resilient to natural hazards, including the impacts of climate change, and people are better prepared for the consequences of natural hazard events.</p>	<p>Policy 28: Avoiding subdivision and development in areas at high risk from natural hazards – district plans</p>	96	Method 1: District plan implementation	City and district councils	137	
		Method 14: Information about natural hazard and climate change effects	Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group	139		
		Method 22: Information about areas at high risk from natural hazards	Wellington Regional Council* and city and district councils	140		
				<b>Also see</b> – Coastal environment (Table 2) policies 3 & 4; Energy, infrastructure and waste (Table 3) policies 6 & 7; Fresh water (Table 4) policies 14 & 16; Natural hazards (Table 8b) policy 62; Regional form, design and function (Table 9) policies 29, 30 & 31 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policies 50 & 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
	<p>Policy 50: Minimising the risks and consequences of natural hazards – consideration</p>	115	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137	
		Method 14: Information about natural hazard and climate change effects	Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group	139		
		Method 22: Information about areas at high risk from natural hazards	Wellington Regional Council* and city and district councils	140		
				<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48		
	<p>Policy 51: Minimising adverse effects of hazard mitigation measures – consideration</p>	116	Method 4: Consideration – resource consents, notices of requirement and when changing, varying or reviewing plans	Wellington Regional Council and city and district councils	137	
		Method 14: Information about natural hazard and climate change effects	Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group	139		
Method 23: Information about natural features to protect property from natural hazards		Wellington Regional Council* and city and district councils	140			
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48			

Table 8b: Allocation of functions for natural hazards in accordance with the Resource Management Act

Section 62(1)(i)(i) "Content of regional policy statements".	Policy 62: Allocation of responsibilities for land use controls for natural hazards	126	Method 5: Allocation of responsibilities	Wellington Regional Council and city and district councils	138
<b>Also see</b> – Natural hazards (Table 8a) policies 28, 50 & 51					



## 3.9 Regional form, design and function

Regional form is about the physical arrangement within and between urban and rural communities. Good urban design seeks to ensure that the design of buildings, places, spaces and networks work well for communities and are environmentally responsive. A compact and well designed regional form enhances the quality of life for residents as it is easier to get around, allows for a greater choice of housing, close to where people work or to public transport, town centres are vibrant, safe and cohesive, and business activity is enhanced. Energy consumption and carbon emissions are also reduced. Communities and businesses are more resilient to oil shortages or crisis, and there is reduced pressure for new infrastructure and more efficient use of existing infrastructure.

Central Wellington city contains the central business district for the region. Its continued viability, vibrancy and accessibility are important to the whole region. There are also a number of regionally significant centres that are an important part of the region's form. These are Upper Hutt, Lower Hutt, Porirua, Masterton, Paraparaumu, Petone, Johnsonville and Kilbirnie. These centres are significant areas of transport movement and civic and community investment. They also have the potential to support new development and increase the range and diversity of activities. Good quality medium density housing in these centres could increase housing choice and the use of services and public transport. Additional local employment around these centres could also provide people with greater choice about where they work. These centres, along with the region's industrial business areas, the port, the airport, the road and public transport network, and the region's open space network are fundamental to a compact and well designed regional form.

The region has a strong corridor pattern, yet is generally compact. The transport corridor pattern includes State Highway 1 and the North Island Main Trunk rail line which enters the region near Otaki and extends southwards through Kapiti Coast, Pukerua Bay, Porirua and northern Wellington and through to Wellington city central business district. State Highway 1 continues through to Wellington International Airport. State Highway 2 and the Wairarapa railway line enter the region north of Masterton and extend southwest through Wairarapa, the Hutt valley and on to merge with State Highway 1 and the North Island Main Trunk rail line at Ngauranga. State Highway 58 provides a vital east-west link between State Highways 1 and 2.

This corridor pattern is a strength for the region. It reinforces local centres, supports passenger transport, reduces energy use and makes services more accessible.

There are, however, parts of the region where growth pressures exist and where the region's current compact form is beginning to fray at the edges, reducing transport efficiency and the ability of some centres to grow as community service and employment areas. The region also has limited east-west transport linkages, which means freight and commuter movements are focused along the north-south corridors, increasing congestion on some major routes.

