

# **5 Land and Soil Module**



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## 5.1 Accelerated Erosion\*

### Background and Explanation

Erosion is a natural phenomenon which results in soil losses and water quality degradation. New Zealand is geologically young and active and, as a result, the natural level of erosion is high by international standards. Changes to the vegetative cover of the land brought about by activities such as farming, introduction of pests, burning, forestry, road construction and urban development reduce protection against erosive forces and lead to accelerated erosion. Soil is a finite resource. Once erosion has occurred, the productivity of the soil rarely returns to its former level.

### Erosion Prone Areas

Although much of the Waikato Region's 2.5 million hectares is relatively stable, the National Land Resource Inventory has identified over one million hectares affected to some degree by erosion, with almost 36,000 hectares ranked as severe to extreme. A further 400,000 hectares is classified as having severe erosion potential.

Soil erosion susceptibility is the result of a complex set of interactions between soil type, climate, vegetative cover, terrain characteristics (slope and aspect) and land management practices. Some land types are more susceptible to accelerated erosion than others. Susceptible land types generally include hill country and the banks of rivers and lakes. In addition, some soils such as pumice soils are more prone to erosion than others. In the Waikato Region, accelerated erosion occurs in different forms depending on the locality.

Erosion prone areas in the Waikato can be grouped as follows:

**a) The Central Volcanic Area**

Includes the pumice land around Taupo, Kaingaroa and Mamaku. The soils lack coherence, making them prone to severe gully, sheet, rill, stream bank and wind erosion in situations where there is insufficient vegetative cover or water control. It is only when there is insufficient vegetative cover or water control that these soils are high erosion risk soils.

**b) The Western and Central Hill Country**

Includes the hill country extending along the Waikato's west coast and becoming more dissected in the north. The central hill country consists principally of the Hapuakohe Range and the southern section of the Hunua Range. Overlain with volcanic ash, these hills are prone to sheet erosion, particularly where heavy livestock are grazed on steep land. This part of the Region also includes karst landscapes and caves. Cave systems are particularly vulnerable to disruption caused by sediment input or works that alter airflow characteristics.

**c) The Eastern Ranges**

Parts of the Kaimai, Coromandel and Hapuakohe Ranges. High rainfall in these areas exacerbates erosion effects. Downstream estuaries on the Coromandel Peninsula are vulnerable to accelerated infilling from sediment that threatens the ecological values of these areas.

**d) The Coastal Margins**

The dune systems of the east (Coromandel) and west coasts act as natural buffers against coastal hazards. These areas are prone to wind erosion.

**e) River and Lake Banks**

Rivers across the entire Region are affected by erosion. River and lake banks are subject to the erosive force of water, which can be exacerbated by land use activities that damage or disturb the banks and beds of rivers and lakes. Erosion of the beds of rivers and lakes is addressed in Module 4 River and Lake Beds.

**f) Pukekohe, Bombay and Pukekawa Hills**

Cultivated soils around Pukekohe, Bombay and Pukekawa. These soils are prone to high rates of soil erosion due to frequency and extent of cultivation for food production. Open cultivated ground is prone to severe rill and sheet erosion during high intensity or prolonged rain events.

Water yields, and consequently, sediment yields from surface and stream bank erosion, have increased in catchments which have been largely cleared of forest, for example, the Waipa Catchment. Land use also has a major effect on the sediment loads in rivers. Erosion prone areas such as the weathered volcanics in the Coromandel Peninsula or the tertiary mudstones in the King Country yield higher levels of suspended sediment under agriculture than under forest.

Based on these erosion prone areas, Issue 5.1.1 identifies seven parts of the Region that are at particular risk from the adverse effects of land use activities. These areas are estuaries of Coromandel catchments, cave and karst systems, steep hill country, sand dune areas, areas adjacent to estuaries and river and lake banks.

**Causes of Accelerated Erosion**

Accelerated erosion is generally caused by activities that disturb or expose the soil to the erosive forces of gravity and rainwater. Climatic or weather conditions combined with human activity can accentuate soil erosion. For example, severe and intense storm events may increase the rate of accelerated erosion.

Different land uses have different effects. For example, forestry operations may have positive effects on land and water for the period that trees are growing and a period of adverse effects associated with land disturbance from harvesting. In contrast, erosion from pastoral activities may occur at reasonably constant rates for long periods, as there may be minimal protection against erosion.

Data from a wide variety of sources, including forestry industry research, shows the main land uses contributing to accelerated erosion are agriculture, earthworks, roading and tracking activities, establishment and harvesting of forests, and mining. In catchments undergoing land use changes, sediment yields increase as vegetation cover is reduced, exposing the soil surface.<sup>26</sup>

A wet winter period may saturate the ground increasing its susceptibility to accelerated erosion if used in an inappropriate manner. On land with high erosion potential, land managers need to be aware of, and take into account, the local weather conditions. The level of knowledge and experience of land managers is a major contributing factor to the severity of accelerated erosion arising from specific land disturbance activities. There are well-documented land management procedures and good practices that can minimise accelerated erosion and subsequent adverse environmental effects.

The adoption of inappropriate land management practices, or the use of land for purposes to which it is not suited, are major contributors to erosion problems. For example, soil disturbance on steep slopes may lead to a high risk of accelerated erosion. Overgrazing by livestock and uncontrolled browsing by pests may damage vegetation to the extent that it no longer adequately protects the soil from erosion.

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<sup>26</sup> Auckland Regional Council. 1996: The Environmental Impacts of Accelerated Erosion and Sedimentation. ARC Technical Division, Technical Publication no. 69, Auckland Regional Council, Auckland.

## 5.1.1 Issue

Some land use activities in parts of the Waikato Region can create a high risk of accelerated erosion of soil resources.

Accelerated soil erosion can cause:

- a) loss of soil productivity, capability and versatility reducing the ability of the Region's soil resource to provide for the economic, social and cultural well being of the community
- b) high suspended sediment loads in streams reducing water quality and smothering aquatic ecosystems
- c) land instability hazards particularly in steep hill country
- d) downstream sedimentation increasing the rate of infilling of the Region's lakes, estuaries, artificial watercourses, rivers, wetlands and cave systems resulting in loss of aquatic habitats and increased risk of flooding
- e) significant adverse effects on the relationship tangata whenua as Kaitiaki have with their taonga, such as ancestral lands, water, and waahi tapu
- f) significant adverse effects on natural character and ecological values associated with land including the loss of areas of significant indigenous vegetation and significant habitats of indigenous fauna<sup>27</sup> and the margins of rivers and lakes and the coastal environment, including dune systems
- g) the discharge of particulate matter into the air to levels that will be inconsistent with the Objectives in Chapter 6.1
- h) property damage, threats to infrastructure.

The High Risk Erosion Areas\* of the Region that are particularly at risk from these activities are:

- i) Steep hill country throughout Region
- ii) coastal sand country on the west coast and coastal frontal dunes on the east coast
- iii) areas adjacent to estuaries
- iv) areas of high intensity rainfall or areas of light unconsolidated soils, where there is insufficient vegetative cover, insufficient surface water control, or intensive cultivation
- v) the banks of rivers, lakes and wetlands across the Region
- vi) catchments of estuaries that are areas of significant conversation value on the Coromandel Peninsula
- vii) karst and cave systems.

## 5.1.2 Objective

A net reduction of accelerated erosion across the Region so that:

- a) soil productivity, versatility and capability is maintained
- b) there are no adverse effects on water quality, aquatic ecosystems and wetlands that are inconsistent with Water Management Objective 3.1.2
- c) there is no increase in the adverse effects of flooding or land instability hazards
- d) accelerated infilling of lakes, estuaries, rivers, wetlands and cave systems is avoided and the rate of infilling of artificial watercourses, excluding structures designed to trap sediment, is minimised
- e) significant adverse effects on the relationship tangata whenua as Kaitiaki have with their identified ancestral taonga such as ancestral lands, water and waahi tapu are avoided

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<sup>27</sup> Refer to Appendix 3 of the RPS.

- f) cumulative adverse effects on the relationship tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water, waahi tapu are remedied or mitigated.
- g) significant adverse effects on natural character and ecological values associated with land and the coastal environment including dune systems is avoided
- h) there are no adverse effects on air quality that are inconsistent with Air Quality Objective 6.1.2, Objectives 2 and 3
- i) damage to property and infrastructure is avoided

in particular in High Risk Erosion Areas together with:

- i) Catchments of estuaries that are areas of significant conservation value on the Coromandel Peninsula
- ii) Karst and cave systems.

### **Principal Reasons for Adopting the Objective**

Use of the words 'net reduction in accelerated erosion...' indicates that Waikato Regional Council is seeking to reduce accelerated erosion across the Region, recognising that this will not be possible in all circumstances, and that in some areas accelerated erosion may continue to occur. For a net reduction in accelerated erosion to be achieved it will be necessary for ongoing accelerated erosion in some places to be offset by significantly reduced accelerated erosion in other places. For guidance on interpretation of this expression refer to the policy framework in this Chapter in conjunction with Section 1.3.3 of the Waikato RPS.

The effects addressed in parts a) to h) are only addressed within this Chapter insofar as they are impacted upon or are caused by accelerated erosion. These parts of the objective flow directly from Issue 5.1.1.

The productivity and versatility of soils are vital for the Region, since soils with these qualities sustain a wide range of productive land uses. **Part a)** indicates that it is important to maintain these characteristics of soil.

The reference in **part b)** regarding Water Management Objective 3.1.2 establishes a link between this Chapter and the relevant objective in Chapter 3.2 of this Plan. Accelerated erosion may have significant adverse effects on water bodies and should be managed in manner that is consistent with the relevant water management objectives.

**Part c)** recognises that while natural hazards occur naturally and are beyond our management, adverse effects from these hazards should not be increased as a result of land uses that cause accelerated erosion.

**Part d)** recognises that infilling occurs naturally and will continue to do so. Where practicable, the entry of sediment into water bodies should be avoided so that the rate of accelerated infilling is not significantly greater than that which would occur naturally.

Accelerated erosion may also have impacts on the relationship tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water, and waahi tapu. Land use activities may also expose or adversely affect waahi tapu or cultural heritage sites. **Part e)** recognises that the statutory duty to manage accelerated erosion should avoid significant adverse effects on the relationship tangata whenua as Kaitiaki have with their ancestral lands, water, sites, waahi tapu and other taonga.

**Part f)** recognises that there are effects which may be smaller scale but which together add up to adversely affecting identified taonga, such as ancestral lands, water and waahi tapu. These adverse effects are more easily remedied or mitigated as they

occur through resource consent conditions or non-regulatory methods such as education or incentives.

Module 2 Matters of Significance to Maori identifies the process in which Maori and Waikato Regional Council can work together to identify the areas of interest to tangata whenua, in regards to the specific resource, that will facilitate a greater awareness of these matters in the management of this resource.

Erosion may have significant impacts on the natural character and ecological values associated with land. For example, erosion may adversely affect areas of significant indigenous vegetation and significant habitats of indigenous fauna through the discharge of sediment or the destruction of habitat. **Part g)** recognises that the management of accelerated erosion should avoid significant adverse effects on these values.

Accelerated erosion may result in the release of particulate matter into the air that may have adverse effects on human health and flora and fauna. The reference in **part h)** regarding Air Quality Objective 6.1.2, Objectives 2 and 3, establishes a link between this chapter and the relevant objectives in Module 6 Air.

**Part i)** recognises that property damage, threats to infrastructure and adverse effects on the natural character of coastal dune systems should be avoided and managed when undertaking land uses in the coastal environment.

The final part of Objective 5.1.2 identifies areas of the Region where there is a high risk of the adverse effects identified in the objective occurring. These areas represent areas of high erosion risk due to slope or proximity to the coastal marine area, rivers, lakes and wetlands or to cave systems that have been identified in Issue 5.1.1.

The coastal environment (and especially coastal dune systems) are particularly at risk from wind and sea erosion. Human activity should avoid any interruption with the physical and ecological processes that ensure the dynamic stability of these systems. The Regional Coastal Plan contains Waikato Regional Council's objectives in respect of the coastal marine area. By contrast the coastal environment covers a wider area and includes the coastal marine area as well as landward features. This Plan only addresses those parts of the coastal environment landward of the coastal marine area. The Coromandel catchments and their areas of significant conservation value are included due to potential increased sedimentation threatening to adversely affect the ecological values of these areas.

Cave systems are particularly vulnerable to any disruption caused by sediment input or works that alter airflow characteristics. Activities in these systems need to be undertaken in a manner that minimises any such adverse effects. Waikato Regional Council is seeking that adverse effects of accelerated erosion in these areas are avoided in order to prevent adverse effects occurring.

### 5.1.3 Policies

#### **Policy 1: Managing Activities that Cause or Have the Potential to Cause Accelerated Erosion and Encouraging Appropriate Land Management Practices**

Through permitted activities and non-regulatory methods manage activities that cause or have the potential to cause accelerated erosion, with particular regard to:

- a) the potential for the activity to adversely affect the purpose of the water management classes as identified in the policies in Section 3.2.2, and the coastal marine area
- b) the risk of downstream sedimentation leading to accelerated infilling of lakes, estuaries, artificial watercourses, rivers, wetlands and caves

- c) the erosion potential of soil when it is disturbed or vegetation is cleared
- d) the potential to increase the adverse effects of flooding
- e) the potential to adversely affect waahi tapu and archaeological sites or other identified sites of importance to tangata whenua as Kaitiaki
- f) the potential to adversely affect natural character of the coastal environment and the margins of rivers, lakes and wetlands and areas of significant indigenous vegetation and significant habitats of indigenous fauna<sup>28</sup>
- g) the potential to compromise air quality objectives as identified in Module 6 Air
- h) the potential to damage property and infrastructure.

**Policy 2: Use of Regulatory and Non-Regulatory Approaches of Management for Soil Disturbance/Vegetation Clearance Activities in High Risk Erosion Areas<sup>29\*</sup>**

Waikato Regional Council will use a mixture of regulatory and non-regulatory approaches to:

- a) minimise the adverse effects of soil disturbance and vegetation clearance in high risk erosion areas
- b) minimise the accelerated infilling of Coromandel estuaries that are listed as areas of significant conservation value in the Regional Coastal Plan
- c) minimise adverse effects of soil disturbance activities in karst environments on cave ecosystems.

**Policy 3: Promote Good Practice**

Promote, through environmental education, good practice guides and incentives, soil and land management practices that avoid adverse effects on soil productivity, capability and versatility and the off-site effects of sediment discharge, and remedies or mitigates these effect if they do occur.

**Policy 4: Approved Operators Approach**

Identify methods to reduce regulatory requirements for land managers or operators who are certified under a registered operators system for soil and land managers and who can demonstrate a proven record of good environmental practice and performance.

**Explanation and Principal Reasons for Adopting the Policies**

The policy approach adopted provides for managing, through a regulatory approach, soil disturbance and vegetation clearance activities in those high risk areas identified in Objective 5.1.2, and permitting all activities that may cause or have the potential to cause accelerated erosion outside of these areas. The policies promote the use of

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<sup>28</sup> Refer to Appendix 3 of the RPS.

<sup>29</sup> **High risk erosion area:** Means any part of any activity area (where the activity is not otherwise permitted):

- a) where the pre-existing slope of the land exceed 25 degrees; or
- b) on coastal frontal dunes on the East Coast; or
- c) on coastal sand country on the West Coast (Mokau to Karioitahi) where loose sands are at the ground surface or within 10 centimetres of the surface; or
- d) within 50 metres landward of the coastal marine area of an estuary, except in the landward margin of an authorised stopbank; or
- e) adjacent to water bodies (including ephemeral watercourse draining catchments greater than 100 hectares, but excluding any other ephemeral rivers or streams), where:
  - i) the land slope is between 0 degrees to 15 degrees – within 10 metres from any lake, wetland or the bed of a river or lake, or
  - ii) the land slope is greater than 15 degrees – within that distance from the wetland, the bed of a river or lake, or from mean high water springs to the first point at which the slope reduces to 15 degrees or less, or 100 metres (whichever is the lesser, outside the minimum distance described in i).

This definition is illustrated in Figure 5-1 in Chapter 5.1.4

non-regulatory methods in all areas to assist with achieving Objective 5.1.2 and encourage good practice and seek to reduce the regulatory requirements for certified operators.

The purpose of **Policy 1** is to indicate that Waikato Regional Council will use permitted activity rules and other non-regulatory methods to provide certainty to resource users as to appropriate land use practices and to acknowledge such practices by removing the need for resource consents for complying activities. Parts a) to h) flow from Objective 5.1.2 and identify that any activities able to achieve these standards consistently given best practice should be enabled by the Plan.

**Policy 2** indicates that Waikato Regional Council will use a mixture of regulatory and non-regulatory approaches to managing soil disturbance and vegetation clearance activities in high risk erosion areas. The criteria to define high risk erosion areas outlined in Issue 5.1.1 are defined in the Glossary of this Plan. A mixture of regulatory and non-regulatory approaches is necessary in these areas in order to minimise any significant adverse effects occurring as a result of land use activities.

The promotion of good practice through environmental education, good practice guides and incentives as provided in **Policy 3** is an effective means of encouraging soil productivity, versatility and capability outside of high risk erosion areas. It is also an effective way of communicating measures that help to avoid the off-site effects of sediment in all areas.

**Policy 4** provides a mechanism by which Council can reward good operators who have demonstrated that they can and do meet the requirements of an appropriate certification system and who have a proven record of good environmental practice and performance. Council intends to investigate, develop and implement an approved operators system that will reduce the regulatory requirements for those who qualify for registration. This system will be developed and implemented in conjunction with those people/organisations that undertake land use activities and those who represent them.

## **5.1.4 Implementation Methods – Accelerated Erosion**

### **5.1.4.1 Environmental Education**

Waikato Regional Council will, through environmental education programmes, raise awareness within the regional community:

1. of sustainable soil management practices for activities that cause accelerated erosion and how these practices can be implemented
2. on how to undertake retirement and/or rehabilitation of land subject to severe accelerated erosion
3. of the value of ‘care’ groups to avoid the adverse effects of accelerated erosion and remedy or mitigate these effects if they do occur
4. on the significance of cave karst landscapes and land use practices that avoid, remedy or mitigate adverse effects on them.

### **5.1.4.2 Investigation**

Waikato Regional Council will undertake, and where appropriate, encourage investigation into:

1. the extent to which different activities cause accelerated erosion, contribute sediment to water bodies and adversely affect aquatic and estuarine habitats
2. the location, extent, severity and causes of accelerated erosion in the Waikato Region
3. the adverse effect of activities causing accelerated erosion,

4. sustainable land management practices.

**5.1.4.3 Good Practice**

Waikato Regional Council will, in conjunction with relevant organisations, industry groups and individuals undertaking activities causing accelerated erosion, provide guidance on the development, implementation and review of good practice techniques or appropriate codes of practices.

**5.1.4.4 Economic Incentives**

Waikato Regional Council will consider providing funding contributions for the promotion and implementation of new initiatives that assist in resolving accelerated erosion problems within the Region.

**5.1.4.5 Property Management Plans/Environmental Management Systems**

Waikato Regional Council will encourage and assist landowners with the development and implementation of property management plans and environmental management systems that identify erosion risk areas and measures to avoid, remedy or mitigate adverse environmental effects of land use activities.

