

AUSTRALIA'S GREAT SOUTHERN REEF

Conclusion

Learn more about the values of the Great Southern Reef and the need to manage and protect

Using the following webinar panel discussion and the media reports provided as references.



WATCH: Great Southern Reef Webinar: Uncovering the value of Australia's GSR
<https://marinesocioecology.org/great-southern-reef-webinar-uncovering-the-value-of-australias-gsr/>

References

Review of Coast and Marine Ecosystems in Temperate Australia Demonstrates a Wealth of Ecosystem Services <https://www.frontiersin.org/articles/10.3389/fmars.2020.00453/full>

Australia's forgotten other 'Great Reef' <https://www.bbc.com/travel/article/20200922-australias-forgotten-other-great-reef>

The remarkable power of Australian kelp <https://www.bbc.com/future/article/20210406-how-kelp-can-help-solve-climate-change>

All eyes on Whyalla's spectacular cuttlefish aggregation, as numbers may have come in lower than hoped <https://www.abc.net.au/news/2021-07-10/whyalla-cuttlefish-numbers-aggregation-fishing-ban-kingfish-farm/100281726>

Substantial role of macroalgae in marine carbon sequestration <https://www.nature.com/articles/ngeo2790>

Biodiversity photographs and information <https://greatsouthernreef.com/marine-life>

B. MANAGEMENT

1. TRADITIONAL AND CONTEMPORARY ABORIGINAL MANAGEMENT

Over thousands of years Aboriginal people have developed and used sustainable management practices on the Great Southern Reef. Resources were taken to satisfy needs and maintain biodiversity and ecosystem functioning. Two examples of traditional cultural practices focused on sustainability are **totems** and **resource** use based on seasonal calendars.

Totems

Totems are about responsible stewardship.

'Each clan/family is responsible for the stewardship of their totem: the flora and fauna of their area and the stewardship of the sacred sites attached to their area. This stewardship includes the sustainable management of the resources and the spiritual management and ceremonies needed to ensure adequate resources for each season.'

<https://australianstogether.org.au/discover/indigenous-culture/aboriginal-spirituality/>



WATCH: Aboriginal responsibility of caring for country and the Great Southern Reef <https://www.youtube.com/watch?v=Q5dnkvNW0s>

The Wadandi (Saltwater) People from the Noongar nation, in the SW corner of Australia have a continuous cultural, physical and spiritual relationship with the land and sea. Zac Webb, a Wadandi custodian explains the concept of totems.

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Seasonal calendars

The sustainable use of resources was illustrated by:

- moving campsites to take advantage of seasonal abundance
- using every part of a plant or animal to avoid waste and conserve living resources
- forbidding harvesting at different times of the year

The seasonal calendar of the Kurna people of the Adelaide region shows the traditional migration between the coast and inland plains in different seasons. During Wirltuti_(Spring) Kurna headed to the coast where blue crabs, garfish, shellfish and crustaceans were harvested, and fish caught. **Figure 22**

Figure 22: Kurna Calendar



Image: Indigenous Weather Knowledge <http://www.bom.gov.au/iwk/calendars/kurna.shtml>

Traditional knowledge and contemporary management

The involvement of Aboriginal people in the contemporary management of marine ecosystems is increasing. This includes management within state and commonwealth Marine Protected Areas and with organisations and agencies such as Parks and Wildlife.

Two examples of the integration of traditional and contemporary management for the Great Southern Reef within NSW coastal waters are the Gamay Indigenous Rangers at Botany Bay in Sydney and Gumbaynggirr (Garby) people at Arrawarra in Northern NSW.

Gamay Indigenous Rangers: Botany Bay

Shell middens and rock art are evidence of traditional cultural use of marine resources in Botany Bay and surrounding coastal waters by the Gamay people where country extends from the bay to several kilometres out to sea.

The Gamay Rangers are the first urban rangers in the national Indigenous Ranger Program. The rangers work with research scientists and the NSW Parks and Wildlife Service to protect the marine ecosystem of Botany Bay by integrating Traditional Ecological Knowledge (TEK) and contemporary management practices.

Activities of the Gamay Rangers have included:

- Working with Sydney Institute of Marine Science (SIMS) scientists on preparation of kelp for restoration at Kurnell for *Operation Crayweed*
- assisting University of New South Wales (UNSW) researchers track the effects of invasive sea urchins.