In certain locations, the region's urban design has also been weakened by poorly designed developments which negatively affect the look, feel, health, safety, vitality and vibrancy of those areas.

The region's form, design and function have been examined by the region's nine local authorities, in conjunction with the region's iwi authorities, central government and business, education, research and voluntary sector interests, as part of the development of the Wellington Regional Strategy (2007), a sustainable economic growth strategy for the Wellington region. The Wellington Regional Strategy focuses on leadership and partnership, growing the region's economy and good regional form. It is recognised that the region's form is a key component to making the Wellington region 'internationally competitive'.

The regionally significant resource management issues for regional form, design and function are:

Table 9: Regional form, design and function Objective 21

### **1. Poor quality urban design**

Poor quality urban design can adversely affect public health, social equity, land values, the vibrancy of local centres and economies, and the provision of, and access to, civic services. It can also increase the use of non-renewable resources and vehicle emissions in the region.

Table 9: Regional form, design and function Objective 21

### **2. Sporadic and uncoordinated development**

Uncoordinated and sporadic development (including of infrastructure) can adversely affect the region's compact form. This can, among other things, result in:

- (a) new development that is poorly located in relation to existing infrastructure (such as roads, sewage and stormwater systems) and is costly or otherwise difficult to service
- (b) development in locations that restrict access to the significant physical resource in the region – such as aggregate
- (c) the loss of rural or open space land valued for its productive, ecological, aesthetic and recreational qualities
- (d) insufficient population densities to support public transport and other public services
- (e) new infrastructure that can encourage development in locations that undermine existing centres and industrial employment areas.

Table 3: Energy, infrastructure and waste Objective 10

Table 9: Regional form, design and function Objective 21

### **3. Integration of land use and transportation**

A lack of integration between land use and the region's transportation network can create patterns of development that increase the need for travel, the length of journeys and reliance on private motor vehicles, resulting in:

- (a) increased emissions to air from a variety of pollutants, including greenhouse gases
- (b) increased use of energy and reliance on non-renewable resources
- (c) reduced opportunities for alternate means of travel (such as walking and cycling) and increased costs associated with upgrading roads
- (d) increased road congestion leading to restricted movement of goods and services to, from and within the region, and compromising the efficient operation of the transport network.

Table 9: Regional form, design and function objective and titles of policies and methods to achieve the objective