**5.1.4.6 Investigate Approved Operators Approach**

Waikato Regional Council will investigate the workability of an 'approved operators approach' with respect to soil disturbance and vegetation clearance activities in the Waikato Region and initiate a change to the Plan if such an approach is appropriate.

**5.1.4.7 Joint Plans/Strategies**

Waikato Regional Council will promote the preparation and implementation of joint plans, strategies or agreements with territorial authorities to address accelerated erosion issues. Priority will be given to joint plans, strategies or agreements for:

1. the Region's karst landscapes
2. the Coromandel and west coast estuaries
3. the Lake Taupo Catchment.

**5.1.4.8 Information, advice and comments on Land Use Consent Applications**

Waikato Regional Council will provide information, advice and comments and, if appropriate, submissions on consent applications submitted to territorial authorities where such applications may result in adverse effects on soil conservation, land stability, erosion hazards and dune systems. A formal process for the advice on land use consent applications and provision of comments, advice and submissions will be developed in conjunction with territorial authorities.

**5.1.4.9 Effects of Livestock Management**

If the current extent of adverse effects attributable to livestock having access to water bodies is not reduced significantly at the time of Plan review or by 2005, whichever is the sooner, then rules to exclude livestock from water bodies identified by Method 3.9.4.6 as being particularly sensitive to land use effects, will be promoted as part of the Plan review or by way of a Plan change.

**5.1.4.10 Part XII RMA Enforcement**

Waikato Regional Council will apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where an activity breaches conditions of rules or has the effects listed in Policy 1.

Land use practices that may result in or increase the potential for, the adverse effects listed in Issue 5.1.1 to occur include:

1. intensive mob stocking and inappropriate livestock type
2. livestock grazing on river and lake banks and beds
3. vegetation clearance on slopes greater than 25 degrees that are not revegetated within six to 12 months
4. soil disturbance activities where there is inadequate sediment and runoff control
5. soil disturbance on sand dunes and in the margins of the coastal marine area.

#### 5.1.4.11 Permitted Activity Rule – Soil Disturbance, Roding and Tracking and Vegetation Clearance

1. Unless otherwise provided for by Rules 5.1.4.14, 5.1.4.15, 5.1.4.16 or 5.1.4.17, soil disturbance, roding and tracking, and vegetation clearance and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air;
2. Any roding and tracking activities associated with the installation of bridges or culverts permitted by Rules 4.2.8.1, 4.2.9.1 and 4.2.9.2, within 20 metres of that bridge or culvert and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air;
3. Vegetation clearance of planted production forest as planted at the date upon which this Plan becomes operative;

are **permitted activities** subject to the conditions in Section 5.1.5. In addition 5.1.4.11(3) is subject to the following conditions:

- a) Provided that replanting of planted production forest does not occur within:
  - i) five metres, on either side, of the bed of a water body excluding an ephemeral stream (except on the Coromandel Peninsula); and
  - ii) ten metres, on either side of the bed of a water body excluding an ephemeral stream on the Coromandel Peninsula streams greater than 50 hectares
  - iii) five metres on either side of the bed of water bodies between 20 and 50 hectares on the Coromandel Peninsula regardless of slope;
- b) On the Coromandel Peninsula where wilding pines are present at a density of greater than 50 stems per kilometre of riparian margin they will all be removed at first thinning so long as practicable from a safety perspective.

#### Advisory Notes:

- District plans may have rules which restrict land disturbance and vegetation clearance in areas outside of high risk erosion areas.
- Grazing and cultivation are excluded from the requirements of this Rule.

#### 5.1.4.12 Permitted Activity Rule – Soil Cultivation Adjacent to Water Bodies

Except as controlled by Rules 7.2.6.1 and 7.2.6.2 soil cultivation not less than two metres from the bed of a river or lake and any subsequent discharge of contaminants into water or air is a **permitted activity** subject to the following conditions:

- a) The concentration of suspended solids discharged from the activity shall not result in any of the following receiving water standards being breached:
  - i) in Waikato Region Surface class waters - 100 grams per cubic metre suspended solids concentration
  - ii) in Indigenous Fisheries and Fish Habitat class waters - 80 grams per cubic metre suspended solids concentration
  - iii) in Trout Fisheries and Trout Spawning Habitat class waters - 25 grams per cubic metre suspended solids concentration

- iv) in Contact Recreation class waters - black disc horizontal visibility greater than 1.6 metres.
- v) in Natural State class waters - the activity or discharge shall not increase the concentration of suspended solids in the receiving water by more than 10 percent.

Condition a) shall apply, except where the suspended solids concentration or black disc horizontal visibility in the receiving water is greater than the standards specified, at the time and location of discharge or of undertaking the activity. Then there shall not be any increase (i.e. further deterioration) in the receiving water suspended solids concentration or black disc horizontal visibility of more than 20% as a result of the activity or discharge.

The point at which compliance with this standard shall be measured is after reasonable mixing has occurred which in any instance does not exceed 200 metres from the point of discharge.

**Advisory Note:**

- The bed of a river is defined by the diagram in Chapter 4.1 of this Plan.

**5.1.4.13 Discretionary Activity Rule – Soil Disturbance, Roding and Tracking and Vegetation Clearance**

1. Any soil disturbance, roding and tracking, and vegetation clearance and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air that does not comply with the conditions of Permitted Activity Rule 5.1.4.11;
2. Soil cultivation within two metres of the bed of a river or lake that does not comply with Rule 5.1.4.12;

are **discretionary activities** (requiring resource consent).

**Advisory Notes:**

- District plans may have rules, which restrict land disturbance and vegetation clearance in areas outside of high risk erosion areas.
- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.4.1 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 1 of Section 5.1.3.

**5.1.4.14 Controlled Activity Rule – Soil Disturbance, Roding and Tracking and Vegetation Clearance, Riparian Vegetation Clearance in High Risk Erosion Areas<sup>30</sup>**

Except as restricted by Rule 5.1.4.16, the following activities, occurring in any continuous 12 month period and located in a high risk erosion area:

1. Roding and tracking activities between 100 and 2,000 metres in length, or

<sup>30</sup> **High risk erosion area:** Means any part of any activity area (where the activity is not otherwise permitted):

- a) where the pre-existing slope of the land exceed 25 degrees; or
- b) on coastal frontal dunes on the East Coast; or
- c) on coastal sand country on the West Coast (Mokau to Karioitahi) where loose sands are at the ground surface or within 10 centimetres of the surface; or
- d) within 50 metres landward of the coastal marine area of an estuary, except in the landward margin of an authorised stopbank; or
- e) adjacent to water bodies (including ephemeral watercourses draining catchments greater than 100 hectares, but excluding any other ephemeral rivers or streams), where:
  - iii) the land slope is between 0 degrees to 15 degrees – within 10 metres from any lake, wetland or the bed of a river or lake, or
  - iv) the land slope is greater than 15 degrees – within that distance from the wetland, the bed of a river or lake, or from mean high water springs to the first point at which the slope reduces to 15 degrees or less, or 100 metres (whichever is the lesser, outside the minimum distance described in i).

This definition is illustrated in Figure 5-1 in Chapter 5.1.4

2. Soil disturbance activities between 250 and 1,000 cubic metres in volume (solid measure), or
3. Soil disturbance activities between 0.2 and 2.0 hectares in area, or
4. Soil disturbance activities resulting in a cut slope batter exceeding three metres in vertical height over a cumulative distance between 30 and 120 metres in length, or
5. Vegetation Clearance of between one and five hectares with the exclusion of planted production forests, plant pests as specified in the Waikato Regional Council's Regional Pest Management Strategy and vegetation clearance adjacent to a Natural State water body as shown on the Water Management Class Maps
6. Vegetation clearance which is within five metres on either side, of the banks of a water body excluding an ephemeral stream, and which is between 50 to 100 metres in length per kilometre of that water body, with the exclusion of planted production forests and vegetation in riparian margins adjacent to planted production forest, riparian enhancement and replanting programmes and plant pests as specified in the Waikato Regional Council's Pest Management Strategy.
7. Vegetation clearance within five metres on either side of the banks of a water body excluding an ephemeral stream of greater than 50 metres in length per kilometre of that water body of:
  - a) Planted production forest (except as provided for in Rule 5.1.4.11(3) and/or vegetation in riparian margins adjacent to planted production forest; or
  - b) Vegetation associated with riparian enhancement programmes.
8. Any roading and tracking activities associated with the installation of a bridge or culvert controlled by Rules 4.2.8.2 and 4.2.9.3, within 20 metres of that bridge or culvert;

and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air are **controlled activities** (requiring resource consent) subject to the standards and terms as specified in Section 5.1.5.

Waikato Regional Council reserves control over the matters that are specified in Section 5.1.6.

**Exclusion to Rule 5.1.4.14:**

- a) This Rule shall not apply to vegetation clearance within high risk erosion areas and riparian vegetation clearance where it is for the express purposes of erosion control or natural hazard mitigation, provided Waikato Regional Council is notified in writing at least ten (10) working days prior to the activity commencing. (Rule 5.1.4.11 applies).
- b) This Rule shall not apply to the clearance of planted production forest where the clearance is for the express purpose of constructing access across the bed of a river where the crossing structure and associated earthworks are otherwise permitted by this plan or a resource consent.

**Notification:**

1. Subject to 2. below applications for resource consents under this Rule will be considered without notification.
2. Notice of applications for vegetation clearance under this Rule other than:
  - clearance of planted production forest,
  - vegetation clearance in riparian margins adjacent to planted production forest, or
  - riparian enhancement and replanting programmes

will be served on all adversely affected persons.

**Advisory note:**

- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.4.1 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 2 of Section 5.1.3.
- For the disposal of materials in high risk erosion areas generated by activities under Rule 5.1.4.14 refer to Rules 5.2.5.1, 5.2.5.2 and 5.2.5.3.
- For vegetation clearance by way of burning also refer to Section 6.1.12 of this Plan.
- For vegetation clearance by way of spraying agrichemicals also refer to Section 6.2.4 of this Plan.
- Applicants are advised to consult with the relevant district plan to determine whether district rules apply.
- Grazing and cultivation are excluded from the requirements of this Rule.
- Solid measure may be approximated by calculating the volume of soil that has been disturbed multiplied by a factor of 0.8 to account for the bulking up of soil when disturbed.

**5.1.4.15 Discretionary Activity Rule – Soil Disturbance, Roding, Tracking, Vegetation Clearance, Riparian Vegetation Clearance in High Risk Erosion Areas**

Except as restricted by Rule 5.1.4.16 the following activities, occurring in any continuous 12 month period and located in a high risk erosion area:

1. Roding and tracking activities exceeding 2,000 metres in length
2. Soil disturbance activities exceeding 1,000 cubic metres in volume (solid measure)
3. Soil disturbance activities exceeding two hectares in area
4. Soil disturbance activities resulting in a cut slope batter exceeding three metres in vertical height over a cumulative distance exceeding 120 metres in length
5. Vegetation clearance exceeding five hectares with the exclusion of planted production forests (except those restricted by Rule 5.1.4.16), and plant pests as specified in the Waikato Regional Council's Regional Pest Management Strategy
6. Riparian vegetation clearance which is within five metres on either side of the banks of a perennial water body which exceeds 100 metres in length per kilometre, with the exclusion of planted production forests, riparian enhancement programmes and plant pests as specified in the Waikato Regional Council's Regional Pest Management Strategy
7. Any riparian vegetation clearance within five metres of a Natural State water body as shown on the Water Management Class Maps except:
  - i) that which is required as part of the construction of a walking track no greater than two metres width, and
  - ii) the control of plant pests as specified in the Waikato Regional Council's Regional Pest Management Strategy
8. Any activity specified in Rules 5.1.4.14 and 5.1.4.16, that does not comply with the conditions and standards and terms in Section 5.1.5;

and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air are **discretionary activities** (requiring resource consent).

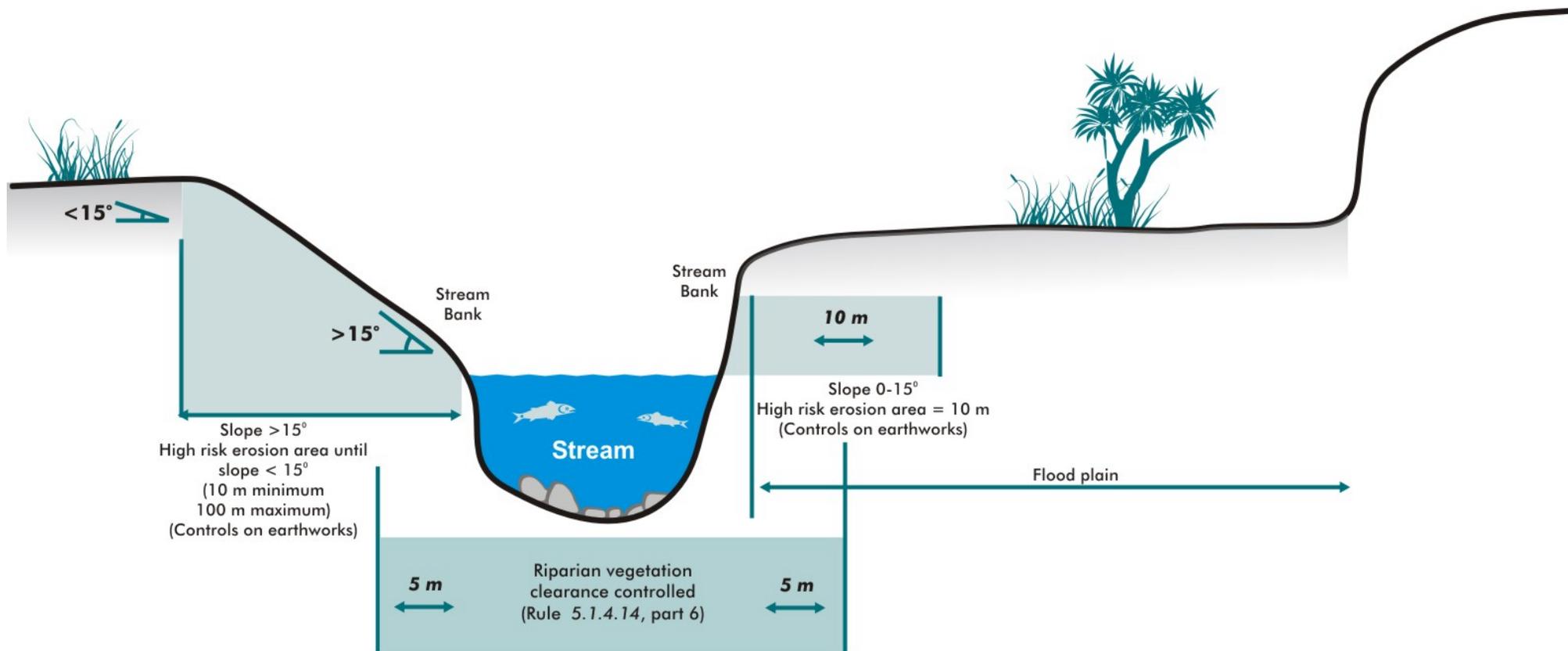
**Exclusions to Rule 5.1.4.15:**

This Rule shall not apply to vegetation clearance within high risk erosion areas and riparian vegetation clearance where it is for the express purposes of erosion control or natural hazard mitigation, provided Waikato Regional Council is notified in writing at least ten (10) working days prior to work commencing. (Rule 5.1.4.11 applies).

**Advisory Notes:**

- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.4.1 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 2 of Section 5.1.3.
- For vegetation clearance by way of burning also refer to Section 6.1.12 of this Plan.

- For vegetation clearance by way of spraying agrichemicals also refer to Section 6.2.4 of this Plan.
- Applicants are advised to consult with the relevant district plan to determine whether district rules apply.
- Grazing and cultivation are excluded from the requirements of this Rule.
- Solid measure may be approximated by calculating the volume of soil that has been disturbed multiplied by a factor of 0.8 to account for the bulking up of soil when disturbed.



**Figure 5-1 Application of Regional Rules Adjacent to Water Bodies**

#### 5.1.4.16 **Controlled Activity Rule – Vegetation Clearance in Catchments Draining into Coromandel Peninsula Estuaries**

Vegetation clearance exceeding 50 hectares per annum on slopes greater than 20 degrees within the catchments of the Coromandel, Whangapoua, Whitianga, Tairua, Wharekawa, Whangamata, Manaia, Colville Bay, Waikawau, Purangi and Otahu estuaries and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air is a **controlled activity** (requiring resource consent) subject to the standards and terms in Section 5.1.5.

Waikato Regional Council reserves control over the matters that are specified in Section 5.1.6.

##### **Notification:**

- a) Notice of applications for vegetation clearance of planted production forest will be served only on hapu and iwi of the area where the activity is to occur.
- b) Notice of applications for vegetation clearance other than clearance of planted production forest will be served on hapu and iwi of the area where the activity is to occur and on all adversely affected persons.

Limited notification to such hapu and iwi is to enable consideration as to whether the activity adversely affects their relationship as tangata whenua with their ancestral sites, waahi tapu or other taonga. Waikato Regional Council can provide contact details of hapu or iwi for the relevant area.

##### **Advisory Notes:**

- Information requirements to enable the assessment of any application under this rule are set out in Section 8.1.4.1 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 2 of Section 5.1.3.
- For vegetation clearance by way of burning also refer to Section 6.1.12 of this Plan.
- For vegetation clearance by way of spraying agrichemicals also refer to Section 6.2.4 of this Plan.
- Applicants are advised to consult with the relevant district plan to determine whether district rules apply.

#### 5.1.4.17 **Discretionary Activity Rule – Soil Disturbance/Vegetation Clearance in Karst Landscapes**

The following activities in karst landscapes:

1. any soil disturbance or vegetation clearance activity undertaken within the catchment of, or 10 metres of, whichever is the lesser, a sinkhole or cave entrance
2. the creation of a new entrance to a cave or soil disturbance within a cave;

and any associated deposition of slash into or onto the beds of rivers and any subsequent discharge of contaminants into water or air are **discretionary activities** (requiring resource consent).

##### **Advisory Notes:**

- Information requirements to enable the assessment of any application under this Rule are set out in Section 8.1.4.2 of this Plan. In addition, assessment shall also take into account the matters identified in Policy 2 of Section 5.1.3.
- For vegetation clearance by way of burning also refer to Section 6.1.12 of this Plan.
- For vegetation clearance by way of spraying agrichemicals also refer to Section 6.2.4 of this Plan.
- Applicants are advised to consult with the relevant district plan to determine whether district rules apply.

