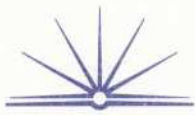


Humans where ever they go tend to leave an impression on the land. Nature can cure this some times, but with vulnerable ecosystems. the time to cure can take millions of years. Coral reefs are developed over millions of years, and form the largest living organisms on this ~~earth~~ planet. Wet lands are intricate ecosystems that act as a natural filter, that continually build up over time. Human interaction has caused dramatic impacts affecting the nature, and the rate of change within these ecosystems.



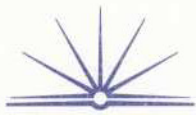
The Great Barrier Reef is located on the east coast of Australia. It begins ~~29°~~^{29°} South of the equator around Lady Eddisat Island and extends 2000 kilometers to the fly river mouth in the Gulf of Papua New Guinea 8° South. The Great Barrier Reef Marine Park covers an area of 348 700 km² and was established in 1981 ~~as~~ as an attempt to alter the devastation of human impacts.

Coral is a very fragile organism surviving in a temperature range between 26°C and 27°C and an intricate pH range. The biodiversity of the Great Barrier Reef is diverse but numbers are dwindling due to fishing, commercial and recreational.

There are over 1500 fish species, 4000 molluscs and more than 250 coral species. Fishing has altered the natural food chain and so the biodiversity within the ecosystem is altered and becomes unbalanced.

Industry produces pollutants that can alter the clarity and chemical balance of the water. Sewage treatment works increase the level of pH, killing the coral. Industry also encourages the export and import of goods from overseas countries, this leads to the introduction of new species - and with no natural predators in a new environment, can lead to the devastation of the ecosystem.

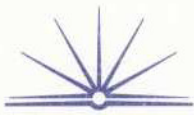
The Crown of thorns Starfish is an example of this, because with



no natural predators in the Great Barrier reef, consumes and reproduces in the reef at high rates. This decreases the biodiversity and the GBR is changed at an increased rate.

Pollution on the reefs destroys the natural biodiversity and has a great impact on the rate of change - causing artificial increases that nature cannot keep pace with.

The Macquarie Marshes located in the North west regions of NSW, Australia, near Warren, is responsible for the filtration of water from the Macquarie River that extends from



Bathurst to the Marshes. The Macquarie River passes through a great diversity of Agricultural land, ranging from Dairying, Sheep, Cattle, wheat, & cotton, ~~and these~~ These industries require a lot of water.

The Marshes itself covers an area of 15000 km² with about 10% being protected by a national park.

Human impacts are not directly located on the marshes, the whole river is responsible for the outcome of the Macquarie Marshes.

The development of Burrumbidgee Dam near Wellington, led to a dramatic change in the natural course of the River. Previously the River was prone to frequent flooding



and fringing stages throughout the year. The Macquarie Marshes had adapted to this system and flourished. However the dam had caused a more continuous flow of the river, allowing farmers to have a steady water supply.

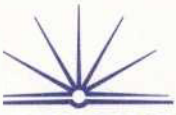
This led to the decrease in size of the Macquarie Marshes, and the diminution of population numbers and populations due to the decreased extent of the habitat. The Murray Cod and Cat fish ~~retired~~ nested upon the rivers fluctuations to breed, now their numbers have decreased and dwindled due to the human impact of the dam.

The constant flow of water means that the Marshes are constantly exposed to the polluted runoff from agricultural chemicals. These insecticides

and herbicides can destroy the natural habitats and biodiversity and promote algae blooms, predominantly blue-green algae that choke the ecosystems.

The introduction of the feral pigs, goats, sheep, buffalo into the Macquarie marshes has severely altered the natural functioning of the ecosystem.

Humans have altered these two already vulnerable ecosystems, and the outcome of the alterations have been devastating. The restructure of food web and chain hierarchical systems, destruction of habitat, increased pests, pollutants are all leading to the destruction of the ecosystems that



have increased the rate of change,
a change that is not natural and
not accepted by nature will lead to
the extinction of another ecosystem.