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<p><b>Objective 21</b> A compact, well designed and sustainable regional form that has an integrated, safe and responsive transport network and:</p> <p>(a) a viable and vibrant regional central business district in Wellington city;</p> <p>(b) an increased range and diversity of activities in and around the regionally significant centres<sup>2</sup>;</p> <p>(c) sufficient industrial-based employment locations or capacity to meet the region's needs;</p> <p>(d) urban development in existing urban areas, or when beyond urban areas, development that reinforces the region's existing urban form;</p> <p>(e) strategically planned rural development;</p> <p>(f) a range of housing (including affordable housing);</p> <p>(g) integrated public open spaces;</p> <p>(h) integrated land use and transportation;</p> <p>(i) improved east-west transport linkages; and</p> <p>(j) efficient use of existing infrastructure (including transport network infrastructure).</p>	<p>Policy 29: Maintaining and enhancing the viability and vibrancy of regionally significant centres – district plans</p>	97	<p>Method 1: District plan implementation</p> <p>Method 41: Develop visions for the regionally significant centres</p> <p>Method 42: Develop principles for retail activities</p> <p><b>Also see</b> – Air quality (Table 1) policy 1; Coastal environment (Table 2) policies 3 &amp; 5; Energy, infrastructure and ecosystems (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policy 14; Historic heritage (Table 5) policy 21; Indigenous form, design and function (Table 9) policies 30 &amp; 31; Soils and minerals (Table 11) policy 33 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36 &amp; 37; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41 &amp; 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policies 50 &amp; 51; Regional form, design and function (Table 9) policies 53, 54, 55, 56 &amp; 57; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>City and district councils</p> <p>Wellington Regional Strategy</p> <p>Wellington Regional Strategy</p>	<p>137</p> <p>143</p> <p>143</p>
	<p>Policy 30: Identifying and promoting higher density and mixed use development – district plans</p>	97	<p>Method 1: District plan implementation</p> <p>Method 16: Information about locations with good access to the strategic public transport network</p> <p><b>Also see</b> – Air quality (Table 1) policy 1; Coastal environment (Table 2) policies 3 &amp; 5; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policy 14; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 &amp; 27; Natural hazards (Table 8a) policy 28; Regional form, design and function (Table 9) policies 29 &amp; 31; Soils and minerals (Table 11) policy 33 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36 &amp; 37; Fresh water (Table 4) policies 39, 40, 41, 42 &amp; 44; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policies 50 &amp; 51; Regional form, design and function (Table 9) policies 53, 54, 55, 56 &amp; 57; Resource management with tangata whenua (Table 10) policy 59</p>	<p>City and district councils</p> <p>Wellington Regional Council*, city and district councils</p>	<p>137</p> <p>139</p>
	<p>Policy 31: Identifying and protecting key industrial-based employment locations – district plans</p>	98	<p>Method 1: District plan implementation</p> <p>Method 43: Analyse industrial employment locations</p> <p><b>Also see</b> – Air quality (Table 1) policy 1; Coastal environment (Table 2) policies 3 &amp; 5; Energy, infrastructure and waste (Table 3) policies 6, 7, 8 &amp; 10; Fresh water (Table 4) policy 11 &amp; 14; Historic heritage (Table 5) policy 21; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 &amp; 27; Natural hazards (Table 8a) policy 28; Regional form, design and function (Table 9) policies 29 &amp; 30; Soils and minerals (Table 11) policy 33 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 &amp; 38; Fresh water (Table 4) policies 39, 40, 41, 42 &amp; 44; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policies 50 &amp; 51; Regional form, design and function (Table 9) policies 53, 54, 55, 56 &amp; 57; Resource management with tangata whenua (Table 10) policies 47 &amp; 48; Soils and minerals (Table 11) policies 59</p>	<p>City and district councils</p> <p>Wellington Regional Strategy</p>	<p>137</p> <p>143</p>
<p>Policy 32: Supporting a compact, well designed and sustainable regional form – Regional Land Transport Strategy</p>	99	<p>Method 3: Wellington Regional Land Transport Strategy implementation</p> <p><b>Also see</b> – Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policies 7, 8 &amp; 9 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36 &amp; 52; Freshwater (Table 4) policies 40, 41, 42 &amp; 43</p>	<p>Wellington Regional Council</p>	<p>137</p>	

<sup>2</sup> Upper Hutt city centre; Lower Hutt city centre; Porirua city centre; Paraparaumu town centre; Masterton town centre; Petone; Kilbirnie; and Johnsonville.

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page	
<b>Objective 21</b> (Continued)	Policy 53: Achieving the region's urban design principles – consideration	118	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council, city and district councils	137	
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 52; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41, 42 & 44; Historic heritage (Table 5) policies 45; Indigenous ecosystems (Table 6a) policies 46; Landscape (Table 7) policies 49; Natural hazards (Table 8a) policies 50 & 51; Regional form, design and function (Table 9) policies 54, 55, 56, 57 & 58; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policies 59 & 60			
	Policy 54: Maintaining a compact, well designed and sustainable regional form – consideration	118	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137	
			Method 18: Regional structure planning guide	Wellington Regional Council*, city and district councils	140	
	Policy 55: Managing development in rural areas – consideration	119	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 52; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 40, 41, 42 & 44; Historic heritage (Table 5) policies 45; Indigenous ecosystems (Table 6a) policies 46; Landscape (Table 7) policies 49; Natural hazards (Table 8a) policies 50 & 51; Regional form, design and function (Table 9) policies 53, 54, 55, 56, 57 & 58; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policies 59 & 60		
				Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137
Policy 56: Integrating land use and transportation-consideration	120	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137		
		Method 25: Information about the provision of walking, cycling and public transport for development	Wellington Regional Council	140		
		<b>Also consider</b> – Coastal environment (Table 2) policy 52; Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policies 53, 54, 55 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60				

