Sedimentation

BAY OF PLENTY REGIONAL COUNCIL

Sedimentation is the build up or settling of sediment.

Sediment is soil transported by wind or water.

Sediment can be small particles of rock, shells, silt, mud, vegetation and other material.

It has been measured that 1000 times more sediment comes from a bare patch of disturbed land (such as earthworks) than from a forested area. Less vegetation cover means more sediment will get into our streams.

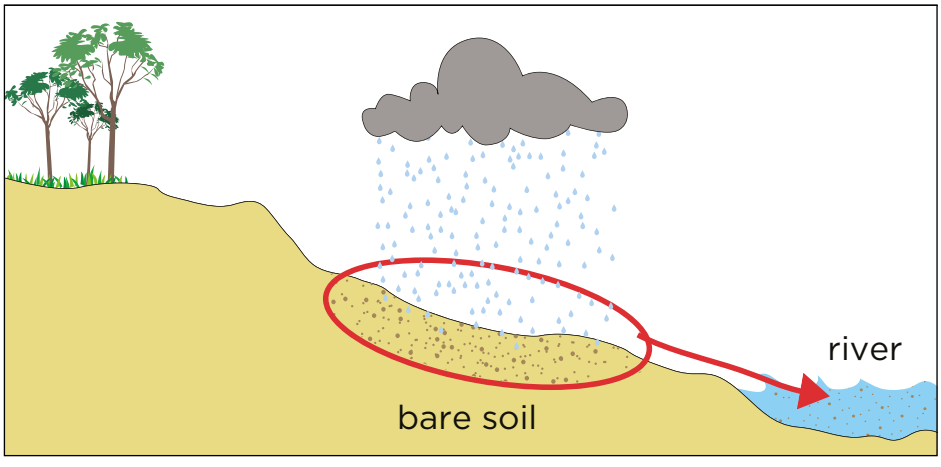
Sediment can bury shellfish and seagrass beds

Sediment runoff

Before humans settled in Tauranga Harbour, most of the harbour catchments were clothed in lush dense native vegetation. This cover protected the land from intense rain, building up deep layers of humus that helped the land absorb rainfall. This process over thousands of years developed the landscape, soils and streams we see today.

Much of this once lush vegetation has now been replaced with grass, and manmade structures. Vegetation loss has resulted in erosion of much of the deep humus (rich organic topsoil) layer that acted as a sponge to absorb rainfall. The result is quicker runoff from the land into small streams and rivers, giving higher flows than these waterways coped with in the past. Rapid runoff and flows have more erosive power, resulting in more stream bank and bed erosion, and so more sediment being transported in our water ways.

Sediment runs off the land



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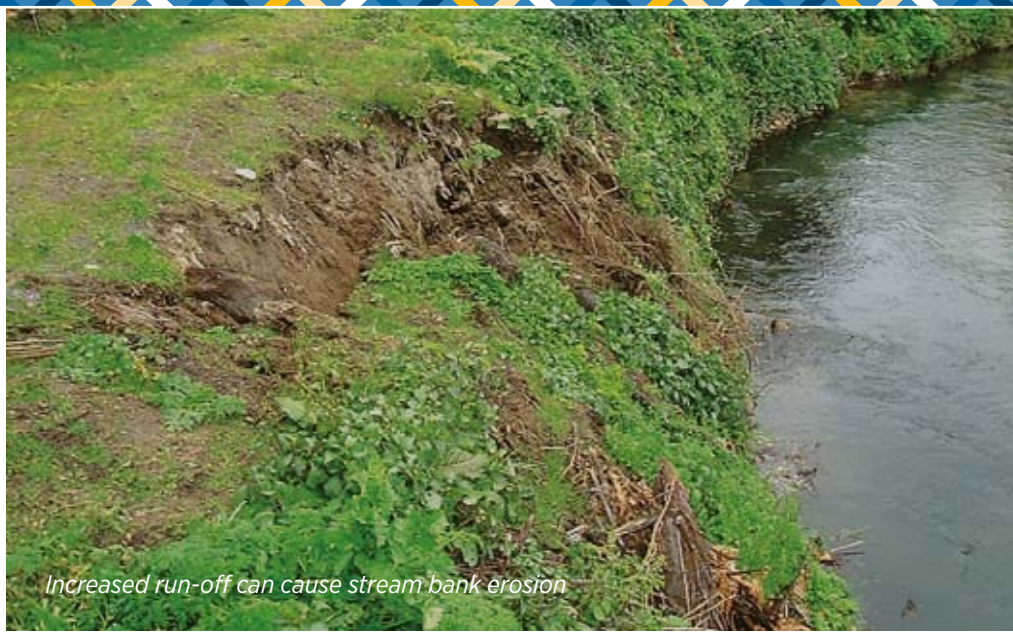
While the soil is being carried by the water it is referred to as suspended sediment. It blocks out light that is needed by aquatic plants like sea grass to live. Shellfish and fresh water species that feed by filtering water through their systems cannot feed, as the sediment in the water clogs their filters.

