Ki uta ki tai: land-use change, ecosystem connectivity and carbon cycling in Aotearoa New Zealand

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What?

Land use in Aotearoa has shifted, altering the type of organic matter that rivers transport to the ocean. This change could be affecting both the amount and type of nutrients entering the coastal zone.

Hoopers inlet, Dunedin
Image: seethesouthisland.com

Why?

When organic matter degrades, dissolved inorganic carbon (DIC) and nutrients are released. Environmental factors like salinity influence degradation. Understanding how the degradation of different organic matter types changes as it is transported down the river to the ocean will help inform future land-use decisions.

How?

Slurry (organic matter and water) will be collected from native forest, pine forest, and farmland. DIC and nutrient sampling over time will measure how degradation rates and nutrient levels change with organic matter type and salinity.