## 5.1.5 Conditions for Permitted Activity Rule 5.1.4.11 and Standards and Terms for Controlled Activity Rules

- a) Organic material shall not be placed in fill where its subsequent decomposition will lead to land instability.
- b) Erosion/sediment controls shall be installed and maintained on all earthworks during and on completion of the works to avoid the adverse effects of sediment on water bodies.
- c) Cut-offs or culverts shall be designed and installed to prevent scour, gulying or other erosion.
- d) Any erosion or instability of the coastal environment, or the beds of rivers and lakes or wetlands shall be avoided or remedied if it does occur.
- e) The activity shall not result in neighbouring land becoming subject to flooding.
- f) All disturbed vegetation, soil or debris shall be deposited or contained to prevent the movement of disturbed matter so that it does not result in:
  - i) the diversion, damming or blockage of any river or stream, or
  - ii) the passage of fish being impeded, or
  - iii) the destruction of any habitat in a water body or coastal water, or
  - iv) flooding or erosion.
- g) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan, in any district plan, in the New Zealand Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where Historic Places Trust approval has been obtained.
- h) The concentration of suspended solids in any point source discharge arising from the activity shall comply with the suspended solids standards as set out in Method 3.2.4.6. This condition applies only to permitted activity rules and excludes any non-point source discharges from roading, tracking and vegetation clearance activities (refer condition o) below).
- i) Any discharge of contaminants into air arising from the activity shall comply with the permitted activity conditions in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- j) In the event of any waahi tapu that is not subject to g) above being identified by the Waikato Regional Council to the person undertaking the activity, the activity shall cease insofar as it may affect the waahi tapu. The activity shall not be recommenced without the approval of the Waikato Regional Council.
- k) No storage or mixing of fuels, oils, or agrichemicals shall be undertaken in areas where deliberate or inadvertent discharge is likely to enter any permanent natural surface water body.
- l) All vegetation that is being felled within five metres of a perennial water body shall be felled away from the water body, except edge vegetation, or vegetation leaning over a water body, which if necessary may be felled in accordance with safety practices.
- m) All exposed areas of soil resulting from the activity shall be stabilised against erosion by vegetative cover or other methods as soon as practical following completion of the activity and no later than six to twelve months from the date of disturbance to avoid the adverse effects of sediment on water bodies.
- n) The activity shall not be located within 20 metres of a Significant Geothermal Feature.
- o) The concentration of suspended solids in any non-point discharges from roading, tracking and vegetation clearance activities shall meet the following standards;
  - i) The activity or discharge shall not result in any of the following receiving water standards being breached:
  - ii) in Waikato Region Surface class waters - 100 grams per cubic metre suspended solids concentration
  - iii) in Indigenous Fisheries and Fish Habitat class waters - 80 grams per cubic metre suspended solids concentration

- iv) in Trout Fisheries and Trout Spawning Habitat class waters - 25 grams per cubic metre suspended solids concentration
- v) in Contact Recreation class waters - black disc horizontal visibility greater than 1.6 metres
- vi) in Natural State class waters - the activity or discharge shall not increase the concentration of suspended solids in the receiving water by more than 10 percent

Standard a) shall apply, except where the suspended solids concentration or black disc horizontal visibility in the receiving water is greater than the standards specified, at the time and location of discharge or of undertaking the activity. Then there shall not be any increase (i.e. further deterioration) in the receiving water suspended solids concentration or black disc horizontal visibility of more than 20% as a result of the activity or discharge.

The point at which compliance with this standard shall be measured is after reasonable mixing has occurred which in any instance does not exceed 200 metres from the point of discharge.

- p) Soil disturbance associated with the construction of a road or track within 20 metres of a culvert or bridge provided for in Rules 4.2.8.1, 4.2.8.2, 4.2.9.1, 4.2.9.2 and 4.2.9.3;
  - i) Shall not occur adjacent to Significant Indigenous Fisheries and Fish Habitat Class waters during August to December inclusive and Significant Trout Fisheries and Trout Habitat class waters during May to September inclusive; and,
  - ii) Shall be stabilised against erosion by vegetative cover or other methods as soon as practical following completion of the activity and no later than two months from the date of disturbance to avoid the adverse effects of sediment on water bodies; and
  - iii) The location of the proposed soil disturbance shall be notified to the Waikato Regional Council in writing at least 10 working days prior to commencing construction.

**Advisory Note:**

- Where a waahi tapu site is identified whilst undertaking the activity, the process that Waikato Regional Council will follow in order to implement condition/standard and term j) is set out in Section 2.3.4.22 of this Plan.
- Where a structure or activity is to be located in, on, under or over the bed of a water body that is Significant Geothermal Feature, Rules 7.6.6.1 to 7.6.6.3 shall apply. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

## 5.1.6 Matters over which Waikato Regional Council will Reserve Control

Waikato Regional Council reserves control over the following matters:

- i) Measures to maintain slope stability or prevent exacerbation of any pre-existing deep-seated land instability.
- ii) The carrying out of measurements, samples, analyses, surveys, investigations or inspections.
- iii) The method of sediment retention and sediment runoff control to be adopted.
- iv) Measures to avoid, remedy or mitigate damage to riparian vegetation or soil.
- v) Measures to avoid, remedy or mitigate damage to any lawfully established structures.
- vi) The location, timing of construction, design and density of soil disturbance and vegetation removal activities.

- vii) Any measures necessary to rehabilitate the land following the completion of the activity.
- viii) Measures to avoid, remedy or mitigate damage the adverse effect of the activity on areas of significant indigenous vegetation and significant habitats of indigenous fauna<sup>31</sup>, and significant natural features such as cave and karst systems and outstanding landscapes.
- ix) Measures to control the effect on air quality from objectionable particulate matter.
- x) Effects on any waahi tapu or other taonga from the activity.
- xi) Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- xii) Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.

**Advisory Note:**

- The imposition of consent conditions under matters x), xi) and xii) shall take into account the policy direction provided in Policies 1 and 2 in Sections 2.3.3 in addition to specific policies in this chapter of the Plan.

**Explanation and Principal Reasons for Adopting Methods 5.1.4.1 to 5.1.4.17**

The above methods provide the range of non-regulatory and regulatory methods as provided for in the policies in Section 5.1.3 to achieve Objective 5.1.2. The non-regulatory methods can be used either separately or in conjunction with the rules.

Environmental education programmes as provided for in **Method 5.1.4.1** are an effective means of providing resource users with information on how they can improve their land management practices.

**Method 5.1.4.2** recognises that there is incomplete knowledge of accelerated erosion in the Region. Waikato Regional Council will undertake and encourage relevant investigations and monitoring to improve this knowledge and refine this chapter. Investigations may be undertaken by Waikato Regional Council or a number of different organisations including crown research institutes, or other organisations or individuals.

**Method 5.1.4.3** acknowledges that many individuals and organisations have adopted good practices including codes of practice and environmental management systems that are designed to avoid, remedy or mitigate adverse environmental effects. Environmental management systems provide a systematic framework for ensuring an organisation complies with environmental legislation and improves its performance.

**Method 5.1.4.4** provides for economic incentives to be used to meet the objectives of this Plan. Economic incentives may be used in circumstances where financial considerations are an obstacle to bringing about practices that avoid, remedy or mitigate accelerated erosion.

Waikato Regional Council has produced a handbook entitled 'Funding for Environmental Projects' which provides information on sources of funding support for environmental projects based in the Waikato Region. These funding sources include Waikato Regional Council and other agencies/organisations. This booklet is available from Waikato Regional Council offices.

**Method 5.1.4.5** provides that through the development and implementation of property management plans or environmental management systems, landowners, with the assistance of Waikato Regional Council, will be able to identify erosion risk areas and measures that will avoid, remedy or mitigate adverse effects of land use activities. These plans are voluntary and will also assist in promoting sustainable land

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<sup>31</sup> Refer to Appendix 3 of the RPS.

management in conjunction with environmental education initiatives under Method 5.1.4.1.

**Method 5.1.4.6** provides a means by which to investigate the workability and possible implementation of an approved operators approach with respect to soil disturbance and vegetation clearance activities in the Waikato Region. This approach provides the possibility of recognising the skills of competent operators and as such allowing them to be excluded from resource consent requirements for soil disturbance and vegetation clearance activities.

**Method 5.1.4.7** recognises that land use issues affect both regional council and territorial authority functions in regard to land. The preparation and implementation of joint plans, strategies or agreements will enable territorial authorities and Waikato Regional Council to develop plans, strategies or agreements that cover both regional council and territorial authority responsibilities under one plan. This will ensure that in those areas where joint plans, strategies or agreements are developed that there will be consistent objectives and consent requirements for land use activities. The four priority areas identified in this method are areas where Waikato Regional Council considers that a joint plan, strategy or agreement would assist in fulfilling both regional council and territorial authority functions.

**Method 5.1.4.8** is included because land use consent applications submitted to territorial authorities often have the potential to affect soil conservation issues. Territorial authorities send many of their consent applications to Waikato Regional Council for comment. Waikato Regional Council recognises that providing information, advice or comments on these consent applications is an effective means by which to address soil conservation issues and ensure that land instability is addressed during consideration of subdivision and other land use consent applications.

Waikato Regional Council will monitor the adverse effects caused by livestock on the beds and banks of rivers and lakes. If there is no noticeable improvement in the current situation through the use of non-regulatory methods in this Plan, Waikato Regional Council will consider introducing regional rules when the Plan is reviewed or by 2005, whichever is the sooner. **Method 5.1.4.9** gives an early indication of future methods such as a regulatory 'backstop' that Waikato Regional Council will use, where voluntary action by landowners has not taken place and where significant adverse effects of unrestricted livestock access are still occurring.

Section 17 of the RMA places a duty on every person to avoid, remedy or mitigate adverse environmental effects. As provided for in **Method 5.1.4.10** where land management practices that occur in areas outside high risk erosion areas and below the thresholds identified in Rules 5.1.4.14 and 5.1.4.15, result in the adverse effects noted in Policy 2 parts a) and b), Waikato Regional Council will apply for enforcement orders and issue abatement notices under Part XII of the RMA. This may require a person to cease or prohibit them from commencing an activity that may result in those effects occurring.

**Rule 5.1.4.11** makes it clear that soil disturbance, roading and tracking and vegetation removal are permitted activities, provided they are outside high risk erosion areas and undertaken below the thresholds identified in Rules 5.1.4.14, 5.1.4.15 and 5.1.4.16. It should be noted that there might also be district plan rules, which restrict land disturbance activities in areas outside of high risk erosion areas, for example earthworks controls on subdivision.

**Rule 5.1.4.12** makes soil cultivation more than two metres from the bed of a river or lake a permitted activity. Soil cultivation adjacent to river and lake beds can lead to high sediment inputs into streams resulting in infilling of watercourses, damage to aquatic habitats and degradation of water quality.

**Rule 5.1.4.13** provides for those situations where an activity cannot comply with the conditions of Rule 5.1.4.11 and occurs outside of a high risk erosion area and the requirements of Rule 5.1.4.12.

Parts 1, 2, 3 and 4 of **Rule 5.1.4.14** focus on soil disturbance and roading and tracking activities because data from a wide range of sources including industry and research shows that these are the activities that cause the greatest levels of erosion and sediment runoff. They are therefore the activities that have the potential to cause the most significant adverse effects.

The purpose of part 5 of Rule 5.1.4.14 is to control the clearance of vegetation, other than planted production forests and plant pests, in high risk erosion areas. Removal of vegetation in high risk erosion areas may result in accelerated erosion leading to adverse effects on waterways hence this Plan requires consent to be obtained if clearing vegetation between one and five hectares.

Plant pests are excluded from Rule 5.1.4.14 because Waikato Regional Council has a regional pest management strategy that encourages the clearance of these plants.

Planted production forests are excluded from Rule 5.1.4.14 because harvesting and replanting of production forestry is cyclical, with a relatively short period of risk for potential mass movement erosion on harvested slopes compared to land uses which do not rapidly re-establish protective woody vegetation.

Where land use activities requiring a number of resource consents are proposed over an area of operation, these could be applied for in one package. Submitting a management plan or management system that details methods for avoiding, remedying or mitigating the significant adverse effects of an activity may be an appropriate method of ensuring that significant adverse effects are appropriately managed and may fulfil resource consent requirements.

Part 6 of Rule 5.1.4.14 is included because vegetation removal within five metres of and between 50 and 100 metres along, a perennial water body may result in erosion of the stream bank with subsequent adverse effects. Erosion may be caused by the physical action of removing the woody vegetation and subsequent weakening and dying of the roots.

Five metres from a water body is specified because this is considered to be a distance where the removal of vegetation from that area would have direct adverse effects on stream bank stability. A five metre riparian strip will buffer the aquatic habitat from surrounding land use and protect the banks of the stream.

The 50 to 100 metres distance in part 6 of Rule 5.1.4.14 allows minor or small areas of vegetation to be removed alongside water bodies. Where 50 metres or more of vegetation is removed the potential for adverse effects increase and are therefore subject to control. If less than 50 metres of vegetation is removed and adverse effects occur as a result, Waikato Regional Council will apply for Part XII enforcement mechanisms to require the person to fulfil the duty referred to in s17 of the RMA.

Planted production forestry and riparian enhancement programmes are excluded from part 6 of Rule 5.1.4.14 because riparian areas subject to these activities are either replanted or left to revert to natural vegetation. Riparian enhancement programmes assist with maintaining stream bank stability and improving and enhancing water quality and habitat.

Part 7 of Rule 5.1.4.14 is included to give certainty that planted production forestry and riparian enhancement programmes within five metres of a perennial stream and greater

than 50 metres in length per kilometre are able to occur. These activities result in riparian areas being replanted or reverting to natural vegetation in order to prevent adverse effects on perennial water bodies.

Rule 5.1.4.14 focuses on all water bodies in the Region because this is consistent with advocating streamside management along all water bodies in Chapter 3.9 of this Plan.

**Rule 5.1.4.15** provides for activities that do not comply with the standards and terms of the controlled activities and are likely to have significant adverse effects. For example, in the case of Natural State water bodies the clearance of vegetation within five metres may cause inputs of sediment and nutrients that adversely affect water quality. Rules 5.1.4.14 and 5.1.4.15 would not prevent the removal of a small number of trees over a limited area.

The intention of the high risk erosion area definition is to restrict the application of Rules 5.1.4.14 and 5.1.4.15 to the areas specified in the definition and to permit activities that fall outside of this definition. Only the works done within high risk erosion areas shall be subject to length, volume and area thresholds specified in Rules 5.1.4.14 and 5.1.4.15. In the case of an existing road or track the pre-existing slope does not refer to a cut batter.

**Figure 5-1** illustrates the application of regional rules in areas adjacent to water bodies. The application of the controls on soil disturbance and vegetation clearance are intended to reduce the likelihood of disturbed sediment entering water bodies and to prevent erosion of river and lake banks. The driving force of slope is therefore an important controlling parameter. Rule 5.1.4.14 establishes a minimum fixed width for riparian areas, in this case on each side of the stream. The purpose is to preserve the main portion of existing riparian vegetation that maintains the aquatic habitat. The establishment, maintenance and enhancement of riparian areas are promoted through advocacy and education in Chapter 3.9 of this Plan.

The purpose of **Rule 5.1.4.16** is to protect the Coromandel, Whangapoua, Whitianga, Tairua, Wharekawa, Whangamata, Manaia, Colville Bay, Waikawau, Purangi and Otahu estuaries from sedimentation that is occurring due to land use activities in these catchments. These estuaries are particularly affected by sedimentation since the commencement of land clearance for mining, kauri logging, farming and production forestry. These estuaries have been included in this Rule because they have been specifically identified as having very high sedimentation rates, and have been identified in the Regional Coastal Plan as Areas of Significant Conservation Value.

**Rule 5.1.4.17** is included to prevent uncontrolled soil disturbance and vegetation clearance adjacent to a stream sink or cave entrance and uncontrolled creation of new cave entrances. Such activities may cause adverse effects on water quality and sedimentation within the cave system. Soil disturbances and vegetation clearance may also compromise the natural values of a karst system through the entry of sediment, changes in air and water flow regimes and the introduction of foreign matter.

**Section 5.1.6** sets out those matters which Waikato Regional Council has chosen to retain control over. These are matters that are best considered on an individual consent basis, as they may vary according to specific circumstances of a particular consent.

The 25° slope in part a) of the high risk erosion area definition is only a trigger factor and the degree of slope is not the sole factor to be assessed. Soil type and underlying geology are often more relevant than the degree of slope.

## 5.1.7 Environmental Results Anticipated

1. A reduction of the areas within the Region affected by accelerated erosion.
2. Improved water quality as a result of reduced severity of accelerated erosion.
3. Reduced rates of accelerated infilling of estuaries, lakes, artificial watercourses, rivers and karst systems.
4. Maintenance of the life supporting capacity of soils.
5. Greater public awareness of the importance of maintaining stable productive soils.
6. Maintenance of the ecological values associated with land.

## 5.1.8 Monitoring Options

Objective	Indicators/ Measurements	Types of Monitoring	Information Source
<p>Net reduction in accelerated erosion across the Region, in particular in</p> <ul style="list-style-type: none"> <li>• Steep hill country</li> <li>• In coastal sand country on the west coast and coastal frontal dunes on the east coast</li> <li>• Areas adjacent to estuaries</li> <li>• Areas of high intensity rainfall or areas of light unconsolidated soils, where there is insufficient vegetative cover, insufficient surface water control, or intensive cultivation</li> <li>• The banks of rivers and lakes and wetlands across the Region</li> <li>• Catchments of estuaries that are areas of significant conservation value on the Coromandel Peninsula</li> <li>• Karst and cave systems.</li> </ul>	<p>Land cover (use/type/area condition).</p> <p>Land use relative to land capability.</p> <p>Extent and frequency of slipping.</p> <p>Develop and update soil loss by erosion indicator.</p> <p>Develop and update sediment in rivers and streams indicator for selected catchments.</p> <p>Develop and update a estuary infilling indicator for selected estuaries.</p> <p>Develop and update a beach erosion indicator.</p>	<p>Satellite imagery, aerial photographs at five yearly intervals.</p> <p>Regional trend monitoring.</p> <p>Compliance and effects monitoring.</p> <p>Monitoring of selected catchments, estuaries and coastlines.</p> <p>Site specific investigation of karst systems.</p>	<p>Land use/cover database.</p> <p>Resource consents database.</p> <p>Compliance monitoring database.</p> <p>Aerial photographs.</p> <p>Complaints, enquiries and submissions database.</p> <p>Care group databases.</p> <p>Satellite imagery.</p> <p>Site specific investigations and surveys.</p>
<p>Soil productivity, versatility and capability maintained.</p>	<p>Develop and update soil quality indicators for different land uses.</p> <p>Update land use/land cover indicators. Land use relative to land capability.</p>	<p>Regional trend monitoring. Compliance and effects monitoring, soil quality monitoring.</p>	<p>Land use/cover database.</p> <p>Vegetation and wetlands database.</p> <p>Soil quality database.</p> <p>Central government databases.</p> <p>Aerial photographs.</p> <p>Satellite imagery.</p>

<b>Objective</b>	<b>Indicators/ Measurements</b>	<b>Types of Monitoring</b>	<b>Information Source</b>
There are no adverse effects on water quality, aquatic ecosystems and wetlands that are inconsistent with Water Management Objective 3.1.2.	Refer to monitoring options for Water Management Objective 3.1.2.	Refer to monitoring techniques for Water Management Objective 3.1.2.	Refer to information sources for monitoring options for Water Management Objective 3.1.2.
There is no increase in the adverse effects of flooding and land instability.	Update land use/land cover indicator. Develop and update soil loss by erosion indicator. Develop and update sediment in rivers and streams indicator for selected catchments. Develop and update a estuary infilling indicator for selected estuaries.	Regional trend monitoring. Compliance and impact monitoring.	Land use cover database. Vegetation and wetlands database. Resource consents database. Compliance monitoring database. Care group databases.
Accelerated infilling of lakes, estuaries, rivers, wetlands and cave systems avoided and the rate of infilling of artificial watercourses excluding structures designed to trap sediment minimised.	As above – Land cover. Extent and frequency of slipping. Sediment levels in water bodies.	Region trend monitoring. Compliance and impact monitoring.	Land use/cover database. Vegetation and wetlands database. Resource consents database. Compliance monitoring database. Care group databases.
Significant adverse effects on the relationship tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu are avoided.	Complaints from tangata whenua. Damage to areas of significance to tangata whenua.	Ongoing surveys of attitudes held by central government, other resource management agencies, resource users, community groups, environmental groups and Waikato Regional Council staff.	Perception survey database. Iwi/Maori databases. Resource consents databases. Compliance monitoring database. Central government databases.
Cumulative adverse effects on the relationship tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu are remedied or mitigated.	Complaints from tangata whenua. Damage to areas of significance to tangata whenua.	Ongoing surveys of attitudes held by central government, other resource management agencies, resource users, community groups, environmental groups and Waikato Regional Council staff.	Perception survey database. Iwi/Maori databases. Resource consents databases. Compliance monitoring database. Central government databases.

