

The Science of Marine Parks

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Science tells us that we need marine parks

Our coastal populations are expanding and we carry out a broad range of activities on the land and at sea. As a result, we are causing complex changes in our marine environment.

In many locations around Australia and elsewhere in the world, science has proved that the impacts of our activities can cause changes in the chemistry, physical structure, biology and ecology of our marine environments including:

- changes in the numbers and types of plants, fish and other animals found in an area;
- changes in the size of fish and other animal populations;
- changes in the distribution, condition and health of habitats; and
- the spread of invasive marine pest species and diseases.

These changes affect the natural functioning of marine ecosystems and the ability of our oceans to support our lifestyles and livelihoods.

You may have noticed some of these changes already in your local area. While these changes are particularly evident around larger towns and cities, we know that as smaller rural centres expand, the pressures on their local marine environments will increase.



Scientific studies have shown that it can be very difficult to restore changed marine ecosystems and that recovery can take decades, if at all. For example, seagrass meadows can take over 20 years to recolonise even small areas.

This tells us that it is easier and wiser to act now to protect healthy systems than it is to restore damaged ones.



Scientific research from around the world is demonstrating that marine parks are a powerful tool to help protect our coastal and marine environments and maintain them in a healthy condition.

South Australian marine parks aim to protect representative samples of the state's unique and typical marine environments to ensure a healthy marine environment exists for current and future generations to enjoy.

Methods of scientific research

The location of and design of marine parks in South Australia will be based on scientifically informed principles and thorough and ongoing scientific studies which began in the 1990's.

South Australia's marine parks program employs a team of experienced marine scientists responsible for gathering information through scientific research and monitoring.

This research includes biodiversity surveys to count the number and diversity of species in a specific area and monitoring this information by re-visiting the same sites to check if the marine parks program is achieving the desired outcome.

The team is also mapping our marine habitats using high-resolution photography and satellite imagery, providing for greater detail than was previously available. In areas where the water is too deep to use satellite imagery, the seafloor is being studied with underwater video and acoustic sounding.

The results of this research are collated into habitat maps that, together with existing scientific information, will be used in conjunction with social information to determine marine park boundaries and the zones within them.

Scientific partnerships

The marine science team has developed valuable partnerships with leading marine scientists, research institutions and community-based organisations to assist in developing the science underpinning South Australia's marine parks.

The marine parks program also benefits from the involvement and advice of some of South Australia's leading marine scientists. A Scientific Working Group comprising a number of South Australia's most recognised marine scientists provides independent advice to the Government across the full range of marine conservation initiatives including marine parks.

The combined scientific expertise and experience informing the development of South Australia's marine parks will ensure that they are scientifically sound, consistent with national and international standards and, therefore, stand the best possible chance of delivering the desired conservation outcomes. In doing so, South Australia's marine parks will help protect the health of the marine environment and maintain our lifestyles and livelihoods.