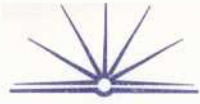


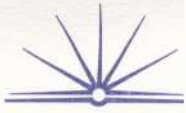


The impact by humans is great on ecosystems. The use of tourist operators in ecosystems and other human activities in ecosystems is affecting the nature and rate of change in them. The ecological sustainability of some ecosystems may be at risk due to the effect of human interaction with these ecosystems. But with effective management of these ecosystems they may become more sustainable. This management of human activities and impacts can be seen in the Great Barrier Reef and the Narrabeen Sand dunes, both are being managed to reduce the impacts of humans on them.

The Great Barrier Reef is a diverse ecosystem which stretches 2800 km along the Queensland coast, it is made up of many different corals and fish species. The Great Barrier Reef is under a lot of pressure from humans with a large number of tourists and commercial fishermen. The reef is at risk from these human impacts as over fishing could ruin the fish population of the reef and the



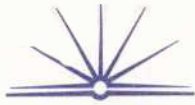
tourist could damage the coral on the reef. To stop this from happening the (GBRMPA) Great Barrier Reef Marine Park Authority was established to control these impacts. The authority looks after the reef by only allowing tourists and fishermen into certain zones on the reef. Fishermen ~~have~~^{need} to have licences to fish and are only allowed to take certain amounts of fish, this is monitored by the authority. Tourist operators also ~~have~~^{need} to have licences to operate on the reef. It is in both the best interests of the tourist operators and the fishermen to look after the reef because without it they don't have a job. Without the GBRMPA the reef would be in great danger as it would be over fished, like on reefs in other countries where they use explosives to catch fish that damages the reef and tourist operators would destroy the coral from tourists souvenir pieces to take home. The Great Barrier Reef is changing as better control of human activities on the reef allow for less damage and it will be there for the future.



The Narrabeen Sand dunes is another ecosystem at risk it is located on Sydney's northern beaches.

The dunes are at risk from humans as they have built houses on the dunes. By building on the dunes it has affected the structure of them. The dunes are made up of two sections the primary dune at the front and the Secondary dune at the back which is covered with vegetation to stop the ~~sand~~ dune blowing away. The houses along the beach have been built on the Secondary dune destroying the vegetation and the structure of the dune.

The role of the Secondary dune is absorb big waves and protect the land, the dune does this by letting itself get washed away. At Narrabeen when this happens the houses atop these dunes are washed away with the dune. A management organisation has been set up to fix this ecosystem, the government has provided money for a buy back of the house on the dunes. The houses are slowly being bought back and the dunes being repaired. It will take many years for the dunes to be restored



as they can only buy back a few houses at a time but the dunes will eventually be restored.

Both these ecosystems have been affected by human impacts but through management of them they are being sustained for the future as they are slowly restored and maintained.