

Land Use Change Impacts on The Great Barrier Reef

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Driver - Land Use Change in The GBR Catchment Area

The dry climate and intensive agriculture in the GBR catchment leaves the land fragile and vulnerable to erosion and leaching during heavy rain. Consequently:

- 3 times more suspended sediment
- 2 times more fertiliser
- 17,000 extra kg of herbicide enters the GBR each year (Furnas 2003).

- Fertiliser smothers coral and causes rapid growth of seaweed. This blocks light to coral-building algae, meaning they are less able to photosynthesise.
 - Increased sediment deposition adds to this problem, particularly near estuaries (De'ath et al. 2012).
- Larger nutrient load increases the number of coral-eating crown-of-thorns starfish (Uthicke et al. 2015).



Derived from Hughes et al. (2017)

Impact – Coastal Food Security and Livelihoods

- The great barrier reef stands at the basis of an ecosystem that includes many fish species (Hughes et al. 2017)
- When coral disappears, this will affect these fish species as well
- There are about 70 indigenous coastal communities living around the GBR (Mensa 2010)
- The main food source for these communities is fish, which makes them largely dependent on the reef ecosystem for food security (Cinner 2014)
- The communities' livelihood and identity are shaped by reef fisheries. Thus, when the reef disappears, these communities will be lost as well (Cinner 2014)



References:

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