

CHAPTER 23: NATURAL HAZARDS AND HAZARDOUS SUBSTANCES

23.0 INTRODUCTION

A. Natural Hazards

Natural hazards are essentially natural processes or events. They are regarded as hazards to the extent that they are a threat to life, property or some environmental feature. The principal concern is when the area, quality or character of land - and hence its value - is reduced by natural coastal process.

Erosion and deposition are continuing processes. Major fluctuations occur during storm events. A long-term database is needed to show long-term trends, distinct from short-term fluctuations. Erosion and deposition occur along soft shoreline and where rivers discharge sediment from eroding catchments.

Sea-level rise is a potential process, likely to exacerbate erosion, deposition and flooding.

Flooding on the coast is an intermittent hazard. Tide level, river flood water, onshore winds, and low atmospheric pressure, are contributing factors. Its effect at varying flood height can be predicted, but the occurrence and scale of flooding can only be predicted at short notice. River mouths and estuaries are primarily affected, but tide or river levels may also prevent stormwater draining from sites further landward, as in Motueka.

Earthquake and tsunami are isolated events, whose timing, scale and effect are not predictable.

The Act and the New Zealand Coastal Policy Statement seek the avoidance or mitigation of adverse effects of natural hazards. The natural processes that cause hazards cannot be avoided but, where possible, their effects should be avoided or mitigated. Sustainable management of physical resources could include protection of land and buildings. However, the natural character of the coastal environment is required to be preserved. It will not be preserved if the natural processes that create it are interfered with or disrupted.

The New Zealand Coastal Policy Statement proposes that the ability of natural features to protect subdivision, use or development should be maintained and, where appropriate, enhanced. It also proposes that the functioning of coastal processes should be protected, and that coastal protection works should be avoided, without resolving inconsistencies between these statements. The New Zealand Coastal Policy Statement also limits coastal protection works to circumstances where they are the best practicable option (without indicating how that is to be assessed), requiring abandonment or relocation of structures to be considered as alternatives to protection works.

B. Hazardous Substances

The presence of hazardous substances in the coastal marine area is limited to fuel and cargo in vessels transiting the area and minor vessel refuelling installations at the District's ports. Possible sources are in waste or effluent requiring disposal, or future undersea resource investigation or extraction processes.

The Act's provisions regarding discharges to the coastal marine area are in transition, with the current Plan rule and resource consent requirements likely to be replaced. Regulations will define and govern the discharge of "harmful substances", and any dumping of waste is to be by consent only (not through Plan rules).

The Maritime Transport Act 1994 requires Council to prepare and implement an oil spill contingency plan.

Hazardous substances in the coastal marine area are a possible future issue, and this chapter provides general contingency measures.

23.1 NATURAL HAZARDS

23.1.1 Issues

- 23.1.1.1** The desire to protect the value of land by preventing loss of land, inundation, raised water-table or saltwater intrusion, compared with the practicality and cost of achieving effective protection and the legislative preference to let natural processes run their course.
- 23.1.1.2** The effects of coastal protection works on:
- (i) habitats and ecosystems;
 - (ii) currents, wave energy, sediment movement and deposition;
 - (iii) natural character, landscape and amenity values;
- and effects beyond the site of the works.
- 23.1.1.3** The navigational risks of mobile sand spits, bars and banks, and of reduced water depth in estuaries.
- 23.1.1.4** Habitat damage from flood or storm events, or change in habitat type such as reduced area or depth of water in estuaries and diminished intertidal margin, as mean high water springs advances to land of increasing gradient.

23.1.2 Objective

Subdivision, use or development of coastal land that avoids the need for protection works against hazards from natural coastal processes.

23.1.3 Policies

Refer to Policy set 13.1.

Refer to Rule sections 16.3, 25.1 – 25.5.

- 23.1.3.1** To assess the likely need for coastal protection works when determining appropriate subdivision, use or development in the coastal environment and, where practicable, avoid those for which protection works are likely to be required.
- 23.1.3.2** To avoid developments or other activities that are likely to interfere with natural coastal processes, including erosion, accretion, and inundation, except as provided for in Policy 23.1.3.6.
- 23.1.3.3** To prevent natural hazards being aggravated by subdivision, use or development, including off-site effects of any coastal protection works.
- 23.1.3.4** To monitor coastal processes and the extent to which they constitute a hazard.
- 23.1.3.5** To prepare a hazard management strategy identifying hazards, hazardous areas, and management options for these.
- 23.1.3.6** To allow the establishment of coastal protection works only where:
- (a) the works are justified by a community need;
 - (b) alternative responses to the hazard (including abandonment or relocation of structures) are impractical, impose a high community cost, or have greater adverse effects on the environment;