Sedimentation is the process where sediment settles and builds up which is often referred to as accretion. Sedimentation and accretion are the opposite of erosion, where sediment is removed. Lots of sedimentation or accretion can make a river or harbour shallower over time. Sedimentation has affected many aspects of harbour life and can interfere with many harbour uses. For example, in the harbour navigation channels have shallowed, mangroves have spread and some habitats such as sea grass beds, spawning sites, juvenile fish areas, and shellfish beds have been buried or are degrading.

The amount or rate of sedimentation in Tauranga Harbour has increased over the years because of population growth, changing land use and soil disturbance related to development.



Increased run-off can cause stream bank erosion

What is being done?

To reduce sedimentation and improve the health of our streams and harbour Bay of Plenty Regional Council is able to help land owners develop environmental management plans. These include actions such as fencing streams, re-vegetating steep land, controlling erosion and promoting other good land use practices.

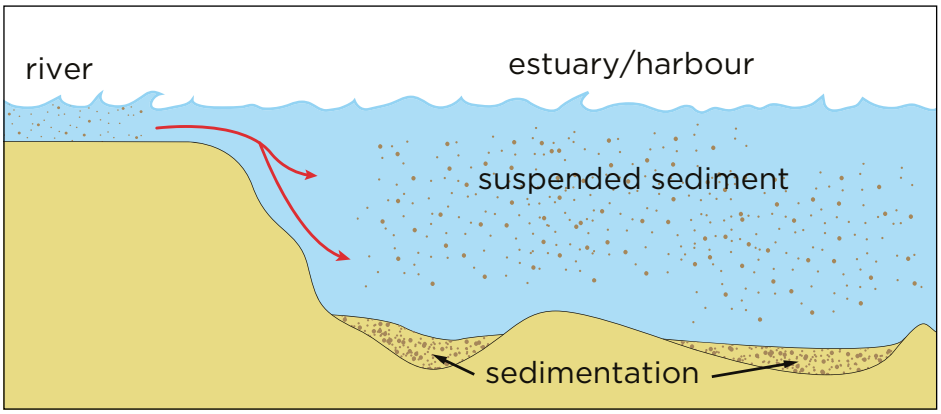
We have helped members of the community to develop Care Groups which work to improve the health of their local area – whether that be land, streams, estuaries or coastal areas.

Bay of Plenty Regional Council, Tauranga City Council and Western Bay of Plenty District Council use planning tools such as the Smartgrowth Strategy, Regional and District Planning and resource consents to promote good land use practice to protect the harbour.

What can you do?

There are some things you can do to help reduce sedimentation in Tauranga Harbour.

- Minimise sediment runoff when carrying out earthworks (Bay of Plenty Regional Council's Earthworks guideline is available online)
- Plant out any riparian areas to trap sediment and reduce nutrient runoff
- Join a Care Group
- Retire steep land to avoid erosion
- Adopt good land use practices



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For more information

Visit www.boprc.govt.nz/taurangaharbour

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