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 21</b> (Continued)	Policy 57: Co-ordinating land use with development and operation of infrastructure – consideration	121	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans  <b>Also consider</b> – Coastal environment (Table 2) policy 52; Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policies 53, 54, 55 & 56; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60	City and district councils	137
	Policy 58: Managing the Regional Focus Areas – consideration	121	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans  Method 45: Develop planning frameworks for each Regional Focus Area	City and district councils  Wellington Regional Strategy	137  143
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Energy, infrastructure and waste (Table 3) policies 38; Fresh water (Table 4) policies 39, 40, 41, 42 & 44; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policies 50 & 51; Regional form, design and function (Table 9) policies 53, 54, 55, 56 & 57; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policies 59 & 60		
	Policy 67: Maintaining and enhancing a compact, well designed and sustainable regional form – non-regulatory	131	Method 39: Sign the New Zealand Urban Design Protocol  Method 40: Integrate public open space  Method 44: Develop principles for rural-residential use and development  Method 46: Analyse the range and affordability of housing in the region	Wellington Regional Council and city and district councils  Wellington Regional Strategy  Wellington Regional Strategy  Wellington Regional Strategy	143  143  143



## 3.10 Resource management with tangata whenua

Tangata whenua have a special relationship with the land, air, water and natural resources. Various terms are used to describe tangata whenua of the Wellington region, including iwi, hapu, whanau, marae, and iwi authorities. Iwi are tribes, groups of Maori linked by common ancestry and with a common history. Hapu are sub-tribes, social and political units based on descent from a common ancestor. Whanau are extended family groups. Marae are important cultural institutions, facilities and community meeting places where significant events are held and decisions are made. Usually a hapu or whanau is associated with a marae.

The Treaty of Waitangi guarantees rangatiratanga, the right of tangata whenua to manage their lands and natural resources in accordance with cultural traditions. Tangata whenua today practice the environmental guardianship system, or kaitiakitanga, used by their ancestors. Kaitiakitanga is based on Maori views of the world and its origins, and the principle that everything is interrelated and interconnected. Mauri is the life force that exists in all things in the natural world. Tikanga, or customary practices, are followed in order to protect mauri. Observing tikanga is central to the exercise of kaitiakitanga. Kaitiakitanga is a parallel system of environmental management that should be given equal consideration in resource management.

Tangata whenua of the region consider that the region's natural and physical resources need to be managed in an integrated and holistic way in order to achieve a sustainable future. As such, all the resource management issues in this Regional Policy Statement are of significance to tangata whenua in the region. The following paragraphs describe additional issues of specific significance to iwi authorities in the Wellington region.

There are currently limited opportunities for ongoing involvement of tangata whenua in decision-making. This is an overarching issue that affects whether and how local authorities and iwi are able to work together. Iwi authorities have identified the following particular concerns:

- the principles of the Treaty of Waitangi are not taken into account in a systematic way in decision-making
- education and awareness of Treaty principles needs to be improved among local authority staff and elected members
- limited availability of resources to enable iwi to effectively engage in resource management processes
- lack of communication with iwi on how their concerns have been taken into account or acted on by local authorities
- a lack of consistency and coordination among local authorities with regard to resource management planning.

Mauri can be harmed by insensitive resource use. For example, the health and vitality of the sea, streams and rivers and the plants and animals they support can be threatened by activities – such as discharges of pollutants; stormwater and sewage; runoff of contaminants from land; excessive water use; changing the course of water bodies, or diverting water between catchments or rivers. Maori consider that rivers are the life blood of the land and that the wellbeing of natural resources is reflected in the wellbeing of people. Similarly, the mauri of the land and air and the plants and animals they support can be harmed by practices such as clearance of vegetation, soil disturbance and disposal of wastes.

