

Managing and conserving the marine state



Ningaloo Marine Park is one of the most beautiful natural resources in Australia.

Stretching 300 kilometres along the Western Australian coast, the park is an area where tropical and temperate waters mix to create a unique display of marine life. It is home to at least 250 coral, 500 fish and 600 mollusc species.

State Government allocated \$5 million through the Western Australian Marine Science Institution to carry out research into the park's ecosystems and marine life. With support from BHP Billiton, the Australian Institute of Marine Science, CSIRO, universities and private industry, the amount escalated to a four-year \$35 million research program involving more than 100 scientists.



Research includes:

- assessing deep water biodiversity,
- describing the movement patterns of whale sharks,
- assessing the diversity, abundance and distribution of sharks and rays,
- assessing biodiversity and the impacts of human use on the ecosystems,
- developing a modelling framework relating selected ecological and socio-economic processes to test and improve management effectiveness,
- carrying out geomorphology studies,
- carrying out groundwater studies and
- understanding of oceanographic processes.

Researchers have:

- identified high biodiversity such as large sponge gardens, in the deeper waters of Ningaloo Marine Park;
- recorded the habitats and movement of several fish and shark species;
- provided improved ocean floor mapping across the marine park;
- improved our understanding of the marine park's geomorphology, reef evolution and sedimentology;
- improved our understanding of water circulation over and around the reef; and
- improved our understanding of the 'drivers' behind Ningaloo reef's productivity.

The results of the four-year research program will be used to:

- assess the effectiveness of sanctuary zones in Ningaloo Marine Park;
- determine whether sanctuary zones are in the right place and are of an appropriate size and placement to conserve and protect marine biodiversity and processes; and
- improve Ningaloo Marine Park's management.

This research program is led by the Department of Environment and Conservation.

The Western Australian Marine Science Institution (WAMSI) is a consortium of 15 State and Commonwealth government, academic and private partners undertaking multi-disciplinary inter-institutional marine research. It is Australia's first collaborative research facility dedicated to understanding the marine environment and resources, and to contributing to policy and management decisions on the future use of oceans.

WA State Government provided a \$21 million five-year investment with a \$60 million co-investment by member partners. WAMSI's strategic projects address climate change, its likely impacts, how marine and coastal ecosystems function and how science can be used to understand the impacts of human activity in the marine environment.



Photos supplied by the Department of Environment and Conservation.

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better science better decisions