

# Counting the costs of sediment discharge



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A sequence of typical erosion control on a slip - the initial damage; physical stabilisation through use of Hydroseeding, and the result after Hydroseeding.

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Have you flown down the South Island coastline from Wellington on a clear day following a storm?

The rivers are still swollen, there's a deep blue sea with rows of breakers – then there's the river mouth – a huge muddy brown semicircle going miles out to sea and with the prevailing current pulling it along the coast.

As the plane drones on past other rivers – looking just the same - you wonder what it was like when the land was all in bush.

The effects of sediment discharge are well documented, with suffocated ecologies in the streams and estuaries, or changing environments – mangrove invasions, choked waterways - shellfish depleted or non-existent.

Runoff from construction is by far the largest source of sediment in urban areas under development.

A study conducted in Auckland shows a projected annual soil loss of up to 400 times that of a pastoral site and that sediment yield would increase markedly with larger storm events.

To the casual observer in-flight on a sunny day, sediment discharge into streams

and lakes and coastal waters may hold little more than aesthetic value but the permanent degradation to the environment is huge.

- biologically – fish, aquatic life and food supply links in the food chain, photosynthetic activity and subsequent plant and algae growth
- physically – flooding from sediment deposits, stream and river mouth blockage all have serious environmental effects
- other impacts – loss of consumable water resources, damage to property and utilities, pollution from agricultural nutrients – the list goes on.

Thinking smart, developing new techniques and improving well known existing ones is part of the philosophy of our company that is aiming to tackle many aspects of soil erosion and sediment control nation-wide through an increasing range of erosion control services including a process called Hydroseeding, which live up to ECOTEC's philosophy - "keeping the earth the way it should be...out of our waterways."



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**The following examples from the United States illustrate clearly the issues of sediment loads from land under development:**

- York County Soil and Water Conservation District – 1990. Sediment rates vary from 36.5 to 1000 ton/acre which is 5 to 500 times greater than those from undeveloped land
- Wisconsin Legislative Council 1991 – erosion rates range from 30 to 200 ton/acre/year which is noted to be 10 to 20 times those of cropping land
- Washington Department of Ecology 1989 – erosion rates vary from 50 to 500 ton/acre/year for construction activities – erosion from forest is 0.01 to 1.0 ton/acre/year.