- (c) it is an inefficient use of resources to allow natural processes to take their course;
- (d) for works protecting individual properties, the works will not cause or exacerbate adverse effects on other properties in the vicinity;
- (e) any effects of the work, including effects on water currents, wave action, sediment transport and deposition processes, do not adversely affect the natural character, natural processes or amenity values of the coastal marine area beyond the site of the work;
- (f) any effects of the work, including effects on water currents, wave action, sediment transport and deposition processes do not adversely affect the natural character or amenity values of the coastal marine area;
- (g) public access to and along the foreshore is maintained or enhanced; and
- (h) other adverse effects of the work are avoided, remedied, or mitigated.

23.1.3.7 To promote the maintenance and enhancement of coastal vegetation in areas at risk from coastal erosion.

23.1.3.8 To avoid new subdivision, use or development that would hinder the ability of natural systems and features (such as beaches, dunes, wetlands or barrier islands) to protect existing subdivision, use or development from natural hazards (such as erosion, inundation, storm surge, or sea level rise).

23.1.20 Methods of Implementation

23.1.20.1 Regulatory

- (a) Rules that allow certain existing coastal protection structures, but control their adverse effects on coastal processes.
- (b) Rules that control likely adverse effects of other structures or works for coastal protection purposes.
- (c) Rules that control buildings and subdivision on coastal land, including in the Coastal Risk Area and the Coastal Environment Area.

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23.1.30 Principal Reasons and Explanation

Coastal processes constitute hazards to use of coastal land, and over time may change the character of the coastal environment. Existing coastal development that becomes at risk, generates a demand for protection works. The Act and the New Zealand Coastal Policy Statement require natural processes to not be impeded in preserving the natural character of the coastal environment. New development that may be exposed to hazard effects should be avoided, and protection works for existing development need to be controlled where adverse effects may result.

23.1.40 Performance Monitoring Indicators

- 23.1.40.1** Changes in the extent of coastal subdivision and buildings in areas subject to coastal erosion or sea flooding.
- 23.1.40.2** Establishment or removal of coastal protection structures or other coastal structures impeding natural coastal processes.

23.2 HAZARDOUS SUBSTANCES

23.2.1 Issue

Hazardous substances present risks in the coastal marine area.

23.2.2 Objective

A coastal marine area in which public safety, people's property, and the environment, are free of adverse effects from hazardous substances.

23.2.3 Policies

Refer to Rule section 16.7.

- 23.2.3.1** To avoid any likely adverse effects of any facility for the storage, use, or transport of any hazardous substance in the coastal marine area, including those effects arising from the inappropriate location, design, construction or management of such facilities.
- 23.2.3.2** To require the storage or transport of hazardous substances in the coastal marine area to comply with the requirements or advice of the manufacturer.
- 23.2.3.3** To prevent the disposal of any hazardous substance in the coastal marine area.
- 23.2.3.4** To require contingency plans to be prepared and implemented for any accidental discharge of any hazardous substance into the coastal marine area arising from its storage, use or transport.
- 23.2.3.5** To prevent the generation of radioactive material or the generation of energy from radioactive material in the coastal marine area.

23.2.20 Methods of Implementation

23.2.20.1 Regulatory

- (a) Rules that regulate the storage or use of hazardous substances in the coastal marine area.
- (b) Rules that prohibit the manufacturing or processing of any hazardous substance in the coastal marine area.
- (c) Rules that prohibit the generation of radioactive material or the generation of energy from radioactive material, or the use of radioactive material for educational or research in the coastal marine area.

23.2.30 Principal Reasons and Explanation

The use, transport, storage or disposal of hazardous substances may significantly contaminate the coastal marine area. It is unacceptable to allow such risks in this mobile and natural environment. Activities connected with hazardous substances are controlled to avoid or limit these risks.

23.2.40 Performance Monitoring Indicators

- 23.2.40.1** Establishment of activities involving the use, storage, transport or disposal of hazardous substances in the coastal marine area.

23.50 ENVIRONMENTAL RESULTS ANTICIPATED

- 23.50.1** No increased exposure of built development to coastal hazards.
- 23.50.2** Continued change to shoreline form and location as a result of coastal processes, except where protection works have been established.
- 23.50.3** No increased risk of contamination from hazardous substances in the coastal marine area.

