Catchment to Reef

What we do in our catchment affects the Reef

Urban environments are a source of nutrients, chemical wastes and other **contaminants** to waterways.

The building of dams, weirs, flood and tide gates can interfere with the natural **biological connections** that exist in the waterways between Catchment and Reef.

Overgrazing and land-clearing **increase** sediment and nutrient inputs to waterways.

Agricultural runoff containing sediments, fertilisers and other contaminants **reduces the quality of** freshwater streams, affecting the life of these waterways and ecosystems downstream.

Catchment and Reef are intimately connected by the **water cycle**, a circulation of water from the oceans to the atmosphere and back to the land, freshwater systems and the sea.

Caring for catchments helps care for the Great Barrier Reef and indirectly supports important industries like tourism and fishing.

Riparian zone

Wetland

Waterways are important to human health and our quality of life.

Estuary

Flooding wetlands **allow animals to move** around the landscape. When we alter catchment drainage these connections are broken.

The tidal estuary is where the catchment meets the sea. Here freshwater streams deliver **sediment and nutrients** to the sea forming a natural muddy soup rich in life.

Flood plumes are the visible mixing of freshwater with the marine environment. They carry **sediments, nutrients and chemicals** from our catchments.

Flood plumes deposit sediments and nutrients that affect marine plants and animals. **Excess nutrients add fuel to the food-web**, and this has been linked to crown-of-thorns starfish outbreaks – a major threat to corals of the Great Barrier Reef.

An increase in the amount of sediment and nutrients a reef is exposed to can **change the types of animals and plants** that live there.

Offshore reef

Inshore reef

Since European settlement we have **removed 90% of our freshwater wetlands**. Sediment discharge to the Great Barrier Reef lagoon has **increased 4 times**, and nutrient inputs have **doubled**.

Freshwater rivers and streams are living corridors that allow animals to move up and down stream, and from land to sea. Complex food webs link the waterway with the land through which it flows.

Juvenile **mangrove jack** live in freshwater wetlands and streams before moving to estuaries and **offshore** onto coral reefs.

Adult **mangrove jack** migrate through **inter-reef habitats** to reach offshore reefs where they live and spawn. Their offspring - tiny larvae - find their way back across the Great Barrier Reef lagoon to grow up in **freshwater streams and wetlands**.

Connections between land and sea

The life-cycle of the Mangrove Jack is just one example

One of the most immediate threats to the health of the Great Barrier Reef is runoff from the land. The way we use our catchments affects the health of local waterways , and ultimately, the Great Barrier Reef. Much is being done to look after our waterways and you can find out more in the "ARE YOU CONNECTED" booklet that came with this poster.

Rainforest CRC

CRC Reef Research Centre