<b>Objective</b>	<b>Indicators/ Measurements</b>	<b>Types of Monitoring</b>	<b>Information Source</b>
Significant adverse effects on natural character and ecological values associated with land and coastal dune systems avoided.	<p>Update indicator on extent of native vegetation.</p> <p>Develop and update indicator on fragmentation of native vegetation.</p> <p>Update indicator on number, extent and type of wetlands.</p> <p>Develop and update indicator on area and type of wetlands legally protected.</p> <p>Develop and update indicators on site specific condition of wetlands, river and lake margin health.</p> <p>Develop and update indicator on coastal development on Coromandel beaches.</p>	<p>Ongoing surveys of attitudes held by central government, other resource management agencies, resource users, community groups, environmental groups and Waikato Regional Council staff.</p> <p>Site specific investigations and surveys.</p>	<p>Land use/cover databases.</p> <p>Vegetation and wetlands database.</p> <p>Resource consents database.</p> <p>Compliance monitoring databases.</p> <p>Care group databases.</p> <p>Iwi/Maori databases.</p> <p>Territorial authority files.</p> <p>Central government databases.</p> <p>Perception survey database.</p> <p>Complaints, enquiries and submissions database.</p> <p>Aerial photographs.</p> <p>Site specific investigations and surveys.</p>
There are no adverse effects on air quality that are inconsistent with Air Management objective 6.1.2.	Refer to monitoring options for Air Management objective 6.1.2.	Refer to monitoring techniques for Air Management objective 6.1.2.	Refer to information sources for monitoring options for Air Management objective 6.1.2.
Damage to property or infrastructure avoided.	<p>Land cover.</p> <p>Extent of slipping.</p> <p>Sediment levels in water bodies.</p> <p>Develop and update indicator on coastal developments at risk on ocean beaches.</p> <p>Develop and update indicator on beach erosion.</p>	<p>Regional trend monitoring.</p> <p>Compliance and effects monitoring.</p> <p>Sediment in streams monitoring programmes</p> <p>Changes in area of slip erosion monitoring.</p>	<p>Resource consents database.</p> <p>Compliance monitoring database.</p> <p>Aerial photographs.</p> <p>Incidents and accidents.</p> <p>Site specific investigations and surveys.</p>
<p>In particular High Risk Erosion Areas together with:</p> <p>Catchments of estuaries that are areas of significant conservation value on the Coromandel Peninsula.</p> <p>Karst and cave systems.</p>	<p>Land cover (use/type/area condition).</p> <p>Land use relative to land capability.</p> <p>Extent and frequency of slipping.</p>	<p>Regional trend monitoring.</p> <p>Compliance and effects monitoring.</p>	<p>Land use/cover databases.</p> <p>Resource consents database.</p> <p>Monitoring databases.</p> <p>Aerial photographs.</p> <p>Complaints, enquiries and submissions database.</p> <p>Care group databases.</p>

## 5.2 Discharges Onto or Into Land

### Background and Explanation

The discharge of contaminants onto or into land is an essential part of many resource use activities throughout the Region. In the absence of rules in regional plans enabling these discharges, most would require resource consents. The definition of contaminant\* in the RMA is sufficiently wide to include discharges of relatively benign products such as irrigation water, soil conditioners and fertilisers, as well as hazardous substances, wastes and other products that may have significant adverse effects. The activities covered in this Chapter are:

- a) cleanfill and overburden disposal
- b) dumps and offal holes on production land
- c) landfills
- d) composting of green waste and other organic material
- e) dust suppression.

### Integration with Water and Air Management

This Chapter focuses on discharges of contaminants onto or into land where the primary effects of the discharge are likely to be on the land and soil resource in terms of soil contamination, increased risk from natural hazards or infilling of sensitive environments. However, the discharge of contaminants onto or into land can affect other natural and physical resources such as air or water. There are many examples of discharges onto or into land that occur in the Region which may not cause soil contamination or adversely affect land but may have other adverse effects such as objectionable odour.

Discharges to air such as those from abrasive blasting which will primarily affect air quality but may result in discharges of contaminants to land in some circumstances are addressed more fully in Chapters 6.1 and 6.2.

Discharges onto or into land, such as on-site sewage, farm animal effluent discharges, stormwater, fertiliser use and the use of treated biosolids as fertiliser substitutes are unlikely to cause significant soil contamination. The primary effects of these discharges are mainly related to water quality which is discussed in Chapter 3.5. Discharges onto or into land around geothermal features are addressed in Module 7 Geothermal.

The methods developed in Chapters 3.5, 6.1, 6.2 and Module 7 Geothermal take into account the objective and policy directions developed in this Chapter.

### Integration with Accelerated Erosion Management

This Chapter deals with the adverse effects of discharges onto or into land, soil and water. There is an overlap with Chapter 5.1, which addresses the adverse effects of soil disturbance activities such as moving or removing soil, land contouring, blading, cutting of batters, blasting, extraction and roading and tracking. Chapter 5.2 addresses soil disturbance and vegetation clearance where soil from the disturbance is disposed of as cleanfill or overburden. Some of these activities may result in the discharge or overburden into specific sites. In those circumstance there is a discharge into or onto land that requires a consent under s15 of the RMA, unless enabled by a rule in a plan. This Chapter addresses these discharges.

### Meaning of Significant Risk

This Chapter uses the term “significant risk”, when referring to activities that may have the effect of contaminating soil. Significant risk in terms of chemical contamination of soils can be determined through reference to relevant guidelines. The process of developing New Zealand specific guidelines for managing risk from hazardous

substances is underway through the development of regulations under the Hazardous Substances and New Organisms Act 1996 and the development of guidelines for managing contaminated sites<sup>32</sup>. Where New Zealand specific guidelines do not exist, relevant guidelines from overseas organisations such as the Australia/New Zealand Environment and Conservation Council (ANZECC) or the United States Environmental Protection Agency (USEPA) can be used. Decision-makers will need to determine which of these overseas guidelines is most appropriate for the activity being considered.

## 5.2.1 Issue

**The discharge of wastes and hazardous substances into or onto land can cause:**

- a) **contamination of soils with pathogens, heavy metals, pesticides, hydrocarbons and other persistent hazardous substances to levels that:**
  - i) **present significant risks to human health or the wider environment**
  - ii) **reduce the versatility and productive capacity of the soil environment**
- b) **adverse effects on the significant characteristics of air quality**
- c) **contamination of surface water and ground water with substances such as nutrients, pathogens and persistent hazardous substances to levels that present risks to human health, aquatic habitats and the wider environment through processes such as surface run-off, acid drainage, leaching and ground water percolation**
- d) **downstream sedimentation increasing the rates of infilling of the Region's lakes, estuaries, artificial watercourses, rivers, wetlands and cave systems resulting in loss of aquatic habitats, increased risk of flooding**
- e) **increased risk of flooding and land instability hazards**
- f) **adverse effects on the relationship that tangata whenua as Kaitiaki have with their taonga such as ancestral lands, water and waahi tapu.**

## 5.2.2 Objective

Discharges of wastes and hazardous substances onto or into land undertaken in a manner that:

- a) does not contaminate soil to levels that present significant risks to human health or the wider environment
- b) does not have adverse effects on aquatic habitats, surface water quality or ground water quality that are inconsistent with the Water Management objectives in Section 3.1.2
- c) does not have adverse effects related to particulate matter, odour or hazardous substances that are inconsistent with the Air Quality objectives in Section 6.1.2
- d) is not inconsistent with the objectives in Section 5.1.2
- e) avoids significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their taonga such as ancestral lands, water and waahi tapu
- f) remedies or mitigates cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu.

### **Principal Reasons for Adopting the Objective**

The objective acknowledges that discharges onto or into land are a necessary facet of resource use in the Waikato Region and, subject to environmental standards, should be allowed to occur.

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<sup>32</sup> For example, Ministry of Health and Ministry for the Environment. 1997: *The Health and Environmental Guidelines for Selected Timber Treatment Chemicals*. Ministry of Health and Ministry for the Environment, Wellington.

Part a) acknowledges that the discharge of chemicals onto or into land should not contaminate soils beyond specific threshold levels at which soil versatility declines and other adverse effects begin to occur. These thresholds represent the point at which the risks to human health or the wider environment from soil contamination become significant. If soils are contaminated above these levels, they will be considered unsafe for their current uses and the range of existing and foreseeable uses of the soil will be restricted.

Parts b) and c) recognise the interconnected nature of the environment so that when managing discharges onto or into land, effects on water and air quality must also be taken into account. Part d) addresses issues associated with Chapter 5.1 such as accelerated infilling of lakes, estuaries, artificial watercourses, rivers, wetlands, cave systems, flood and land instability. This is particularly the case with waste disposal sites or filling operations placed on unstable hill slopes or in floodplains. It is essential that these discharges are managed so that they do not exacerbate these hazards. The degree to which the activity increases the risks of adverse effects and at what point that increase becomes significant will need to be determined on a case-by-case basis taking into account the facility design and the nature of the locality. In the case of a flood event, the risks become significant where the discharge would cause flooding on a neighbouring property.

Parts e) and f) acknowledge the relationship of tangata whenua as Kaitiaki have with their land over which they hold mana whenua. Activities involving discharge onto or into land need to avoid significant adverse effects on the relationship of tangata whenua with their identified taonga such as ancestral lands, water, and waahi tapu.

The intention of the phrase ‘the relationship of tangata whenua as Kaitiaki’ is to state that Council will give priority to the concerns of Maori based on the status as tangata whenua and as Kaitiaki, whilst maintaining the ability of Council to consider the concerns of other groups who are not tangata whenua. The phrasing addresses the concerns of tangata whenua who exercise kaitiakitanga over specific resources, ahead of other Maori submitters to a resource consent who have a relationship that is not based on the present day exercise of kaitiakitanga.

The term ‘significant adverse effects’ means those effects that if allowed to occur, would destroy a site or taonga that is of such importance to tangata whenua as Kaitiaki that its loss or degradation is assessed to be unacceptable and unable to be remedied or mitigated.

### 5.2.3 Policies

#### **Policy 1: Low Risk Discharges Onto or Into Land**

Enable, through permitted activity rules and non-regulatory methods, the discharge of contaminants onto or into land where:

- a) hazardous substances present in the discharge, or produced as a consequence of the breakdown of the contaminants from the discharge:
  - i) are not environmentally persistent
  - ii) will not bioaccumulate to a level that has acute or chronic toxic (carcinogenic, teratogenic or mutagenic) effects on humans or other non-target species
- b) the discharge of these contaminants onto or into land will not result in pathogens accumulating in soil or pasture to levels that would render the soil unsafe for agricultural or domestic use
- c) the discharge is not inconsistent with policies in Section 5.1.3
- d) the discharge will not result in any effect on water quality or aquatic ecosystems that is inconsistent with the purpose of the Water Management Classes as identified by the policies in Section 3.2.3

- e) the discharge will not result in any effect on air quality that is inconsistent with policies in Section 6.1.3
- f) the discharge will not damage archaeological sites, waahi tapu or other identified sites of importance to tangata whenua as Kaitiaki.

### **Policy 2: Other Discharges Onto or Into Land**

Manage discharges of contaminants onto or into land not enabled by Policy 1, in a manner that avoids, where practicable, the following adverse effects and remedies or mitigates those effects that cannot be avoided:

- a) contamination of soils with hazardous substances or pathogens to levels that present a significant risk to human health or the wider environment
- b) the discharge is not inconsistent with policies in Section 5.1.3
- c) any effect on water quality or aquatic ecosystems that is inconsistent with the purpose of the Water Management Classes as identified by the policies in Section 3.2.3
- d) the adverse effects outlined in the policies and rules for air quality in Chapters 6.1 and 6.2, particularly for odour and particulate deposition
- e) damage to archaeological sites, waahi tapu or other identified sites of importance to tangata whenua as Kaitiaki.

### **Explanation and Principal Reasons for Adopting the Policies**

Waikato Regional Council wants to enable discharges onto or into land that will not cause adverse effect that are inconsistent with the objectives.

**Policy 1** identifies the adverse environmental effects of discharges onto or into land that are of most concern. Any discharge that does not have those effects is considered to be a low risk discharge and is enabled by the Plan.

Part a) relates to hazardous substances in the discharge or likely to be produced as a consequence of chemical reactions after the discharge has occurred. This addresses the potential contamination of soils or water. Information on whether a particular substance can meet these criteria is available for most hazardous substances through Material Safety Data Sheets and licences under legislation such as the Hazardous Substances and New Organisms Act 1996.

Part b) applies to discharges such as waste sludges from industry and municipal sewage treatment facilities. Human and animal pathogens or diseases in these wastes could have serious adverse environmental effects and could also threaten market access for products. It is therefore important that these discharges are not enabled where they would accumulate in the soils to unsafe levels. The levels of pathogen contamination that is considered safe varies depending upon the pathogen, soil type and land use and needs to be determined on a case-by-case basis with reference to relevant guidelines.

Part c) acknowledges that discharges onto or into land such as landfilling or cleanfilling in high risk environments such as floodplains or near cave entrances can increase sedimentation rates or exacerbate natural hazards in these environments. The policy identifies that these activities should not be enabled where they occur in locations where these effects are likely to occur.

Parts d) and e) acknowledge that discharges onto or into land can also have adverse effects on water and air resources. The objectives and policies for these resources are determined elsewhere in this Plan. To avoid repetition the policy provides a clear cross reference to these sections.

Part f) acknowledges that there are other values of land and soil resources that may be adversely affected by discharges onto or into land. This is particularly the case where the discharge affects archaeological sites, waahi tapu or other sites of importance to tangata whenua.

**Policy 2** provides for those discharges onto or into land that do not meet the criteria in Policy 1. The policy gives primacy to avoiding adverse effects. However, it acknowledges that where adverse effects cannot be avoided when discharging onto or into land, they may still be able to be remedied or mitigated. The extent to which adverse effects must be remedied or mitigated is best determined on a case-by-case basis through the resource consent process.

## **5.2.4 Implementation Methods – Discharges Onto or Into Land**

### **5.2.4.1 Good Practice**

Waikato Regional Council will, in conjunction with other organisations, industry groups and individuals, provide guidance on the development, implementation and review of good practices or appropriate codes of practice for:

1. cleanfilling and overburden disposal, addressing issues such as filling techniques, site selection, sediment control, waste acceptance criteria, rehabilitation, site stability/drainage and the protection/reuse of topsoil material
2. dumps and offal holes on production land, addressing issues such as location, allowable rubbish types and management of the site after it has closed
3. composting operations, addressing issues such as odour management, location and raw material control
4. the reuse of non-hazardous by products from industrial or trade premises (e.g. paunch grass from meat processing sites) as soil conditioners, addressing issues such as nutrient management, water quality, assessing and managing the carrying capacity of the soil and odour management.

#### **Advisory Note:**

- Some initial good management practices have been identified for dumps and offal holes on production land in Section 5.2.12.

### **5.2.4.2 Promotion**

Waikato Regional Council will promote the:

1. provision by territorial authorities of refuse transfer stations that are accessible to rural communities
2. provision by private industry or territorial authorities of hazardous waste collection systems for small quantities of hazardous waste
3. Used Oil Recovery Programme established by Milburn Cement and the oil industry to provide a collection scheme for waste oil through out the Region
4. use of alternatives to waste oil for controlling dust
5. reuse and recycling of construction and demolition waste such as concrete, bitumen, aggregates and wood.

### **5.2.4.3 Part XII RMA Enforcement**

Waikato Regional Council will apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, where an activity has the effects listed in Policy 2 or breaches conditions of rules in the Plan.

Discharges onto or into land that may result in, or increase the potential, for the adverse effects listed in Policy 2 occurring include:

1. cleanfilling or overburden disposal where there is inadequate sediment, run-off or leachate control of the site is not rehabilitated properly
2. the siting of dumps or offal holes on production land in locations where the waste will contaminate water
3. the production of objectionable odour as a consequence of poor management of composting
4. the disposal of waste into cave entrances, stream sinks or wetlands
5. the contamination of soils as a consequence of intentional or unintentional discharges of hazardous substances.

#### 5.2.4.4 Integration

Waikato Regional Council will promote integration with other relevant organisations in respect of:

1. aligning the management of cleanfilling and overburden disposal across regional and district plans when district plans are reviewed to ensure that duplication is minimised
2. the development and implementation of a system of tracking hazardous waste being transported across region council boundaries to ensure that the waste is disposed of in appropriate facilities.

#### Explanation and Principal Reasons for Adopting Methods 5.2.4.1 to 5.2.4.4

These methods are necessary to provide for non-regulatory means of implementing Policy 1 of this Chapter. Of particular importance are **Methods 5.2.4.2 to 5.2.4.4**.

**Method 5.2.4.1** identifies that industry initiatives to develop and implement codes of practice and good practices will be an important tool in managing the effects of discharges onto or into land.

**Method 5.2.4.2** recognises that in some parts of the Region there are no easily available disposal methods for solid hazardous wastes (including animal carcasses). Rules in this Chapter relating to dumps and offal holes on production land (Methods 5.2.6.1 and 5.2.6.2) may make it difficult for some of these sites to continue operating. In those circumstances alternative waste disposal techniques must be made available to the community.

**Method 5.2.4.3** acknowledges that enforcement action under the RMA is available in instances where activities have adverse effects that do not meet the performance standards identified in Policy 2. **Method 5.2.4.4** identifies that some potential overlaps exist between regional and district council management of activities such as cleanfilling as a consequence of district plans being prepared in advance of this Plan. Some district plans exercise control over matters outside of their jurisdiction. Waikato Regional Council will need to work with territorial authorities when their plans are reviewed to address these overlaps. The Method also identifies that the transport of waste across regional boundaries (and hazardous waste in particular) has the potential to have adverse effects if waste goes into uncontrolled facilities. The Method acknowledges that Waikato Regional Council needs to work with neighbouring councils and central government to address the tracking of these wastes.