Insensitive resource use also threatens mahinga kai (customary food gathering) and natural resources used for customary purposes. Tangata whenua are also sometimes prevented from accessing sites where customary resources are found. Degradation or loss of nga kai (traditional foods), mataitai (areas of importance for food gathering) and flora and fauna compromise the mana (authority) of tangata whenua by impairing their ability to fulfil their role and responsibilities in relation to kaitiakitanga and manaakitanga (their responsibilities of care for guests). Foods of traditional importance include, but are not limited to, forest kai, seafood, eels and whitebait.

Growth and development pressure on and around significant cultural heritage sites has led to widespread destruction and degradation of places, sites and areas with spiritual, cultural or historic heritage value of significance to tangata whenua.

The resource management issues of specific significance to iwi authorities in the Wellington region are:

- 1. Lack of involvement in resource management decision-making**  
Lack of tangata whenua involvement in resource management decision-making.
- 2. Loss of mauri**  
Loss of mauri, particularly in relation to fresh and coastal waters.
- 3. Quality, quantity and access to mahinga kai and natural resources used for customary purposes**  
Continuing loss of quality, quantity, and access to mahinga kai and natural resources used for customary purposes.
- 4. Degradation and destruction of spiritual and cultural historic heritage values**  
Degradation and destruction of places, sites and areas with spiritual, cultural or historic heritage value to tangata whenua.

Table 10: Resource management with tangata whenua Objectives 22, 23 & 24

Table 10: Resource management with tangata whenua Objective 25

Table 10: Resource management with tangata whenua Objective 26

Table 10: Resource management with tangata whenua Objective 27

Table 10: Resource management with tangata whenua objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<p><b>Objective 22</b> The region's iwi authorities and local authorities work together under Treaty partner principles for the sustainable management of the region's environment for the benefit and wellbeing of the regional community, both now and in the future.</p>	<p>Policy 66: Enhancing involvement of tangata whenua in resource management decision-making – non-regulatory</p>	131	Method 31: Engage tangata whenua and the community in identifying and protecting significant values	Wellington Regional Council and city and district councils	141
			Method 36: Involve tangata whenua in resource management decision making	Wellington Regional Council and city and district councils	142
			Method 37: Iwi authorities prepare planning documents	Iwi authorities*, Wellington Regional Council and city and district councils	142
			Consider alongside policies 1 to 60		
<p><b>Objective 23</b> The principles of the Treaty of Waitangi are taken into account in a systematic way when resource management decisions are made.</p>	<p>Policy 47: Principles of the Treaty of Waitangi – consideration</p>	111	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 19: Information to assist with the application of the Treaty of Waitangi principles in the region	Iwi authorities*, Wellington Regional Council and city and district councils	140
			Consider alongside policies 1 to 60		
<p><b>Objective 24</b> The concept of kaitiakitanga is integrated into the sustainable management of the Wellington region's natural and physical resources.</p>	<p>Policy 48: Avoiding adverse effects on matters of significance to tangata whenua – consideration</p>	112	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 37: Iwi authorities prepare planning documents	Iwi authorities*, Wellington Regional Council and city and district councils	138
			Consider alongside policies 1 to 60		
<p><b>Objective 25</b> Mauri is sustained, particularly in relation to coastal and fresh waters.</p>	<p>Policy 48: Avoiding adverse effects on matters of significance to tangata whenua – consideration</p>	112	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 37: Iwi authorities prepare planning documents	Iwi authorities*, Wellington Regional Council and city and district councils	142
<p>Other topic policies that have an important role in achieving objective 25 are:</p> <p>Policy 3: Discouraging development in areas of high natural character in the coastal environment – district and regional plans</p> <p>Policy 5: Maintaining and enhancing coastal water quality for aquatic ecosystem health – regional plans</p> <p>Policy 11: Maintaining and enhancing aquatic ecosystem health in water bodies – regional plans</p> <p>Policy 15: Promoting discharges to land – regional plans</p> <p>Policy 16: Protecting aquatic ecological function of water bodies – regional plans</p>					

