

Tipping Points

How does human land use impact the health of estuaries?

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- Importance of estuaries

Estuaries are areas of high productivity and are important in processing nutrients from land before they flow out to sea.

Health of estuaries can be damaged by human impacts upstream. This can cause the system to cross a tipping point and fall into a less valuable state.

- How estuary health is measured

Health of estuaries can be measured by looking at how much carbon is being consumed.

Amount of food consumed relates to the amount of nutrient processing, primary production and other important processes.

In this study ROMA plates will be used to measure carbon consumption under different nitrogen and sedimentation conditions. The aim is to develop the ROMA as a tool for use in measuring estuarine health.



Sandy



Muddy

- Sedimentation

The way we use the land has a big impact on the sediment in estuaries. More sediment is carried away by water run off on human modified land than in native forest. This results in muddier estuaries that are not as healthy as sandy estuaries.

- Nutrients

Fertiliser is used by farmers to help grow more grass. These nutrients can be carried downstream where they end up in estuaries before moving into the ocean.

High levels of nitrogen can cause the decline of ecosystem functioning.