## 5.2.5 Implementation Methods – Cleanfilling\* and Overburden\* Disposal

### 5.2.5.1 Permitted Activity Rule – Overburden Disposal Outside of High Risk Locations

The discharge of overburden onto or into land at an overburden disposal site\* and any subsequent discharge of contaminants into water or air when occurring outside of:

1. A high risk erosion area<sup>33</sup>
2. A floodplain of a river\*
3. The catchment of, or within 10 metres of, whichever is the lesser, a sink hole\* or cave entrance
4. Any wetlands<sup>34</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna
5. A significant geothermal feature\*

is a **permitted activity** subject to the following conditions:

- a) The concentration of suspended sediment in any discharge to a water body arising from this activity shall comply with the suspended sediment criteria as set out in Section 3.2.4.5.
- b) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- c) The overburden has no acid producing material<sup>35</sup>
- d) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan (28 September 1998), in any district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where Historic Places Trust approval has been obtained.
- e) In the event of any waahi tapu that is not subject to condition d) being identified by the Waikato Regional Council to the person undertaking the activity, the activity shall cease insofar as it may affect the waahi tapu. The activity shall not be recommenced without the approval of the Waikato Regional Council.
- f) Where the site is to receive a total volume of more than 1,000 cubic metres of overburden (solid measure) the operator shall notify the Waikato Regional Council in writing of the accurate location of the site seven working days prior to commencing operation.

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<sup>33</sup> **High risk erosion area:** Means any part of any activity area (where the activity is not otherwise permitted):

- a) where the pre-existing slope of the land exceed 25 degrees; or
- b) on coastal frontal dunes on the East Coast; or
- c) on coastal sand country on the West Coast (Mokau to Karioitahi) where loose sands are at the ground surface or within 10 centimetres of the surface; or
- d) within 50 metres landward of the coastal marine area of an estuary, except in the landward margin of an authorised stopbank; or
- e) adjacent to water bodies (including ephemeral watercourses draining catchments greater than 100 hectares, but excluding any other ephemeral rivers or streams), where:
  - i) the land slope is between 0 degrees to 15 degrees – within 10 metres from any lake, wetland or the bed of a river or lake, or
  - ii) the land slope is greater than 15 degrees – within that distance from the wetland, the bed of a river or lake, or from mean high water springs to the first point at which the slope reduces to 15 degrees or less, or 100 metres (whichever is the lesser, outside the minimum distance described in i).

This definition is illustrated in Figure 5-1 in Chapter 5.1.4

<sup>34</sup> Refer to Appendix 3 of the RPS.

<sup>35</sup> Acid producing potential is a laboratory measure of the ability of a rock or soil mass to generate acid drainage.

- g) The placement of the material shall be undertaken and maintained in a manner so as to ensure its long term stability.
- h) The activity shall not cause any increase in flooding on neighbouring properties.

**Exclusion to Rule 5.2.5.1:**

This Rule does not apply to soil disturbance activities where overburden is reused, such as land contouring, roading and tracking which are addressed by methods and rules in Section 5.1.4.

**Advisory Notes:**

- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any significant geothermal feature is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where the material to be dumped does not meet the definition of overburden provided in the Glossary it is subject to the rules relating to landfills in Section 5.2.7.
- Land use consents for filling operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>36</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- Where a waahi tapu site is identified whilst undertaking the activity, the process that Waikato Regional Council will follow in order to implement condition e) is set out in Section 2.3.4.22 of this Plan.
- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

**5.2.5.2 Controlled Activity Rule – Overburden Disposal Not Permitted by Rule 5.2.5.1**

The discharge of overburden onto or into land at an overburden disposal site and any subsequent discharge of contaminants into water or air that does not comply with Rule 5.2.5.1 when occurring within:

1. A high risk erosion area
2. A floodplain of a river
3. The catchment of, or within 10 metres of, whichever is the lesser, a sink hole or cave entrance
4. Any wetlands<sup>37</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna
5. A significant geothermal feature\*

is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a) The maximum volume of material deposited at any single site and within any three year period, shall not exceed 5,000 cubic metres of overburden (solid measure).
- b) The overburden material has no acid producing potential<sup>38</sup>.
- c) The placement of the material shall be undertaken and maintained in a manner so as to ensure its long-term stability.
- d) The activity shall not cause any increase in flooding on neighbouring properties.

Waikato Regional Council reserves control over the following matters:

<sup>36</sup> Refer to Appendix 3 of the RPS.

<sup>37</sup> Refer to Appendix 3 of the RPS.

<sup>38</sup> Acid producing potential is a laboratory measure of the ability of a rock or soil mass to generate acid drainage.

- i. Measures to ensure that the activity does not reduce slope stability, exacerbate pre-existing land instabilities or constrict flood flows.
- ii. Measures to avoid, remedy or mitigate damage to riparian vegetation or soil.
- iii. Measures to avoid, remedy or mitigate damage to any lawfully established structures.
- iv. The location, timing of construction, design and density of soil disturbance activities and vegetation removal.
- v. Any measures necessary to rehabilitate the land following the completion of the activity.
- vi. The means of controlling effects on air quality from objectionable particulate matter.
- vii. Measures to avoid, remedy or mitigate the adverse effect of the activity on areas of significant indigenous vegetation, significant habitats of indigenous fauna<sup>39</sup>, and significant natural features such as cave and karst systems and outstanding landscapes.
- viii. Effects on any waahi tapu or other taonga from the activity.
- ix. Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- x. Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.
- xi. The quality of any discharges to water from the site.
- xii. Measures to monitor incoming material to ensure that only overburden is received.

**Exclusion to Rule 5.2.5.2:**

- a) This rule does not apply to disturbance activities where overburden is reused, such as land contouring, and roading and tracking which are addressed by methods and rules in Section 5.1.4.

**Advisory Notes:**

- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any Significant Geothermal Features is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where the material to be dumped does not meet the definition of overburden provided in the Glossary it is subject to the rules relating to landfills in Section 5.2.7.
- Land use consents for filling operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>40</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- The imposition of consent conditions under matters viii), ix) and x) shall take into account the policy direction provided in Policies 1 and 2 in Section 2.3.3 in addition to specific policies in this Chapter of the Plan.

### 5.2.5.3 Discretionary Activity Rule – Large Scale Overburden Disposal

The discharge of overburden onto or into land and any subsequent discharge of contaminants into water or air in a manner that does not comply with Rules 5.2.5.1 and 5.2.5.2 is a **discretionary activity** (requiring resource consent).

**Exclusion to Rule 5.2.5.3:**

- a) This Rule does not apply to discharges of contaminants into land that will affect significant Geothermal Features.

<sup>39</sup> Refer to Appendix 3 of the RPS.

<sup>40</sup> Refer to Appendix 3 of the RPS.

#### Advisory Notes:

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.3. In addition, assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any Significant Geothermal Features is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where the material to be dumped does not meet the definition of overburden provided in the Glossary it is subject to the rules relating to landfills in Section 5.2.7.
- Land use consents for filling operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>41</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.

#### 5.2.5.4 Permitted Activity Rule – Small Scale Cleanfill Disposal Outside of High Risk Locations

The discharge of cleanfill onto or into land and any subsequent discharge of contaminants into water or air when occurring outside of:

1. A high risk erosion area
2. A floodplain of a river
3. The catchment of, or within 10 metres of, whichever is the lesser, a sink hole\* or cave entrance
4. Any wetlands<sup>42</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna
5. A significant geothermal feature\*

and where the total volume of cleanfill does not exceed 2,500 cubic metres per annum, is a **permitted activity** subject to the following conditions:

- a) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- b) Records of the source and composition of all material disposed of at the site shall be maintained and made available to the Waikato Regional Council upon request to demonstrate that only cleanfill as defined in the Glossary to this Plan has been received.
- c) The cleanfill has no acid producing potential.<sup>43</sup>
- d) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan (28 September 1998), in any district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where Historic Places Trust approval has been obtained.
- e) In the event of any waahi tapu that is not subject to condition d) being identified by the Waikato Regional Council to the person undertaking the activity, the activity shall cease insofar as it may affect the waahi tapu. The activity shall not be recommenced without the approval of the Waikato Regional Council.
- f) Where the site is to receive a total volume of more than 1,000 cubic metres of cleanfill (loose measure) the operator shall notify the Waikato Regional Council in writing of the accurate location of the site seven working days prior to commencing operation.

<sup>41</sup> Refer to Appendix 3 of the RPS.

<sup>42</sup> Refer to Appendix 3 of the RPS.

<sup>43</sup> Acid producing potential is a laboratory measure of the ability of a rock or soil mass to generate acid drainage.

- g) The placement of the material shall be undertaken and maintained in a manner so as to ensure its long-term stability.
- h) The activity shall not cause any increase in flooding on neighbouring properties.
- i) The concentration of suspended sediment in any discharge to a water body arising from this activity shall comply with the suspended sediment criteria as set out in Section 3.2.4.6.

**Exclusions to rule 5.2.5.4:**

- a) This Rule does not apply to discharges of cleanfill for the purpose of erosion control structures in Rule 4.2.15.1.
- b) This Rule does not apply to soil disturbance activities where cleanfill is reused, such as land contouring, and roading and tracking which are addressed by methods and rules in Section 5.1.4.

**Advisory Notes:**

- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any Significant Geothermal Features is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where the material to be dumped does not meet the definition of cleanfill provided in the Glossary it is subject to the rules relating to landfills in Section 5.2.7.
- Land use consents for filling operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>44</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- Where a waahi tapu site is identified whilst undertaking the activity, the process that Waikato Regional Council will follow in order to implement condition e) is set out in Section 2.3.4.22 of this Plan.

**5.2.5.5 Controlled Activity Rule – Large Scale Cleanfill Disposal outside High Risk Locations**

The discharge of cleanfill onto or into land and any subsequent discharge of contaminants into water or air that does not comply with Rule 5.2.5.4 when occurring outside of:

1. A high risk erosion area
2. A floodplain of a river
3. The catchment of, or within 10 metres of, whichever is the lesser, a sink hole\* or cave entrance
4. Any wetlands<sup>45</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna
5. A significant geothermal feature\*

is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- b) Records of the source and composition of all material disposed of at the site shall be maintained and made available to the Waikato Regional Council upon request

<sup>44</sup> Refer to Appendix 3 of the RPS.

<sup>45</sup> Refer to Appendix 3 of the RPS.

to demonstrate that only cleanfill as defined in the Glossary to this Plan has been received.

- c) The cleanfill has no acid producing potential<sup>46</sup>.
- d) The placement of the material shall be undertaken and maintained in manner so as to ensure its long-term stability.
- e) The activity shall not cause any increase in flooding on neighbouring properties.

Waikato Regional Council reserves control over the following matters:

- i. Measures to ensure that the activity does not reduce slope stability, exacerbate pre-existing land instabilities or constrict flood flows.
- ii. Measures to avoid, remedy or mitigate damage to riparian vegetation or soil.
- iii. Measures to avoid, remedy or mitigate damage to any lawfully established structures.
- iv. The location, timing of construction, design and density of soil disturbance activities and vegetation removal.
- v. Any measures necessary to rehabilitate the land following the completion of the activity.
- vi. The means of controlling effects on air quality from objectionable particulate matter.
- vii. Measures to avoid, remedy or mitigate the adverse effect of the activity on areas of significant indigenous vegetation, significant habitats of indigenous fauna<sup>47</sup> and significant natural features such as cave and karst systems and outstanding landscapes.
- viii. Effects on any waahi tapu or other taonga from the activity.
- ix. Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- x. Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.
- xi. The quality of any discharges to water from the site.
- xii. Measures to monitor incoming material to ensure that only overburden is received.

**Exclusions to Rule 5.2.5.5:**

- a) This Rule does not apply to cleanfill disposal for the purpose of erosion control structures in Rule 4.2.15.1.
- b) This Rule does not apply to soil disturbance activities where cleanfill is reused, such as land contouring, and roading, tracking which are addressed by methods and rules in Section 5.1.4.

**Advisory Notes:**

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.3. In addition assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any Significant Geothermal Features is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where the material to be dumped does not meet the definition of cleanfill provided in the Glossary it is subject to the rules relating to landfills in Section 5.2.7.
- Land use consents for fillings operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>48</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.

<sup>46</sup> Acid producing potential is a laboratory measure of the ability of a rock or soil mass to generate acid drainage.

<sup>47</sup> Refer to Appendix 3 of the RPS.

<sup>48</sup> Refer to Appendix 3 of the RPS.

- The imposition of consent conditions under matters viii), ix) and x) shall take into account the policy direction provided in Policies 1 and 2 in Section 2.3.3 in addition to specific policies in this chapter of the Plan.

#### 5.2.5.6 Discretionary Activity Rule – Cleanfill Disposal in High Risk Locations

The discharge of cleanfill onto or into land and any subsequent discharge of contaminants into water or air in a manner that does not comply with Rules 5.2.5.4 and 5.2.5.5 is a **discretionary activity** (requiring resource consent).

##### Exclusions to Rule 5.2.5.6:

- This Rule does not apply to discharges of contaminants into land that will affect significant Geothermal Features.
- This Rule does not apply to soil disturbance activities where cleanfill is reused, such as land contouring, and roading and tracking which are addressed by methods and rules in Section 5.1.4.

##### Advisory Notes:

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.3. In addition assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any Significant Geothermal Features is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where the material to be dumped does not meet the definition of cleanfill provided in the Glossary it is subject to the rules relating to landfills in Section 5.2.7.
- Land use consents for fillings operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>49</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.

#### 5.2.5.7 Permitted Activity Rule – Discharge of Small Volumes of Sediment and Vegetation From Within or Surrounding Lawfully Established Structures or Artificial Watercourses

The discharge of sediment and vegetation onto or into land and any subsequent discharge to air or water where the material is derived from the:

- clearing of debris and bed material from within or surrounding a lawfully established structure or artificial watercourse
- maintenance of channels in drainage districts and river control scheme areas that are managed by the Waikato Regional Council or territorial authorities
- clearance of floating vegetation and debris behind dams and intake structures

is a **permitted activity** subject to the following conditions:

- The discharge must occur outside of:
  - A high risk erosion area
  - A floodplain of a river
  - The catchment of, or within 10 metres of, whichever is the lesser, a sink hole or cave entrance
  - Any wetland<sup>50</sup> that is an areas of significant indigenous vegetation and/or a significant habitat of indigenous fauna
  - A significant geothermal feature

<sup>49</sup> Refer to Appendix 3 of the RPS.

<sup>50</sup> Refer to Appendix 3 of the RPS.

- b) The total volume disposed of at an individual disposal site does not exceed 10 cubic metres per annum.
- c) The placement of the material shall be undertaken and maintained in a manner so as to ensure its long term stability.
- d) The activity shall not cause any increase in flooding on neighbouring properties.
- e) Any discharge to air that occurs either during the initial placement of the material or subsequently shall comply with the conditions and standards and terms in Section 6.1.8.
- f) The sediment or material has no acid producing potential.<sup>51</sup>
- g) The discharge shall not contain hazardous substances or pathogenic organisms.
- h) Any discharge to water that occurs either during the initial placement of the material or subsequently shall:
  - i) comply with the suspended solids standards in Section 3.2.4.5 of this Plan.
  - ii) not contain any material which will cause the production of conspicuous oil or grease films, scums or foams or floatable suspended materials at any point downstream that is greater than three times the width of the river at the point of discharge and which for any river does not exceed 20 metres from the point of discharge and for any lake (other than Hydro Electricity Reservoirs) does not exceed 15 metres from the location of the discharge or the activity.
  - iii) not contain leachate produced during the decomposition of any organic material.
- i) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan, in any district plan, in the NZ Archaeological Association's Site Recording Scheme or by the Historic Places Trust except where Historic Places Trust approval has been obtained.
- j) In the event of any waahi tapu that is not subject to condition i) being identified while undertaking the use, erection, reconstruction, placement, extension or alteration of the structure, the activity shall cease insofar as it may affect the archaeological site or waahi tapu and the Waikato Regional Council shall be notified as soon as practicable. The activity shall not be recommenced without the approval of the Waikato Regional Council.
- k) Any erosion occurring as a result of the activity shall be remedied as soon as practicable.

**Advisory Notes:**

- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any significant geothermal feature is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Land use consents for filling operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>52</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.

**5.2.5.8 Controlled Activity Rule – Discharge of Large Volumes of Sediment and Vegetation From Within or Surrounding Lawfully Established Structures or Artificial Watercourses**

The discharge of sediment and vegetation onto or into land and any subsequent discharge to air or water where the material is derived from the:

1. clearing of debris and bed material from within or surrounding a lawfully established structure or artificial watercourse

<sup>51</sup> Acid producing potential is a laboratory measure of the ability of a rock or soil mass to generate acid drainage

<sup>52</sup> Refer to Appendix 3 of the RPS.

2. maintenance of channels in drainage districts and river control scheme areas that are managed by the Waikato Regional Council or territorial authorities
3. clearance of floating vegetation trapped from behind dams and intake structures

is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a) The discharge must occur outside of:
  - i) A high risk erosion area
  - ii) A floodplain of a river
  - iii) The catchment of, or within 10 metres of, whichever is the lesser, a sink hole or cave entrance
  - iv) Any wetland that is an area of significant indigenous vegetation and/or significant habitat of indigenous fauna<sup>53</sup>
  - v) A significant geothermal feature
- b) The activity shall not cause any increase in flooding on neighbouring properties
- c) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8
- d) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan, in any district plan, in the NZ Archaeological Association's Site Recording Scheme or by the Historic Places Trust except where Historic Places Trust Approval has been obtained.
- e) In the event of any waahi tapu that is not subject to condition d) being identified while undertaking the use, erection, reconstruction, placement, extension or alteration of the structure, the activity shall cease insofar as it may affect the archaeological site or waahi tapu and the Waikato Regional Council shall be notified as soon as practicable. The activity shall not be recommenced without the approval of the Waikato Regional Council.

Waikato Regional Council reserves control over the following matters:

- i) Measures required to avoid, remedy or mitigate adverse effects on water quality.
- ii) Effects on any waahi tapu or other taonga from the activity.
- iii) Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- iv) Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.
- v) Measures to avoid, remedy or mitigate adverse effects on aquatic habitat.
- vi) Measures to avoid, remedy or mitigate adverse effects on neighbouring properties.
- vii) Measures (including rehabilitation and revegetation if necessary) to ensure that the site is maintained in a manner so as to ensure its long term stability.
- viii) Measures to manage the effects of contaminants such as heavy metals, mineral salts, hazardous substances or pathogens on the long term health of the soil resource and on the existing and the range of foreseeable uses of the soil resource.

#### Advisory Notes

- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any significant geothermal feature is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Land use consents for filling operations may also be required by district plans. These will address issues such as amenity effects, traffic, noise, protection of identified areas of significant indigenous vegetation<sup>54</sup> and outstanding landscapes and future uses of the

<sup>53</sup> Refer to Appendix 3 of the Waikato RPS

<sup>54</sup> Refer to Appendix 3 of the RPS.

site. The thresholds at which resource consents are required vary within each territorial authority area.

- If the activity does not comply with this Rule it is a discretionary activity under Rule 3.5.4.5.
- Information requirements to enable assessment of any application under this rule are set out in Section 8.1.4.3. In addition assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.

### **Explanation and Principal Reasons for Adopting Methods 5.2.5.1 to 5.2.5.8**

The distinction between soil disturbance activities managed in Section 5.1.4 and the activities managed in this section is very important. The activities covered here are not soil disturbance activities or land contouring activities where soil is moved over a property or area to create an even grade. The activities covered by these rules occur at specific sites where large quantities of cleanfill or overburden generated as by-products or wastes from construction, mining and in some instances road building activities are discharged onto land. These activities can have adverse effects on surface and ground water quality, flooding, land instability or air quality through dust emissions.