Objectives	Policy titles	Page	Method titles	Implementation (* lead authority)	Page
<b>Objective 26</b> Mahinga kai and natural resources used for customary purposes, are maintained and enhanced, and these resources are healthy and accessible to tangata whenua.	Policy 48: Avoiding adverse effects on matters of significance to tangata whenua – consideration	112	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137
			Method 37: Iwi authorities prepare planning documents	Iwi authorities*, Wellington Regional Council and city and district councils	142
			Method 38: Prepare protocols for tangata whenua access to mahinga kai and natural resources used for customary purposes on public land	Iwi authorities, Wellington Regional Council and city and district councils	142
<b>Objective 27</b> Adverse effects on the cultural relationship of Maori with their ancestral lands, water, sites, wahi tapu and other taonga are avoided.	Other topic policies that have an important role in achieving objective 26 are:				
	Policy 3: Discouraging development in areas of high natural character in the coastal environment – district and regional plans				
	Policy 5: Maintaining and enhancing coastal water quality for aquatic ecosystem health – regional plans				
	Policy 11: Maintaining and enhancing aquatic ecosystem health in water bodies – regional plans				
	Policy 16: Protecting aquatic ecological function of water bodies – regional plans				
	Policy 22: Identifying indigenous ecosystems and habitats with significant biodiversity values – district and regional plans				
	Policy 23: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans				
Policy 48: Avoiding adverse effects on matters of significance to tangata whenua – consideration	112	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137	
		Method 13: Information about best practice for earthworks to protect Maori archaeological sites, other significant sites and koиви	Iwi authorities, Wellington Regional Council and city and district councils	139	
		Method 37: Iwi authorities prepare planning documents	Iwi authorities*, Wellington Regional Council and city and district councils	142	
		Method 48: Investigate use of Maori names for rivers, lakes and places of cultural significance in the region	Iwi authorities, Wellington Regional Council and city and district councils	143	
Other topic policies that have an important role in achieving objective 27 are:	Policy 20: Identifying places, sites and areas with significant historic heritage values– district and regional plans				
	Policy 21: Protecting historic heritage values – district and regional plans				
	Policy 22: Identifying indigenous ecosystems and habitats with significant biodiversity values – district and regional plans				
	Policy 23: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans				
	Policy 24: Identifying outstanding natural features and landscapes – district and regional plans				
Policy 25: Protecting outstanding natural features and landscape values – district and regional plans					



## 3.11 Soil and minerals

The soils of the Wellington region are an important source of its economic wealth, and overall wellbeing. They perform a range of important functions – such as absorbing, retaining and channelling water; supporting and sustaining vegetation and crops; storing and treating natural, domestic, and industrial waste; providing support for buildings and other structures; and, soils are a source of valuable minerals and construction materials.

As the life-giving base element of the land, soils are a significant taonga to Maori. The condition of the soil is a direct reading of the state of the land and this, in turn, reflects the health of the people.

Five major management challenges exist for soils and minerals in the region:

- preventing soil erosion
- maintaining soil health
- retaining productive soils for agricultural use
- preventing unsafe use of contaminated sites
- efficient mineral extraction.

Soil erosion leads to land degradation and loss of soil productivity, capability and versatility. Soils are subject to the natural forces of erosion, including rain, high winds, and ice action, which can cause slumping, slips, and the formation of scree slopes.

Nearly half the land in the Wellington region has little or no sign of soil erosion. This land does not have a high risk of accelerated erosion in the long term, so long as good management practices prevail.

About one third of the region is erosion prone land, which is more susceptible to accelerated soil erosion from poor land management practices. Accelerated soil erosion has occurred where there is pastoral grazing on erosion-prone land (predominantly in the eastern Wairarapa hills), wind erosion (as a result of the cultivation of arable soils in the Wairarapa Valley), large scale earthworks (associated with subdivisions and roading), and where the removal of native vegetation or the harvesting of plantation forestry are poorly executed on erosion prone land.

Off-site effects of soil erosion include reduction in water clarity in rivers and streams, degradation of aquatic habitat from sediment deposition on stream beds, downstream flooding and aggradation of river beds.

Long term predictions of changing weather patterns from climate change also suggest that there could be more frequent and intense rainstorm events in the region, which may cause more widespread damage to erosion prone land.

