

# Under Pressure

How the environment is affected by people and their needs

Auckland's resources are under enormous pressure from population growth, consumption and economic activity. Resources such as land, air, water and the ecosystems within these are affected in many ways:

- We use and process raw materials like wood, wood products, sand and gravel, and place demands on water and energy sources.
- We change the way land and marine areas are used for recreation, housing, business, transport and industry needs. This affects the soil, water and air and fragments native areas.
- Moving people and goods by road, rail, sea and air causes pollution. Expanding transport routes changes the landscape.
- We create waste, both clean and contaminated, through production processes and by buying goods, and then discarding them.

Many of these impacts relate to land use, housing development and transport as we build more houses, new waste water and energy networks and road, rail, sea and airport links.



The types and extent of the environmental pressures Auckland faces are dictated largely by the way the land is used.

This is how we use the land:

- Pasture or farmland is the most common land cover type in the region covering just under 50 per cent of land area. (See Map 1 over the page). Most of this is used for sheep and beef farming, followed by dairying and rural residential (lifestyle housing). Livestock numbers have declined but farming is intensifying with the average size of dairy herds and stocking rates per hectare increasing. Rural land continues to be subdivided in potentially sensitive areas, in particular around the edge of the metropolitan area in the south-east and northern coastal areas.
- The urban area covers 10 per cent of the land and 70 per cent of this is covered by residential development. Between 1987 and 2006 the urban area grew by 24 per cent and the amount of people on the land (land density) grew to 25.7 people per hectare. Meanwhile, the number of dwellings also increased (see Map 2, over). During this time about 330 hectares of prime agricultural soil was permanently lost each year.
- Impervious surfaces are hard surfaces like roads and roofs in the urban area. In the region, impervious surfaces grew from 39 per cent of the urban area in 2000 to 42 per cent in 2008.

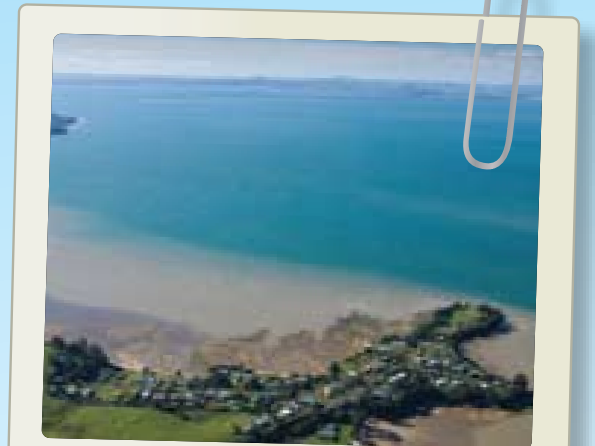
- Intensification of urban land, such as when more houses are added to a section, or houses are knocked down to make way for apartments also puts pressure on the environment.
- Intensive use of coastal land is occurring in some places. As well as housing, highly populated areas of the Waitemata harbour, Tamaki estuary and East Coast Bays have many coastal structures including boardwalks, breakwaters, jetties, boat ramps, bridges and groynes. The Mahurangi and Kaipara harbours have relatively few coastal structures.

We also make use of our coastal waters and seabed:

- There are eight large marinas and 4,600 managed moorings across Auckland.
- Ground is moved and used elsewhere. For example, there are currently 47 consents for reclamation, 32 for dredging, 27 for disposal, deposit and replenishment, and nine for sand extraction.
- Aquaculture – or the harvesting of marine animals such as oysters – covered an area of about 340 hectares on 70 aquaculture farms in 2008.

### What does this land use mean for the environment?

- Changing rural land to urban land can cause sediment from land clearance and building activity to flush into streams and rivers and subsequently into the sea (see right). This is especially problematic if the development is not well managed.
- Increasing impervious surfaces in the urban area mean more rain run off, carrying pollutants into waterways, and increasing the risk of flooding.
- Native vegetation, wetlands and heritage features can be lost, fragmented or completely destroyed during land development. On the other hand, native replanting of hillsides, gullies and streams can protect soils and restore native habitats.
- Use of the coastal edges and the seabed puts pressure on natural marine systems as well as changing the way people can use and enjoy these areas.
- Dredging, reclamation, extraction and disposal can affect soil stability and processes, spoil natural character and destroy historical heritage sites and coastal habitats.
- Aquaculture farming has the potential to provide economic benefits but needs careful management to maintain marine health and public enjoyment of coastal areas.



Sediment and the contaminants suspended in it is one of the biggest environmental problems facing our region's freshwater and marine environments. Land clearance, farming and urban development, past and present, cause sediment to build in waterways affecting marine health. Sediment is clearly visible around the coastline in this picture.