**Rules 5.2.5.1, 5.2.5.2 and 5.2.5.3** identify that in most locations overburden disposal will present only a minimal risk of adverse effects. The risks of adverse effects from overburden disposal operations will be greatest where the site is located in a high risk erosion area, floodplain or near sensitive features, such as wetlands or cave systems. In high risk erosion areas and floodplains of rivers, placement of fill may increase the risk of accelerated erosion and potentially exacerbate natural hazard events such as land instability or flooding.

Condition c) of Rule 5.2.5.1 identifies that some rock types in the Waikato Region have the potential to cause acid drainage (e.g. the Tui Mine). The risks of acid drainage are such that the disposal of any material with this potential is not a permitted activity.

**Rules 5.2.5.4 and 5.2.5.5** indicate that disposal operations need to exercise quality control procedures that would ensure that only cleanfill was being deposited on site, only a resource consent can ensure that this is achieved. The controlled activity rule provides for monitoring and enforcement by Waikato Regional Council to maintain control over the nature of the material being deposited.

**Rules 5.2.5.5 and 5.2.5.6** acknowledge that larger scale cleanfill operations, even outside high risk areas, represent an unacceptable level of risk due to the lack of acceptance criteria at most cleanfill sites. The number of vehicles using larger cleanfill sites make it much harder for operators to ensure that only cleanfill enters the site. There are cleanfills in the Region where potentially hazardous waste has been dumped due to lack of acceptance criteria. The resource consent process is necessary to ensure that waste acceptance criteria are closely adhered to.

**Rules 5.2.5.7 and 5.2.5.8** enable activities that are necessary to ensure that the Region's hydro-electricity power and flood control infrastructure are maintained. The disposal of weed and sediment removed from waterways associated with these structures during maintenance processes is an essential activity that must occur if we are to provide for the social, cultural and economic wellbeing of our communities. However, because of the nature of contaminants involved and the potential scale of these activities some degree of regulation is essential to ensure that risks to the environment are adequately avoided, remedied or mitigated. The rules provide an opportunity for the community to ensure that these activities do not have adverse effects that are inconsistent with the objectives and policies of this Plan and the Regional Policy Statement.

## 5.2.6 Implementation Methods – Dumps\* and Offal\* Holes on Production Land

### 5.2.6.1 Permitted Activity Rule – Dumps on Production Land

The discharge of solid waste into or onto land as part of the operation of a dump on production land where the contaminants are sourced only from the property on which the dump occurs, and where the dump site is outside of:

1. The catchment of, or within 10 metres of, whichever is the lesser, a sink hole\* or cave entrance
2. A floodplain of a river
3. Any wetlands<sup>55</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna
4. A significant geothermal feature

is a **permitted activity** subject to the following conditions:

- a) The waste shall not contain:
  - i) hazardous substances\*, including residues in empty agrichemical, detergent and oil containers
  - ii) sewage, offal or animal carcasses.
- b) No contaminants from the dump on production land shall be discharged into water.
- c) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan (28 September 1998), in any district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where Historic Places Trust approval has been obtained.
- d) In the event of any waahi tapu that is not subject to condition c) being identified by the Waikato Regional Council to the person undertaking the activity, the activity shall cease insofar as it may affect the waahi tapu. The activity shall not be recommenced without approval of the Waikato Regional Council.

#### Advisory Notes:

- Guidance on suitable locations for dumps on production land is provided in Section 5.2.12.
- Where the dump on production land receives waste from more than one property, it is subject to the rules for landfills in Section 5.2.7.
- Land use consents for dumps on production land may also be required by district plans. These will address issues such as amenity effects, noise, protection of identified areas of significant indigenous vegetation<sup>56</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where a waahi tapu site is identified whilst undertaking the activity, the process that Waikato Regional Council will follow in order to implement condition d) is set out in Section 2.3.4.22 of this Plan.

### 5.2.6.2 Permitted Activity Rule – Offal Holes on Production Land

The discharge of contaminants into or onto land as part of the operation of an offal hole on production land where the contaminants are sourced from the property on which the offal hole is sited and any subsequent discharge to air that does not comply with Rule 5.2.6.1 when occurring outside of:

<sup>55</sup> Refer to Appendix 3 of the RPS.

<sup>56</sup> Refer to Appendix 3 of the RPS.

1. The catchment of, or within 10 metres of, whichever is the lesser, a sink hole\* or cave entrance
2. A floodplain of a river
3. Any wetlands<sup>57</sup> that are areas of significant indigenous vegetation and/or significant habitats of indigenous fauna
4. A significant geothermal feature

is a **permitted activity** subject to the following conditions:

- a) Only dead animal matter and perishable household waste shall be disposed of into the offall hole.
- b) The waste shall not contain:
  - i) hazardous substances or material contaminated by hazardous substances (including residues in empty agrichemical, detergent and oil containers)
  - ii) sewage.
- c) The lowest point of the offall hole shall be at least one metre above the level of the seasonally shallowest water table.
- d) Where the offall hole was in use prior to this Plan becoming operative and the lowest point of the offall hole was less than one metre above the seasonally shallowest water table, there must be no discharge of contaminants to water.
- e) The offall hole shall be covered to prevent surface water from entering the offall hole and prevent pests from gaining access to the waste.
- f) The activity shall not disturb any archaeological site or waahi tapu as identified at the date of notification of this Plan (28 September 1998), in any district plan, in the NZ Archaeological Association's Site Recording Scheme, or by the Historic Places Trust except where Historic Places Trust approval has been obtained.
- g) In the event of any waahi tapu that is not subject to condition f) being identified by the Waikato Regional Council to the person undertaking the activity, the activity shall cease insofar as it may affect the waahi tapu. The activity shall not be recommenced without approval of the Waikato Regional Council.
- h) There are no objectionable effects as a result of odour beyond the property boundary.
- i) The offall hole shall not be within 100 metres of any water supply bore or water body.

**Advisory Notes:**

- Guidance on good practice for the suitable location of offall holes is provided in Section 5.2.12.
- Where the offall hole, on production land, receives waste from more than one property, it is subject to the rules for landfills in Section 5.2.7.
- Land use consents for offall holes may also be required by district plans. These will address issues such as amenity effects, noise, protection of identified areas of significant indigenous vegetation<sup>58</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Where a waahi tapu site is identified whilst undertaking the activity, the process that Waikato Regional Council will follow in order to implement condition g) is set out in Section 2.3.4.22 of this Plan.

<sup>57</sup> Refer to Appendix 3 of the RPS.

<sup>58</sup> Refer to Appendix 3 of the RPS.

### 5.2.6.3 Controlled Activity Rule – Offal Holes in Area of Shallow Ground Water

Except as authorised by Rule 5.2.6.2, the discharge of contaminants into or onto land as part of the operation of an offal hole on production land where the contaminants are sourced from the property on which the offal hole is sited and any subsequent discharge to air is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a) Only dead animal matter and perishable household waste shall be disposed of into the offal hole.
- b) The waste shall not contain:
  - i) hazardous substances or material contaminated by hazardous substances (including residues in empty agrichemical, detergent and oil containers)
  - ii) sewage.
- c) The offal hole shall be covered to prevent surface water from entering the offal hole and prevent pests from gaining access to the waste.
- d) The offal hole shall not affect a significant geothermal feature.
- e) There are no objectionable effects as a result of odour beyond the property boundary.

Waikato Regional Council reserves control over the following matters:

- i. Measures to be adopted to avoid any discharge of contaminants into water.
- ii. The location of the offal hole. (including proximity to bores that take water for human consumption).
- iii. Effects on any waahi tapu or other taonga from the activity.
- iv. Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- v. Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.

#### **Notification:**

Application for resource consents for activities under this Rule will be considered without notification or the need to obtain written approval of affected persons, in accordance with s94(1)(b) of the RMA.

#### **Advisory Notes:**

- Where the offal hole, on production land, receives waste from more than one property, it is subject to the rules for landfills in Section 5.2.7.
- Land use consents for offal holes may also be required by district plans. These will address issues such as amenity effects, noise, protection or identified areas of significant indigenous vegetation<sup>59</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- The imposition of consent conditions under matters iii), iv) and v) shall take into account the policy direction provided in Policies 1 and 2 in Section 2.3.3 in addition to specific policies in this Chapter of the Plan.

### 5.2.6.4 Discretionary Activity Rule – Other Dumps and Offal Holes on Production Land

The discharge of any liquid or solid waste into or onto land and any subsequent discharge of contaminants to water or air during the operation of a dump or offal hole on production land where:

<sup>59</sup> Refer to Appendix 3 of the RPS.

1. the contaminants are sourced only from the property on which the dump or offall hole occurs
2. the activity does not comply with Rules 5.2.6.1, 5.2.6.2 and 5.2.6.3
3. the activity is addressed by Rules 7.2.6.1 and 7.2.6.2;

is a **discretionary activity** (requiring resource consent).

**Advisory Notes:**

- Information requirements to enable the assessment of any application under this rule are as set out in Section 8.1.4.4. In addition assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- Land use consents for dumps and offall holes on production land may also be required by district plans. These will address issues such as amenity effects, noise, protection of identified areas of significant indigenous vegetation<sup>60</sup> and outstanding landscapes and future uses of the site. The thresholds at which resource consents are required vary within each territorial authority area.
- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

**Explanation and Principal Reasons for Adopting Methods 5.2.6.1 to 5.2.6.4**

Waikato Regional Council recognises that properly managed and sited small-scale rural dumps and offall holes will not have significant adverse environmental effects. **Rules 5.2.6.1** and **5.2.6.2** implement Policy 1 by establishing a permitted activity rule for dumps and offall holes on production land. A well-sited and managed dump or offall hole for disposal of waste generated on production land is unlikely to have adverse effects such as damage to aquatic ecosystems from leachate discharges to water.

**Rule 5.2.6.3** is necessary to provide for existing offall holes in areas of high ground water that would otherwise be a discretionary activity. **Rules 5.2.6.3** and **5.2.6.4** recognise that even if a dump or offall hole does not comply with the conditions in the permitted activity rules, it may still be able to occur. However, resource consents will be required to ensure that the potential adverse effects associated with these facilities are well managed.

## 5.2.7 Implementation Methods – Landfills

### 5.2.7.1 Discretionary Activity Rule – New and Currently Operating Landfills

The discharge of contaminants into or onto land, and any subsequent discharge of contaminants into water or air (excluding discharges to air permitted by Rule 6.1.13.1) as part of the operation of a landfill is a **discretionary activity** (requiring resource consent).

**Advisory Notes:**

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.5. In addition assessment shall take into account the matters identified in Policy 2 of Chapter 5.2.
- Small scale discharges of biogas to air are permitted by Section 6.1.13.1.
- Some landfills may also require resource consents for damming and diverting which is covered in Chapter 3.6.
- Land use consents may also be required by district plans. These will address such issues as public health, traffic flows protection of identified areas of significant indigenous vegetation<sup>61</sup> and outstanding landscapes and other land use related effects.

<sup>60</sup> Refer to Appendix 3 of the RPS.

<sup>61</sup> Refer to Appendix 3 of the RPS.

### 5.2.7.2 Controlled Activity Rule – Closed Municipal Solid Waste Landfills

The discharge of contaminants from any closed municipal solid waste landfill;

1. Into or onto land in circumstances which may result in contaminants entering water; or
2. Into water; or
3. Into air (excluding discharges to air permitted by Section 6.1.14.1)

where those discharges are not authorised by a current resource consent with conditions relating to the management of those discharges that continue to occur after closure is a **controlled activity** (requiring resource consents) subject to the following standards and terms:

- a) The landfill must not be located within:
  - i) A high risk erosion area
  - ii) The floodplain of a river
  - iii) A wetland that is an area of significant indigenous vegetation and/or significant habitat for indigenous fauna<sup>62</sup>
  - iv) 100 metres of the Coastal Marine Area
- b) The final capping layer is topsoiled and planted with vegetation that will maintain groundcover as far as practicable and whose roots will not intrude into the refuse in the landfill; and
- c) Landfill gas shall not be detectable below ground level or in buildings or infrastructure such as pipelines or drains beyond the property boundary.

Waikato Regional Council reserves control over the following matters:

- i) Ongoing site management and monitoring
- ii) Measures to avoid, remedy or mitigate adverse effects arising from the discharge of contaminants from the site to air, water and to land where they may subsequently enter water or air
- iii) Measures to avoid, remedy or mitigate adverse effects arising from saltwater, freshwater or groundwater intrusion or inundation
- iv) Measures to manage stormwater flows at the site
- v) Measures to manage adverse effects of landfill gas
- vi) The use and management of the site after closure, especially any activities that may cause or exacerbate discharges
- vii) The contents of an Aftercare and Monitoring Plan and measures to ensure that such a plan is complied with
- viii) Contingency plans to ensure that potential adverse effects arising from natural hazards (including flooding, land instability and earthquakes) are able to be prevented or mitigated
- ix) Measures to avoid, remedy or mitigate adverse effects on significant indigenous vegetation, significant habitats of indigenous fauna<sup>63</sup> and significant natural features such as cave and karst systems
- x) Effects on any waahi tapu or other taonga from the activity
- xi) Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity
- xii) Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.

#### Advisory Notes:

- Closed landfills that do not comply with the standards and terms of this Rule or are not municipal solid waste landfills are discretionary activities under Rule 5.2.7.3.
- These standards and terms should be prepared generally in accordance with 'A Guide to the Management of Closing and Closed Landfills in New Zealand', Ministry for the Environment, May 2001.

<sup>62</sup> Refer to Appendix 3 of the RPS.

<sup>63</sup> Refer to Appendix 3 of the RPS.

- Information requirements to enable assessment of any application under this Rule are set out in Section 8.1.4.5 of the Plan. In addition assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- Small scale discharges of biogas to air are permitted by Section 6.1.14.1.
- Some landfills may also require consents for damming and diverting which are covered by rules in Chapter 3.6.

### 5.2.7.3 Discretionary Activity Rule – Closed Landfills

Except as provided for by Rule 5.2.7.2, the discharge of contaminants from any closed landfill:

1. Into or onto land in circumstances which may result in contaminants entering water; or
2. Into water; or
3. Into air (excluding discharges to air permitted by Section 6.1.14.1)

from a closed landfill that does not have a current resource consent with conditions relating to the management of those discharges that continue to occur after closure, is a **discretionary activity** (requiring resource consent).

#### Advisory Notes:

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.6. In addition assessment shall take into account the matters identified in Policy 2 of Chapter 5.2.
- Small scale discharges of biogas to air are permitted by Section 6.1.13.1.
- Land use consents may also be required by district plans addressing matters such as public health issues, traffic flows protection of identified areas of significant indigenous vegetation<sup>64</sup> and outstanding landscapes and other land use related effects.

#### Explanation and Principal Reasons for Adopting Methods 5.2.7.1 to 5.2.7.3

Landfills that receive either solid waste or waste from industrial and trade premises present a significant risk of generating adverse environmental effects. These facilities must therefore be assessed on a case-by-case basis. This is recognised in **Rule 5.2.7.1**.

In some instances, landfills have closed without obtaining resource consents related to ongoing off-site discharges that continue after closure. **Rule 5.2.7.3** acknowledges this and gives a clear indication that where discharges of contaminants to land, air or water are occurring or are likely to occur at these sites, and the adverse environmental effects that are likely to be occurring at them, must be addressed through the resource consent process. If no discharges are occurring, the site will be managed as contaminated land under Chapter 5.3. Where appropriate, the consent conditions may allow reduced monitoring over time as the contaminant loadings in the discharge stabilise.

## 5.2.8 Implementation Methods – Composting of Green Waste\* and Other Organic Materials

### 5.2.8.1 Permitted Activity Rule – Small Scale Composting

The discharge of contaminants onto or into land or air occurring as the result of the production of compost is a **permitted activity** subject to the following conditions:

- a) The total volume of compost produced at the site does not exceed 20 cubic metres per annum.

<sup>64</sup> Refer to Appendix 3 of the RPS.

- b) The material to be composted shall not contain any hazardous substance or biosolids.
- c) Leachate produced during the process of composting shall not be discharged into any water body.
- d) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- e) If the discharge is within the Lake Taupo catchment, the compost shall be sourced within the property it is discharged to.

**Advisory Notes:**

- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Land use consents may also be required for this activity under the relevant district plan. These consents will cover issues such as buffer zones, traffic, amenity values protection of identified areas of significant indigenous vegetation<sup>65</sup> and outstanding landscapes and noise.

### 5.2.8.2 Permitted Activity – Green Waste Composting

The discharge of contaminants onto or into land or air occurring as the result of the production of compost from green waste\* at a landfill or Refuse Transfer Station designated in an operative district plan is a **permitted activity** subject to the following conditions:

- a) The maximum volume of green waste and compost being stored, processed or cured on the site at any one time is less than 1500 cubic metres of which
  - i) no more than 500 cubic metres shall be actively composting at any one time
  - ii) no more that 100 cubic metres shall be awaiting processing at any one time unless the green waste has been mixed with coarse or woody material and loosely windrowed to ensure the green waste remains aerobic in which case 500 m<sup>3</sup> can be stored
- b) Where the composting activity is an existing lawfully established activity as at 1 July 2006, and has had no verified complaints of objectionable effects of odour or particulate matter that has resulted in successful enforcement action being taken since 1 July 2003, the site shall be 250 metres or more away from any building occupied by people on a regular basis, including houses, hostels, meeting places, schools and hospitals or places of work (other than places of work within the property where the composting is occurring).
- c) Where the composting activity is a new activity, the site at which the activity occurs shall be 500 metres or more away from any building occupied by people on a regular basis, including houses, hostels, meeting places, schools and hospitals or places of work (other than places of work within the property where the composting is occurring).
- d) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- e) Leachate produced during the process of composting shall not be discharged into water unless separately authorised by a resource consent to do so.
- f) Any material with a known potential to cause objectionable odours (e.g. partially composted grass clippings) must be covered before the end of the working day.

**Advisory Notes**

- The 1500 cubic metres volume includes all unshredded green waste, shredded green waste, composting material and composted material.

<sup>65</sup> Refer to Appendix 3 of the RPS.

- Activities that comply in full with Appendix K of NZS4454:2005 Compost, Soil Conditioners and Mulches are likely to comply with the conditions of this Rule.
- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

### 5.2.8.3 Controlled Activity Rule – Existing and Large Scale Green Waste\* Composting

The discharge of any contaminant onto or into land, water or air during the production of compost in a manner that does not comply with Rules 5.2.8.1 and 5.2.8.2 where:

1. The operation is a green waste composting operation
2. The composting operation is an existing activity at the time of notification of this Plan (28 September 1998)
3. Any change in the activity shall not increase the scale, frequency, intensity, nature or duration of the operation
4. The activity shall have no verified complaints of objectionable effects of odour or particulate matter that has resulted in successful enforcement action being taken in the two years prior to the consent application;

is a **controlled activity** (requiring resource consent) subject to the following standards and terms:

- a) Leachate produced during the process of composting shall not be discharged into any water body unless separately authorised by a resource consent to do so.
- b) The material to be composted must not contain or be derived from hazardous wastes or pathogenic wastes.