Soil health refers to the biological, chemical and physical qualities of the soil that support the soil's ecosystems. Unlike soil erosion problems, which are generally obvious, soil health problems are less evident, but no less important. Soil health can be compromised or degraded through contamination, compaction and the loss of minerals and nutrients.

Intensive land use and the desire to increase productivity of arable land has led to the use of phosphate-based fertilisers. Most of the cropping and horticultural land in the region has elevated levels of available phosphate. Phosphate attaches to soil particles and, if washed off land and into rivers, can promote nuisance aquatic weed or algal growth. Some areas are more prone to these problems than others.

On land used for dairying, and to a lesser extent for horticulture, there is evidence of soil compaction and elevated nitrogen concentrations. Soil compaction reduces soil pore spaces, which reduces water infiltration and increases run-off.

Soils contain the necessary minerals and nutrients to enable plants and animals to grow. A consequence of intensive farming is that soils are unable to sustain high levels of growth unless those minerals and nutrients are replaced. Soil monitoring to date shows that soil organic matter is slowly declining in arable soils in the region.

The region has a small amount of land that could be described as highly productive and suitable for multiple use such as for growing a wide range of crops, pasture and forest, and for supporting grazing animals. This land is described as Class I and II land under the Land Use Capability classification.

Class I and II land in the region is found in the river valleys of the Otaki and Ruamahanga rivers and around the townships of Otaki, Featherston, Greytown, Carterton, and Masterton. There is growing pressure to develop some of this land, especially around Otaki and Greytown. The total area of Class I land in the region is small, about 0.6 per cent of the total land area (4800 hectares). Class II land is about 1.7 per cent (13,800 hectares).

Contaminated land arises where hazardous substances are found or are reasonably likely to occur at levels that could have significant adverse effects on the environment. It is the legacy of poor land and/or waste management. There are more than 1,600 sites in the region that have a history of using, storing or manufacturing hazardous substances, including closed landfills. Contaminated land can make land unsuitable or unsafe for future land uses.

In the Wellington region, sand, rock, gravel and limestone are mined from rivers, beaches, coastal cliffs and inland quarries. Oil and gas exploration are also ongoing in parts of Wairarapa and Kapiti. As the region's population continues to expand, the demand for mineral resources, particularly aggregate (crushed rock used in building, roading and other construction), will increase. Mineral resources are fixed in location, unevenly distributed and finite. Extraction processes, sites and transportation routes can create adverse environmental effects. If activities sensitive to the effects of extraction and processing are established nearby, reverse sensitivity can arise – such as a new garden centre needing to screen itself from dust.

Similarly, the transportation of mineral resources around, through and out of the region can give rise to adverse effects. There are benefits to allowing extraction and processing by extractive industries as close as possible to the location of use of the final product to avoid distributing adverse effects across a greater area than necessary to meet the need for these resources.

The regionally significant resource management issues for soils and minerals are:

**1. Accelerated soil erosion**

Some land management practices accelerate soil erosion and reduce soil quality. Soil loss can lead to increased sedimentation of waterways and subsequent effects on the coastal marine area. Soil loss can also decrease farm production, soil biodiversity and ecosystem function.

Table 11:  
Soils and minerals  
Objectives 28 & 29

**2. Reduction of soil health**

Some land use practices are reducing the health and productive capability of soil, leading to the loss of its life-supporting capacity.

Table 11:  
Soils and minerals  
Objective 29

**3. Highly productive agricultural land under threat from development**

The Wellington region has a small total area of highly productive agricultural land (Class I and II land). This land is under threat from development, including residential development and the construction of roads.

Table 11:  
Soils and minerals  
Objective 29

**4. Contaminated land**

Some land where hazardous substances have been manufactured, used or stored – such as gas works, petrol stations, landfills, and sheep dips – have contaminated soils. Development of that land for new uses may not be safe if soils are contaminated.

Table 11:  
Soils and minerals  
Objective 29

**5. Limited mineral resources**

There are limited mineral resources in the region and demand for these will increase. The benefits of extracting mineral resources locally are greater than sourcing it from outside the region. If the extraction of mineral resources within the region is constrained, demand will have to be met from outside the region, with higher social, economic and environmental costs.

