

Technical Information Sheet #1

>> Representative Areas Program background and history

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The Great Barrier Reef Marine Park Authority is implementing the Representative Areas Program to help ensure better protection of the Marine Park's biodiversity. This will involve a review of the existing zoning throughout the Marine Park. This information sheet is part of a package of materials that help explain various technical elements of the Representative Areas Program and the zoning review.

Biodiversity and why it's important

Biodiversity is a term used to describe the abundance of all plants and animals, together with the places they live and the natural processes that keep them alive. Our world relies on biodiversity, from the animals, plants and fungi to the micro-organisms too small for the eye to see. Biodiversity includes the genes contained in these plants and animals and the ecosystems in which they live.

Without this rich biodiversity, we would cease to exist; humans rely on the breathable air, fertile soil and drinkable water that are the result of biodiversity. Biodiversity is the basis of all our food and resources and many of our economic activities. Biodiversity is not just desirable – it is essential. By protecting biodiversity, we are protecting our future and our children's future.

Australia is one of only 12 countries – and the only developed country – recognised by scientists as being a global centre of biodiversity. Isolation over millions of years has resulted in our biodiversity evolving in ways different to anywhere else. Many of Australia's species do not occur anywhere else.

The Great Barrier Reef Marine Park is important to many of these unique species. But did you know that more than 40 species native to the Marine Park are listed as rare or threatened? For example, six of the seven species of marine turtles in the world are found on the Great Barrier Reef. All are threatened, some to the point of being endangered. Over the past 30 years there has been a 70 - 90% decline in the numbers of Loggerhead turtles. Michaelmas Cay, an important bird rookery, has seen a 25% decline in population of Crested Tern and Sooty Tern and a 45% decline in Common Noddy Tern population since the 1980s. There has been more than a 90% decline in dugong numbers along the urban coast of Queensland over the last 30 years. Fish stocks have been depleted in localised areas.

Limited data about the decline in species is coupled with an incomplete knowledge about the status of the majority of species in our Great Barrier Reef ecosystem. We need to increase protection to adequately address the pressures on the Marine Park.

Focus on...biodiversity in the GBR World Heritage Area

Unique in its biodiversity, the Great Barrier Reef World Heritage Area is important for:

- six of the world's seven species of marine turtles, all of which are listed as threatened;
- one of the world's most important dugong populations;
- more than 30 species of mammals;
- 2,200 species of native plants (25% of Queensland's total native plant species);
- over 1,500 species of fish;
- over 1,500 species of molluscs;
- over one third of the world's soft coral and sea pen species;
- over 200 species of birds and one of Australia's most significant seabird rookeries;
- approximately 2,900 coral reefs built from about 360 species of hard coral;
- 800 species of sea star which is 13% of the world's total;
- over 3,000km² of mangrove including 54% of the world's mangrove diversity; and
- breeding humpback and other whale species.

In reality, however, we know very little about marine biodiversity; many marine species are yet to be discovered or identified.

The economic worth of the three main industries in the GBR World Heritage Area alone (tourism, commercial fishing and recreational fishing), which all depend on the ongoing well-being of the biodiversity of the Great Barrier Reef, amounts to over A\$1.5 billion per year. But equally significant (especially in terms of the overall global value) are all the 'service functions' of the world's largest coral reef ecosystem for roles such as the absorption and breakdown of pollutants, nutrient recycling, genetic diversity and climatic influences.

Other values of biodiversity include those functions for which the area is well known such as recreation, economic prosperity, inspiration and relaxation.

There are a number of international conventions/agreements helping to protect biodiversity (for example, the Convention on Biological Diversity). Australia has a number of programs contributing to the protection of biodiversity, including a National Strategy for Conservation of Biodiversity and a National Oceans Policy.

The Representative Areas Program alone will not save our marine biodiversity, but it is a fundamental component for conserving habitats, biological communities and ecosystem processes in the world's largest marine protected area.

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