Waikato Regional Council reserves control over the following matters:

- i. The means of controlling effects on air quality from objectionable odour or objectionable particulate matter.
- ii. Measures to be adopted for stormwater control and leachate management.
- iii. Measures for controlling the source and quality of material being composted.
- iv. Effects on any waahi tapu or other taonga from the activity.
- v. Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- vi. Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.
- vii. Any contingency measures necessary to avoid, remedy or mitigate adverse effects associated with the failure to successfully dispose and/or sell composted product.
- viii. Any measures necessary to rehabilitate the land following the completion of the activity.
- ix. The need for buffer zones or other measures to avoid or mitigate the effects of discharges to air.

#### Advisory Notes:

- Discharges of contaminants into land that affect Significant Geothermal Features are addressed in Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.
- Land use consents may also be required for this activity under the relevant district plan. These consents will cover issues such as buffer zones, traffic, amenity values, protection of identified areas of significant indigenous vegetation<sup>66</sup> and outstanding landscapes and noise.

<sup>66</sup> Refer to Appendix 3 of the RPS.

- The imposition of consent conditions under matters iv), v) and vi) shall take into account the policy direction provided in Policies 1 and 2 in Sections 2.3.3 in addition to specific policies in this Chapter of the Plan.

#### 5.2.8.4 Discretionary Activity Rule – Other Composting Operations

Any discharge of contaminants onto or into land, water or air associated with the composting of organic waste that does not comply with Rules 5.2.8.1, 5.2.8.2 or 5.2.8.3 is a **discretionary activity** (requiring resource consent).

##### Advisory Notes:

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.7. In addition assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- Land use consents may also be required for this activity under the relevant district plan. These consents will cover issues such as buffer zones, traffic, amenity values, protection of identified areas of significant indigenous vegetation and outstanding landscapes and noise.
- Soil disturbance activities and the discharge of contaminants into or onto land within 20 metres of any Significant Geothermal Feature is a discretionary activity under Rules 7.6.6.1 to 7.6.6.3. Significant Geothermal Features are defined in the Glossary, and in Development and Limited Development Geothermal Systems, identified on maps in Section 7.10 of this Plan.

#### Explanation and Principal Reasons for Adopting Methods 5.2.8.1 to 5.2.8.4

The composting of green waste is an activity that Waikato Regional Council wishes to encourage in accordance with Policy 1 of this Chapter. Significant quantities of green waste are produced in the Region each year. Much of this waste is disposed of in landfills or dumps where its decomposition contributes to the generation of landfill gases and leachate. However, green waste represents a potential resource if it is composted and recycled as a soil conditioner.

**Rule 5.2.8.1** permits small scale composting, such as on an orchard or farm. Even at this small scale, if many landowners import organic material into the Lake Taupo catchment, nutrient effects with respect to the Lake may be unacceptable. For this reason the rule applies outside the Lake Taupo catchment, or within the catchment if the compost is sourced from the property it is discharged to. **Rule 5.2.8.2** permits relatively small scale composting operations typically established at designated waste disposal sites and transfer stations. Because these operations only receive green waste and are generally in relatively isolated locations there is little risk of objectionable effects of odour arising. The Rule effectively provides for existing operations that have not been subject to successful enforcement action to continue without the need for resource consents, and provides for new operations to be established provided buffer zones are sufficient.

Larger composting operations involving more windrows become much more complicated to operate with much more attention required to the temperature, moisture content, raw material, inputs, leachate control and odour management at the site. Such larger sites are also generally operating as industrial or trade premises, receiving waste from a range of sources which further complicates management of the site. Considerable technical expertise is required at this scale of operation and the risks of non-compliance with the conditions are sufficiently high that a resource consent should be required. Green waste composting which enables composting activities that present a lower risk of generating odour due to their scale is enabled by a controlled activity (**Rule 5.2.8.3**). This activity generally presents low risks of objectionable effects of odour, compared with operations that compost biosolids, manure or food waste. However, due to the risks a resource consent is still required. Existing composting operations that have no record of complaints have also been enabled in this Rule as a recognition of good practice.

**Rule 5.2.8.4** identifies that composting other organic wastes or composting green waste in a manner that does not comply with the other rules is a discretionary activity. Past experience shows that these activities present a greater risk of generating objectionable odour than green waste composting. The matters over which control has been reserved in the controlled activity rule do not give Waikato Regional Council sufficient confidence that the effects of these activities can always be adequately managed. This Rule provides for composting of other materials such as sewage sludges or substrate for mushroom cultivation on a case-by-case basis.

## 5.2.9 Implementation Methods – Dust Suppression

### 5.2.9.1 Permitted Activity Rule – Use of Dust Suppressants

The discharge of contaminants (excluding waste oil\*) onto or into land for the purpose of dust suppression is a **permitted activity** subject to the following conditions:

- a) If the dust suppressant is a hazardous substance or if the water or dust suppressant contains hazardous substances it shall be licensed for use as a dust suppressant under the provisions of the Hazardous Substances and New Organisms Act (1996).
- b) The contaminants shall not be applied at a rate or in weather conditions that result in ponding or surface run-off of contaminants into surface water.
- c) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.

### 5.2.9.2 Non-Complying Activity Rule – Waste Oil and Other Dust Suppressants

The discharge onto or into land of waste oil or other substances that does not comply with Rule 5.2.9.1 is a **non-complying activity** (requiring resource consent).

#### Advisory Notes:

- Information requirements to enable the assessment of any application under this Rule are as set out in Section 8.1.4.8. In addition, assessment shall also take into account the matters identified in Policy 2 of Chapter 5.2.
- For the avoidance of doubt this Rule shall not apply to tar-seal or other permanent road surfacing materials.

#### Explanation and Principal Reason for Adopting Methods 5.2.9.1 and 5.2.9.2

Every year Waikato Regional Council receives enquiries as to whether the use of waste oil as a dust suppressant is a permitted activity. Approximately 30 million litres of waste oil is generated in New Zealand every year<sup>67</sup>. Of this only seven million litres per annum is currently recycled or disposed of in an environmentally responsible manner. The rest is disposed of through the following means:

- a) Dumping in landfills.
- b) Low temperature burning.
- c) Application to roads for dust control.
- d) Oiling chainsaws/staining fences.
- e) Other unspecified methods.

The disposal of waste oil in landfills is addressed in Rule 5.2.7.1. The low temperature incineration of waste oil is addressed in Rule 6.1.12.3. The use of waste oil for oiling chainsaws or staining fences does not present significant environmental risks compared to the widespread application of waste oil for dust suppression. These uses

<sup>67</sup> Ministry for the Environment and Opus Consultants. 1997: *Environmental Effects of Used Oil Application to Roads for the Suppression of Dust*. Ministry for the Environment, Wellington.

are therefore not addressed specifically by this Plan. The non-regulatory measures provided in Method 5.2.4.2 encourage the safe disposal of waste oil and the use of alternative products and techniques for dust suppression. However, non-regulatory methods do not provide sufficient clarity for resource users as to the status of the activity of dust suppression.

**Rule 5.2.9.1** permits the discharge of alternative, lower hazard dust control products. This Rule encourages resource users to shift to less hazardous alternative methods of dust suppression. The Rule allows the discharge of non-hazardous substances and hazardous substances licensed specifically for use as dust suppressants so long as they are not applied at a rate or in weather conditions that might lead to surface run-off and subsequent discharges to water.

**Rule 5.2.9.2** provides a clear signal that the use of waste oil as a dust suppressant, along with other substances that cannot comply with the conditions in the permitted activity rule is inconsistent with the objectives and policies.

## 5.2.10 Environmental Results Anticipated

1. A decline in the number of contaminated sites created each year.
2. An increase in the number and use of refuse transfer stations in rural areas and hazardous waste collection depots.
3. Solid waste on farms managed in a way that avoids adverse effects.
4. A reduction in the proportion of green waste in municipal solid waste streams going to landfill.
5. Increased rates of waste oil recycling/recovery through the oil industry waste oil collection programme and territorial authority collection systems.

## 5.2.11 Monitoring Options

Objective	Indicators/ Measurements	Types of Monitoring	Information Source
Discharges of wastes and hazardous substances onto or into land that: does not contaminate soil to levels that present significant risks to human health or the wider environment.	Number of confirmed contaminated sites created per annum since 1998.  Presence of specific contaminants of concern such as dioxin in the environment.	Compliance and effects monitoring.  Regional trend monitoring.  External databases.	Database of Selected Land Use Sites or Register of Contaminated Sites.  Incidents, spills and accidents.  Air quality database.  Water quality database.  National Drinking Water Programme.
Discharges of wastes and hazardous substances onto or into land undertaken in a manner that does not have adverse effects on aquatic habitats, surface water quality or ground water quality that are inconsistent with the Water Management Objectives in Section 3.1.2	See section 3.2.7 Metals in Waikato River.  Trends in contaminant discharges from point and non-point sources.	See section 3.2.7. Waikato river monitoring programme.  Regional trend monitoring.	See section 3.2.7. Water quality database.  Compliance monitoring database.  Resource consents database.

Objective	Indicators/ Measurements	Types of Monitoring	Information Source
Discharges of wastes and hazardous substances onto or into land undertaken in a manner that does not have adverse effects related to particulate matter, odour or hazardous substances that are inconsistent with the Air Quality Objectives in Section 6.1.3.	Sections 6.1.22.	Sections 6.1.22.	Sections 6.1.22.
Discharges of wastes and hazardous substances onto or into land undertaken in a manner that is not inconsistent with the objectives in Section 5.1.2.	<p>As for Chapter 5.1 Land cover, sediment levels in water bodies.</p> <p>Land cover, extent frequency of slips/floods.</p> <p>Develop and update indicator on coastal developments at risk on ocean beaches.</p> <p>Develop and update indicator on beach erosion.</p> <p>Land use. Land use relative to land capability.</p> <p>Soil quality monitoring.</p>	<p>Regional trend monitoring, compliance and effects monitoring.</p> <p>Regional trend monitoring, compliance and effects monitoring.</p> <p>Regional trend monitoring.</p> <p>Compliance and effects monitoring, soil quality monitoring.</p>	<p>Land use/cover database. Vegetation and wetlands database.</p> <p>Resource consents database. Compliance monitoring database.</p> <p>Care group databases.</p> <p>Coastal database. Resource consents database. Compliance monitoring database. Incidents, spills and accidents.</p> <p>Land use/cover database.</p> <p>Vegetation and wetlands database. Central government databases.</p>
Avoids significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu.	Land use, attitudes to protection of sites.	<p>Regional trend monitoring.</p> <p>Community monitoring, surveys.</p>	<p>Perception survey database.</p> <p>Iwi/Maori databases.</p> <p>Resource consents databases.</p> <p>Compliance monitoring database.</p> <p>Central government databases.</p>
Remedies or mitigates cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu.	Land use, attitudes to protection of sites.	<p>Regional trend monitoring.</p> <p>Community monitoring, surveys.</p>	<p>Perception survey database.</p> <p>Iwi/Maori databases.</p> <p>Resource consents databases.</p> <p>Compliance monitoring database.</p> <p>Central government databases.</p>

## 5.2.12 Good Practice Guide on Location of Dumps and Offal Holes on Production Land

The following good practice guide provides some initial guidance on the best locations for dumps and offal holes on production land. It should be read with the rules in Section 5.2.6.

- a) To prevent or minimise the risk of adverse effects associated with dumps and offal holes on production land such facilities shall not be located within:
  - i) 100 metres of any water supply bore, water body or area identified by a district plan as being a significant habitat of indigenous flora and fauna<sup>68</sup>.
  - ii) A coastal sand dune system or within 100 metres of the coastal marine area.
  - iii) 10 metres of a cave entrance or stream sink.
  - iv) 20 metres of a significant geothermal feature.
  - v) 50 metres of a property boundary.
  - vi) 300 metres from a marae, residential zone, hall or a public reserve.
  - vii) High risk erosion areas.
  - viii) Floodplains of rivers or streams.
  - ix) Any wetland area.
- b) In soils where water tables are very close to the surface, consideration should be given to composting of offal material or the use of commercial animal carcass collection services as an alternative waste disposal means.
- c) Under no circumstances should the base of the disposal area come into contact with the ground water table.
- d) When offal holes or dumps are closed, their location should be clearly identified so that future users or owners of the farm do not accidentally disturb the site.
- e) Offal holes should be covered with an impermeable concrete or metal manhole cover which is in kept place whenever the offal hole is not in use.

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<sup>68</sup> Refer to Appendix 3 of the RPS.

## 5.3 Contaminated Land\*

### Background and Explanation

Historical records show hazardous substances that may contaminate soils have probably been used, stored or disposed of at over 3,300 locations throughout the Region. This figure excludes sites that may have been contaminated as a result of the use of production land (e.g. sheep dip sites or elevated levels of pesticides in soils at orchards) and sites where hazardous wastes have been disposed of illegally.

Only 191 of these 3,300 sites have been investigated, and an even smaller number of these have been remediated or actively managed to minimise risk to site users, the community and the wider environment. Specific examples of prominent contaminated sites that have had significant adverse effects within the Region include the:

- a) Waikato Carbonisation Plant at Rotowaro
- b) Tui Mine above Te Aroha
- c) Hamilton Timber Treatment
- d) Hamilton Gasworks Site.

Contaminated land is not always a large industrial site. Contamination of ground water with petroleum products, mainly from leaking underground fuel storage tanks, is a problem in the United States and Europe and is increasingly being recognised as a threat in New Zealand. A number of underground fuel storage tanks in the Waikato Region have leaked, contaminating soil and both surface and ground water.

Where remediation has occurred<sup>69</sup> it has generally been to levels that national or international guidelines identify as being safe for the current or proposed land use or for specified uses of water (e.g. livestock watering purposes but not potable use).

This Chapter focuses on contaminated land, especially those sites that have not yet been investigated or remediated. Chapter 5.2 addresses the risk that future discharges of contaminants onto or into land may contaminate soils.

### Functions for the Management of Contaminated Land

Territorial authorities are responsible for controlling land use on contaminated land. This means that Waikato Regional Council must develop objectives, policies and methods for managing both passive and active discharges from contaminated land. Territorial authorities will need to consider, in terms of district plans and building consents, the suitability of some sites for a range of activities given the degree and effects of soil contamination on the site.

Other organisations such as the Ministry of Health (under the Health Act 1956) and the Department of Labour (under the Health and Safety in Employment Act 1992) also have functions that relate to the management of contaminated land. These functions are, however, very limited in their scope.

This Chapter provides clarity as to how Waikato Regional Council will respond to issues associated with discharges from contaminated land. By defining Waikato Regional Council's response to the issue, other agencies may also be better placed to develop their own responses to the issues.

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<sup>69</sup> For instance the Waikato Carbonisation Plant at Rotowaro or the Hamilton Gasworks.

### 5.3.1 Issue

The discharge of contaminants from contaminated land can cause the following adverse effects:

- a) acute toxic effects on human health through ingestion of contaminated material or inhalation of volatile chemicals and particulate matter
- b) bioaccumulation of contaminants in flora, fauna and humans, causing chronic health effects
- c) degradation of water quality and aquatic ecosystems
- d) objectionable levels of odour
- e) adverse effects on the relationship that tangata whenua as Kaitiaki have with their taonga such as ancestral lands, water and waahi tapu.

### 5.3.2 Objective

Discharges of contaminants from contaminated land shall be managed so that they:

- a) do not present significant risk<sup>70</sup> of chronic or acute toxic effects on human health, flora or fauna due to the contamination of soil and ground or surface water
- b) do not have adverse effects on water quality or aquatic ecosystems that are inconsistent with the water management objectives in Section 3.1.2
- c) there are no adverse effects on air quality that are inconsistent with air quality objectives in Section 6.1.2
- d) avoid significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu
- e) remedy or mitigate cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu.

#### Principal Reasons for Adopting the Objective

Waikato Regional Council is responsible for ensuring that the adverse effects of discharges from contaminated land are managed. **Objective 5.3.2** has focused Waikato Regional Council on managing the significant risks of adverse effects rather than focusing only on the immediate effects.

Part a) therefore identifies that discharges from contaminated land should not present significant risks of adverse effects on human health, flora or fauna.

Parts b) and c) provide for integrated management of the issues associated with contaminated land by cross-referencing directly to the relevant water and air management objectives in Chapters 3.1 and 6.1.

Parts d) and e) acknowledge the relationship that tangata whenua as Kaitiaki have with the land. When managing contaminated land, care must be taken to ensure that this relationship is not damaged.

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<sup>70</sup> For the purposes of this objective, the significance of risks at each contaminated site can only be determined through examination of a range of factors including the:

- a) types and quantities of contaminants present or likely to be present compared to national and international guideline values for the specific contaminant
- b) characteristics of the receiving environment
- c) current and proposed uses of the site
- d) current and proposed uses of affected water bodies
- e) likely scale of effects associated with the contamination (e.g. Are the human health effects carcinogenic or acute? How rare/important are the affected species?)

### 5.3.3 Policies

#### **Policy 1: Priorities for the Management of Contaminated Land**

List and prioritise land uses that present significant risk of contamination and give priority to managing those with the greatest risk.

#### **Policy 2: Significant Risks**

For the purpose of Chapter 5.3 the significance of risks associated with a particular site will be assessed on the following basis:

- a) Any numerical standards provided by relevant nationally recognised guidelines.<sup>71</sup>
- b) In the absence of relevant national guidelines, numerical standards determined in other internationally recognised guidelines that are prepared using the same methodologies as those prepared by the Ministry for the Environment.
- c) The current or proposed land use and any restrictions on future uses of the site.
- d) The proximity of the land to sensitive ecosystems and the sensitivity of those ecosystems to the contaminants.
- e) The existence and characteristics of possible exposure pathways for the contamination.
- f) The level of contamination in soil and water at the site, potential for discharges to air and the characteristics of the contaminants.
- g) The degree and nature of discharges from the site.
- h) The geological nature and history of the site.
- i) Any archaeological sites, waahi tapu or other identified sites of significance to tangata whenua as Kaitiaki affected by discharges from the contaminated land.
- j) Any adverse effects on the relationship of tangata whenua as Kaitiaki with the land and water resources affected by the discharge from the contaminated land.

#### **Policy 3: Remediation**

Through rules in this Plan and resource consent processes, enable the remediation of contaminated land where the technology to be used and associated discharges are unlikely to have adverse effects that are inconsistent with the objectives or the requirements of the RMA.

#### **Policy 4: High Priority Land Uses<sup>72</sup> and Confirmed Contaminated Land**

Ensure that any discharges from high priority land uses and confirmed contaminated land do not present a significant risk of adverse effects.

#### **Policy 5: Other Potentially Contaminated Land**

Ensure that resource users are aware of the risk associated with contaminated land and the steps required to manage these risks.

#### **Explanation and Principal Reasons for Adopting the Policies**

**Policy 1** is necessary because the funds available for Waikato Regional Council to ensure that contaminated land is adequately managed are limited. Table 5-1 identifies the historical land uses generally associated with some degree of land contamination, due to past use (transport, storage or disposal) of hazardous substances and prioritise them on the basis of the risk that they pose.

This list was developed taking into account the following factors:

- a) The characteristics of the hazardous substances known, or likely, to have been used (or generated) for each category of land.