Table 11:  
Soils and minerals  
Objective 30

Table 11: Soils and minerals objectives and titles of policies and methods to achieve the objectives

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page
<b>Objective 28</b> Land management practices do not accelerate soil erosion.	Policy 14: Minimising the effects of earthworks and vegetation disturbance – district and regional plans	87	Method 1: District plan implementation	City and district councils	137
			Method 2: Regional plan implementation	Wellington Regional Council	137
			Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
			<b>Also see</b> – Coastal environment (Table 2) policies 3 & 5; Energy, infrastructure and waste (Table 3) policy 6; Fresh water (Table 4) policies 11, 13, 16 & 17; Indigenous ecosystems (Table 6a) policy 23; Landscape (Table 7) policies 25 & 27; Natural hazards (Table 8a) policy 28 <b>and consider</b> – Coastal environment (Table 2) policies 34, 35, 36, 37 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 41, 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60		
	Policy 40: Minimising the effects of earthworks and vegetation disturbance – consideration	107	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and City and district councils	137
			Method 30: Protocols for management of earthworks and air quality between local authorities	Wellington Regional Council* and city and district councils	141
			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35, 36 & 39; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policies 39, 41, 42; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 & 55; Resource management with tangata whenua (Table 10) policies 47 & 48; Soils and minerals (Table 11) policy 60		

Objectives	Policy titles	Page	Method titles	Implementation (*lead authority)	Page	
<b>Objective 28</b> (Continued)	Policy 68: Minimising soil erosion – non-regulatory	132	Method 15: Information about sustainable land management practices	Wellington Regional Council	139	
			Method 29: Take a whole of catchment approach to works, operations and services	Wellington Regional Council* and city and district councils	141	
<b>Objective 29</b> Soils maintain those desirable physical, chemical and biological characteristics that enable them to retain their ecosystem function and range of uses.			Method 35: Support industry-led environmental accords and codes of practice	Wellington Regional Council and city and district councils	142	
			Method 54: Assist landowners to protect erosion prone land	Wellington Regional Council	144	
		Policy 33: Avoiding activities on contaminated land – district plans	99	Method 1: District plan implementation	City and district councils	137
				Method 24: Database of sites at risk of contamination	Wellington Regional Council	140
				<b>Also see</b> – Energy, infrastructure and waste (Table 3) policies 6 & 7; Regional form, design and function (Table 9) policies 29, 30 & 31 <b>and consider</b> Energy, infrastructure and waste (Table 3) policy 38; Regional form, design and function (Table 9) policy 54; Resource management with tangata whenua (Table 10) policies 47 & 48;		
<b>Objective 30</b> The demand for mineral resources is met from local sources as much as possible.	Policy 59: Retaining highly productive agricultural land (Class I and II land) – consideration	122	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	City and district councils	137	
			<b>Also consider</b> – Freshwater (Table 4) policies 40, 41, 43 & 44; Regional form, design and function (Table 9) policies 54 & 55; Energy, infrastructure and waste (Table 3) policy 38; Resource management with tangata whenua (Table 10) policies 47 & 48			
	Policy 69: Preventing long-term soil deterioration – non-regulatory	132	Method 15: Information about sustainable land management practices	Wellington Regional Council	139	
			Method 29: Take a whole of catchment approach to works, operations and services	Wellington Regional Council* and city and district councils	141	
	Policy 60: Utilising the region's mineral resources – consideration	123	Method 4: Resource consents, notices of requirement and when changing, varying or replacing plans	Wellington Regional Council and city and district councils	137	
			Method 51: Identify the region's significant mineral resources	Wellington Regional Council	144	
			<b>Also consider</b> – Coastal environment (Table 2) policies 34, 35 & 36; Fresh water (Table 4) policies 42 & 43; Historic heritage (Table 5) policy 45; Indigenous ecosystems (Table 6a) policy 46; Landscape (Table 7) policy 49; Regional form, design and function (Table 9) policy 55; Resource management with tangata whenua (Table 10) policies 47 & 48			