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<sup>71</sup> For instance, the 1997: *Health and Environmental Guidelines for Selected Timber Treatment Chemicals*. (Ministry for the Environment and Ministry of Health). Wellington.

<sup>72</sup> High priority land uses are identified in Section 5.3.7.

- b) Any generic characteristics of the land known to typify a particular category (e.g. typical location, degree of contamination typically found at such sites overseas).

**Policy 2** provides clarification for landowners and decision-makers as to the means by which the significance of risks on contaminated land will be assessed. The standards to be used in determining whether risks are significant are to be based on the Ministry for the Environment's pragmatic risk-based philosophy rather than other more prescriptive or precautionary standards such as those from Europe. The Policy recognises that even when national or international guidelines exist, they should not be followed exclusively. These guidelines tend to focus on human health risk rather than ecological risks and must be considered along with any site-specific factors that may either exacerbate or reduce the risks of contaminants.

**Policy 3** acknowledges the positive effects of land remediation. The Plan enables a range of discharges likely to occur from contaminated land during land remediation through Rules 3.5.11.3 and 3.5.11.4. The Policy indicates that, where a resource consent is required, Waikato Regional Council will take an enabling and positive approach to the consent process if discharges are unlikely to have adverse effects that are inconsistent with the objectives or the requirements of the RMA.

**Policies 4 and 5** identify that Waikato Regional Council must focus its limited resources on managing high priority land uses and contaminated land.

## **5.3.4 Implementation Methods – Contaminated land**

### **5.3.4.1 Partnerships**

Waikato Regional Council will work with:

1. individual land owners, other liable parties, territorial authorities, public health boards and other relevant agencies to develop strategies for managing the risks on contaminated land,
2. territorial authorities and public health boards to establish and maintain a database of historic land use sites where past land uses have involved the use, storage or disposal of hazardous substances, or where contamination has been confirmed.

### **5.3.4.2 Environmental Education**

Waikato Regional Council will, through environmental education programmes, provide land owners with information and advice on:

1. the best means to avoid or remedy any potential effects of land contamination,
2. techniques for undertaking contaminated site assessments,
3. the options for remediation and long term management of their sites.

### **5.3.4.3 Promotion**

Waikato Regional Council will encourage:

1. owners of sites on which medium and high priority land uses have occurred to complete contaminated site assessments, especially prior to the sale or redevelopment of their land,
2. territorial authorities to seek site assessments prior to allowing subdivision or redevelopment of land where any of the historical land uses identified in Table 5-1 are likely to have occurred in the past,

3. territorial authorities to contribute to the ongoing development and maintenance of a joint database collating information on the status of land where uses involving the storage, use or disposal of hazardous substances has occurred and release of that information through the LIMs and PIMs processes.

#### 5.3.4.4 Investigation and Remediation

Waikato Regional Council will:

1. undertake appropriate desk top investigations (including analysis of old aerial photos and records of chemical use, enforcement action and affidavits) of sites where high priority land uses have occurred in the past. Priority for investigation will be given to those orphaned sites\* that pose the most significant risk of adverse effects,
2. take a lead role in identifying funding sources for, and in co-ordinating, the remediation of orphaned sites that have discharges that present a significant risk of adverse effects to the environment.

#### 5.3.4.5 Part XII RMA Enforcement

Waikato Regional Council will apply for enforcement orders, issue abatement notices and use other enforcement mechanisms in Part XII of the RMA, to require remediation or management of contaminated land where the current management is not adequately addressing adverse effects of discharges to air or water emanating from the site.

#### 5.3.4.6 Permitted Activity Rule – Discharges from Remediation of Contaminated Land

Any discharge arising from remediation of contaminated land is a **permitted activity**, subject to the following conditions:

- a) any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.
- b) No contaminants from the remediation of the contaminated land shall be discharged into water or onto land unless discharged to a landfill authorised in Section 5.2.7.
- c) The Waikato Regional Council shall be provided with the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) prior to commencement of land remediation:
  - i) detailed site investigation report
  - ii) site remedial action plan
- d) After remediation is completed, copies of the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) must be provided to the Waikato Regional Council:
  - i) site validation report
  - ii) ongoing monitoring and management plan.
- e) Any updates of these reports shall be provided to the Waikato Regional Council if a change in investigation, remediation and monitoring strategy occurs.

#### Advisory Notes:

- Copies of Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) are available from Waikato Regional Council or can be found on the Ministry for the Environment's website.
- The LIM report for the site will be updated in accordance with Figure 5-2 and Method 5.3.4.3 to show that the land has been remediated.

#### 5.3.4.7 Controlled Activity Rule – Discharges from Remediation of Contaminated Land

Any discharge arising from remediation of contaminated land that does not comply with Rule 5.3.4.6 is a **controlled activity** subject to the following standards and terms:

- a) The Waikato Regional Council shall be provided with the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) prior to commencement of land remediation:
  - i) detailed site investigation report,
  - ii) site remedial action plan.
- b) After remediation is completed, copies of the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) must be provided to the Waikato Regional Council:
  - i) site validation report.
  - ii) ongoing monitoring and management plan.
- c) Any updates of these reports shall be provided to the Waikato Regional Council if a change in investigation, remediation and monitoring strategy occurs.
- d) Any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.

Waikato Regional Council reserves control over the following matters:

- i. Degree of contamination remaining in soil and water after remediation is complete.
- ii. The methodology used to identify the presence and concentration of contaminants discharged onto or into land.
- iii. The acceptability of the methods of assessment of resources under threat and pathways of contaminant migration followed by modelling to demonstrate the level of threat that exists, specifically in terms of:
  - a) water quality protection guidelines
  - b) background soil concentrations
  - c) soil acceptance criteria
  - d) guidelines recognised by Waikato Regional Council
  - e) acceptable international standards.
- iv. The requirements for leachability tests to demonstrate the mobility of contaminants present.
- v. The requirements to provide an acceptable method for reducing ground or surface water migration into or out of the contaminated land.
- vi. The requirements for monitoring to assess ground water and surface water contaminant levels.
- vii. Contents of ongoing monitoring and management plan.
- viii. Measures to ensure consistency with criteria as set out in any applicable water management classes in this Plan.

#### **Notification:**

Application for resource consents for activities under this Rule will be considered without notification or the need to obtain written approval of affected persons, in accordance with s94(1)(b) of the RMA.

#### **Advisory Notes:**

- Copies of Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) are available from Waikato Regional Council or can be found on the Ministry for the Environment's website.

- The LIM report for the site will be updated in accordance with Figure 5-2 and Method 5.3.4.3 to show that the land has been remediated.

#### 5.3.4.8 Discretionary Activity Rule – Discharges from Remediation of Contaminated Land

Any discharge arising from remediation of contaminated land that does not comply with Rules 5.3.4.6 and 5.3.4.7 is a **discretionary activity** (requiring resource consent).

##### Explanation and Principal Reason for Adopting Methods 5.3.4.1 to 5.3.4.8

Waikato Regional Council's strategy for managing issues associated with contaminated land is outlined in the implementation methods above. The strategy emphasises the use of non-regulatory methods and enabling rules to manage the risks associated with land contamination. Figure 5-2 provides a graphic representation of how this strategy will be implemented.

**Methods 5.3.4.1, 5.3.4.2 and 5.3.4.3** identify the importance of maintaining a database of the status of contaminated land and providing information, advice and key messages on managing the risks associated with the land to the landowners.

The database must be developed and maintained in a partnership between Waikato Regional Council and territorial authorities. This is necessary to ensure that potentially contaminated land is not redeveloped without the risks being assessed and managed, to avoid residential or agricultural development occurring on contaminated land. This information will be made available to the public through LIM and PIM processes and will allow potential property purchasers to make informed decisions. The listing of land on the database will encourage landowners to check contamination status of their land and remediate it to a standard that meets the objective for this Section if necessary without the need for regulation.

**Method 5.3.4.4** identifies that Waikato Regional Council has a role in the identification and assessment of contaminated land. The method focuses Waikato Regional Council on high priority and orphaned sites as they are the sites that present the most significant risk of adverse environmental effects.

**Method 5.3.4.5** acknowledges that where the other implementation methods do not work, regulatory actions may be necessary. Resource consents may be required for some discharges from contaminated land. Remediation of the land can be required through enforcement orders and abatement notices. The implementation method identifies that this is an option Waikato Regional Council is prepared to use if it is necessary to ensure that risks to the public and the environment are managed.

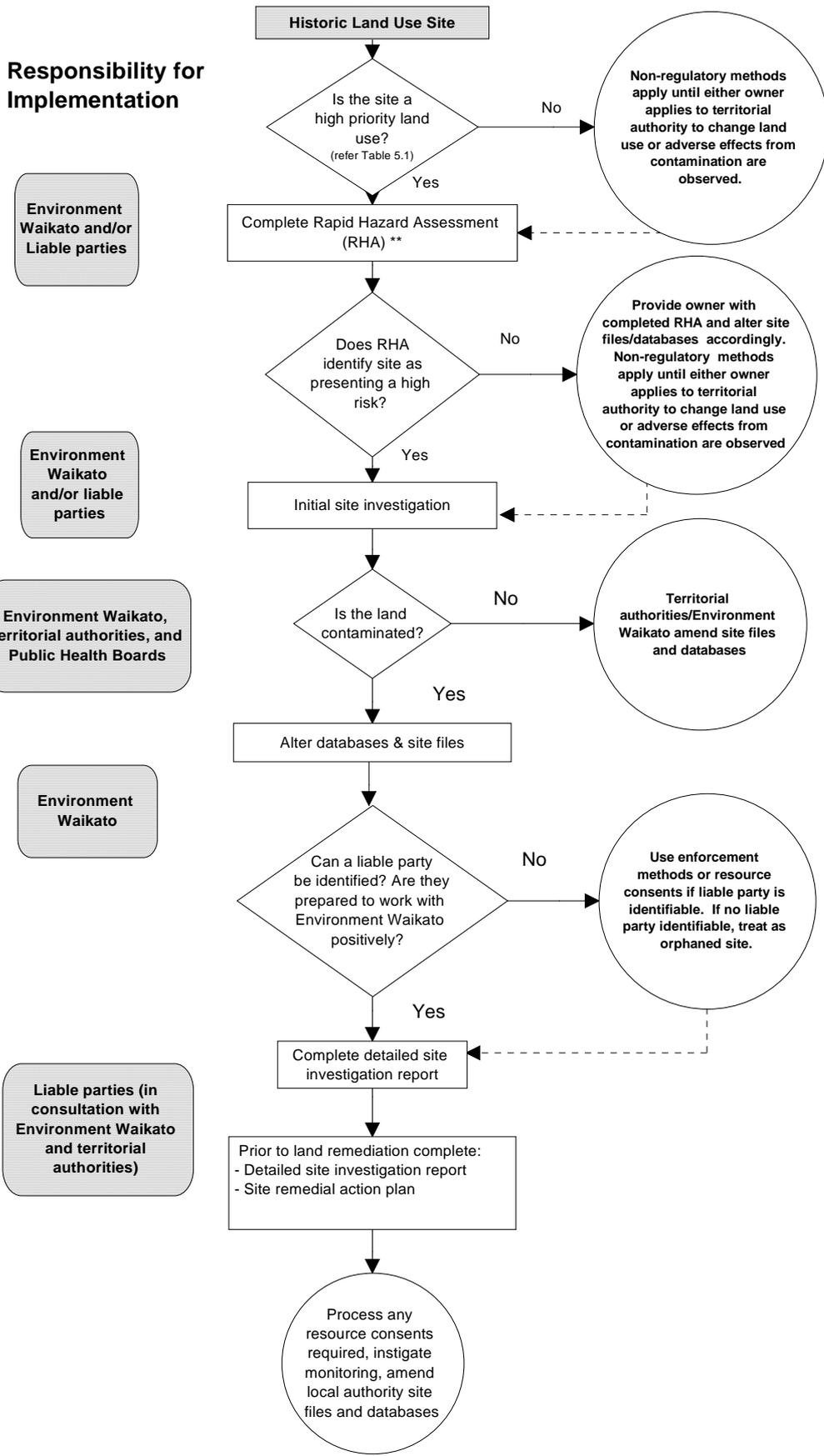
**Methods 5.3.4.6 and 5.3.4.7** recognise that remediation of contaminated land should be enabled. In keeping with the principle of enabling contaminated land remediation, the application for resource consents for the activity will be considered without notification or the need to obtain written approval from affected persons. Methods 5.3.4.6 and 5.3.4.7 require that, as a minimum, a range of reports are prepared and submitted to Waikato Regional Council. If a resource user decides not to prepare reports in the nationally accepted formats specified, then the activity is a discretionary activity. This encourages the adopting of the Ministry for the Environment's guidelines for reporting on contaminated sites and will achieve a nationally consistent standard of management for contaminated sites.

### 5.3.5 Environmental Results Anticipated

1. Contaminated land in the Region identified, managed and where possible remediated.
2. Greater public awareness of the importance of maintaining a record of the status of the contaminated land through the LIM and PIM processes.
3. Improved water, air and soil quality in the vicinity of confirmed contaminated land as a result of land remediation.

### 5.3.6 Monitoring Options

Objective	Indicators/ Measurements	Types of Monitoring	Information Source
Discharges of contaminants from existing contaminated sites do not present a significant risk of chronic or acute toxic effects on human health due to the contamination of soil, ground water or surface water.	Number of contaminated sites recorded as under investigation, confirmed or remediated.  Number of contaminated sites remediated to levels set by guidelines or risk assessments.	Compliance and effects monitoring.	Database of Selected Land Use Sites and Register of Confirmed Contamination Sites.  Resource consents database.  Territorial authority files.
Discharges of contaminants from contaminated land do not have adverse effects on water quality or aquatic ecosystems that are inconsistent with the water management objectives in Section 3.1.2.	The effects of discharges to water from contaminated sites on the indicators provided in Section 3.2.7.	See Section 3.2.7.	See Section 3.2.7.
There are no adverse effects on air quality that are inconsistent with air management objectives in Section 6.1.2.	The effects of discharges to air from contaminated sites on the indicators provided in Section 6.1.2.2.	See Section 6.1.7.	See Section 6.1.7.
Discharges of contaminants from contaminated land avoid significant adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu.	The number of contaminated sites on waahi tapu sites.	Compliance and effects monitoring.  Community monitoring.	Resource consents database.  Iwi/Maori databases.
Remedies or mitigates cumulative adverse effects on the relationship that tangata whenua as Kaitiaki have with their identified taonga such as ancestral lands, water and waahi tapu.	The number of contaminated sites on waahi tapu sites.	Compliance and effects monitoring.  Community monitoring.	Resource consents database.  Iwi/Maori databases.



**Figure 5-2 Implementation Flow Chart for Contaminated Land**

**Table 5-1 Prioritisation of Land Uses**

**(a) High Priority**

Land Uses	Rationale for Priority Status
Gas Works	<p>Considerable amounts of hazardous waste generated.                      Waste material generally left on site.                      Abandoned sites with uncontrolled access.                      Little control of off-site transport of waste.                      Sites commonly situated in sensitive areas.                      Major contamination problems are known to exist.</p>
Landfill sites and uncontrolled waste dumps that received waste from industrial or trade premises	<p>Uncontrolled dumping – unknown content.                      Mobility of contaminants – leachate, gas generation.                      Inappropriate siting.                      Very wide range of potential contaminants.                      Uncontrolled leachate or stormwater run-off.                      Many sites abandoned without controls.                      Potential release of persistent, bioaccumulative toxins.</p>
Sites with the potential for generating acid drainage (e.g. earthworks or mineral extraction in sulphide bearing rock masses)	<p>Mobility of contaminants, potential to generate acid drainage.                      Abandoned sites without controls.</p>
Oil production and storage	<p>Large volumes of hazardous material on site.                      High mobility of some contaminants                      Minor leaks and spills common – build up of persistent components.</p>
Scrap yards	<p>Wide variety of hazardous material potentially present.                      Hazardous substances may be unknown/unrecognised.                      Potential release of persistent, bioaccumulative toxins.                      Operate with few environmental considerations.                      Often little or no control of run-off.                      Often sited in sensitive areas.</p>
Service stations	<p>Large volumes of mobile, hazardous substances.                      Storage practices known to pose threat to ground water.                      Minor leaks and spills often undetected.                      Often sited in sensitive areas.                      Large number of sites in Region.</p>
Wood preservation (including treated timber storage sites)	<p>Major industry in Region.                      Past practices known to have led to site contamination.                      Several serious cases of site contamination known.                      Potential source of highly toxic and bioaccumulative contaminants such as dioxin.                      Some sites abandoned with no controls.                      Many sited in sensitive areas.</p>

## (b) Medium Priority

Land Use	Rationale for Priority Status
Acid/alkali plant and formulation	Potential for serious contamination but only minor land use in the Region.
Asbestos production and disposal	Serious health issue, but production very limited in the Region. More information on disposal sites and practices required.
Chemicals manufacture and formulation	Wide variety of potential contaminants, but only minor land use in the Region. More information required.
Clay target shoot ranges	Some work has identified serious lead contamination of soil at these sites and on neighbouring properties. This may also pose a threat to water quality near the range. Information is limited.
Defence works	Little information available on scale and nature in the Region.
Drum reconditioning works	Potential problems, especially if poorly managed. Very few sites in the Region. More information required.
Electrical manufacturing (transformers)	Major problem chemicals (e.g. PCB) no longer used and existing inventory being dealt with by collection programme. Some historical contamination may remain but very little information available on scale of practice in the Region. Investigation of sites is required to ascertain whether PCB contamination is present – if so, site will become high priority, if not, low priority.
Electroplating and metal treatment premises	Potential problems of unknown scale. More information on number and range of premises required.
Engine works	Potential problems of unknown scale. More information required.
Pesticide manufacture and formulation	Potential contaminants are well defined and operations generally well managed. Some historical problems may exist. This activity has not occurred extensively in the Region.
Power stations	Some problems recognised and need for action already acknowledged. Historical use of PCB-based transformer oils in power stations and related sites (e.g. substations, switchyards) of concern.
Railway yards	Little information available on the scale of contamination associated with this industry.
Tanning and associated trades	Potential for contamination with substances such as chromium and metal sulphides if poorly managed. More information required.
Waste storage and treatment	Wide variety of potential contaminants. Considerable potential for contamination if poorly managed. More information required.

### (c) Low Priority

Land Use	Rationale for Priority Status
Aggregate extraction	Limited potential for contamination.
Agricultural/horticultural activities	Industry codes of practice should minimise risks. Environmental education most appropriate, given the size and scale of operations.
Airports	Minor land use in the Region. Relatively low potential for contamination.
Cemetaries	Some potential for contamination from heavy metals, but land use means that little risk would normally exist.
Dry-cleaning establishments	Typically only small scale operation in New Zealand. Limited contamination potential.
Explosives industry	Minor land use in Region. Relatively low potential for contamination.
Iron and steel works	Few in Region. Limited contamination potential.
Paint formulation and manufacture	Minor land use in the Region. Relatively low potential for contamination.
Pharmaceuticals manufacture and formulation	Minor land use in the Region. Relatively low potential for contamination.
Sheep and cattle dips	Typically small scale of operation. Contamination with arsenic and organochlorine agrichemicals is possible, but likely to be very localised. Environmental education most appropriate.
Smelting and refining	None in Region.