Everyday ranger activities relate to:

- patrolling marine waters
- marine mammal awareness and protection (particularly whales)
- cultural and environmental awareness for vessel operators and visitors.

The Gamay Rangers were featured in a LANDLINE program in 2020. This program highlights the dual benefits for the Aboriginal Rangers and NPWS employees.

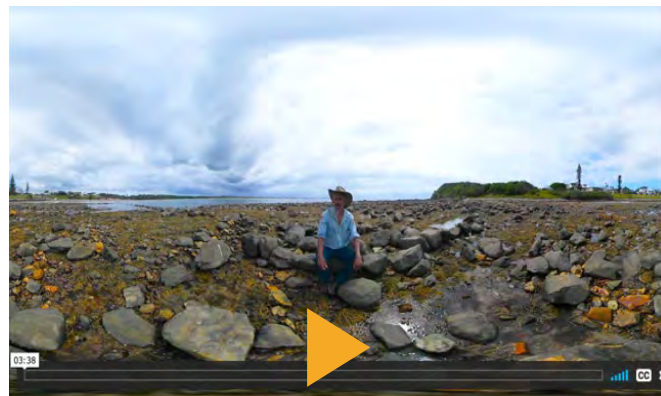
WATCH: Gamay Rangers: Indigenous rangers share unique knowledge of Botany Bay <https://www.abc.net.au/landline/gamay-rangers-indigenous-rangers-share-unique/12811904>

Cultural resource use and management: Arrawarra

For thousands of years, Garby Elders, from the *Gumbaynggirr Nation*, relied on the marine resources at Arrawarra Headland, on the mid-north coast of New South Wales. Evidence of traditional use by the Garby people include large *stone fish traps* and a *midden* adjacent to Arrawarra Creek. Traditionally, the stone fish traps were an effective means of capturing fresh fish. The trapping of fish, as well as hand collection, spearing and line fishing have been, and continue to be, an integral part of the Garby Elders' way of life.

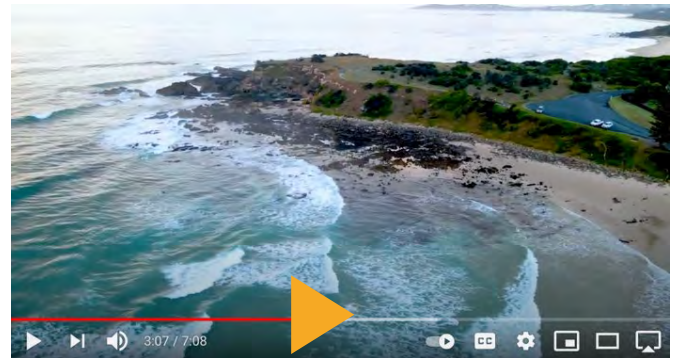
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The Arrawarra Headland rock platform is located within the Solitary Islands Marine Park. A **Special Purpose Zone** was declared by the NSW Marine Parks Authority in 2002 to provide for traditional use (harvesting marine resources), monitoring and scientific research. The Special Purpose Zone extends 200m offshore and encompasses subtidal GSR habitats.



WATCH: 360 Aboriginal Storytelling: Arrawarra Fish Traps 3.38 <https://vimeo.com/232286117>

A **Conservation Plan** allows traditional harvesting under strict guidelines and with a requirement for research and monitoring. The plan involves collaboration between Yarrawarra Aboriginal Corporation and Garby Elders, Marine Parks Authority, the National Marine Science Centre and University of New England. The aim of the plan is to manage the cultural and environmental values of the site sustainably. **Figure 23**



WATCH: Arrawarra Headland, surfing, fish traps and Solitary Islands Marine Park.7.08 <https://www.youtube.com/watch?v=ralx7f7yAuU&t=312s>

Images are screen captures from these two short video presentations. L Chaffer

Learn more about the Garby People and their cultural practices from Fact Sheets downloadable here http://www.arrawarraculture.com.au/fact_sheets/index.html



Figure 23: Arrawarra Conservation Plan

Extract from Arrawarra Conservation Plan

- 3.2 Plants and animals to be taken from the Arrawarra Headland special purpose zone can only be taken in accordance with bag and size limits. Methods of capture are limited to fish traps (including traditional woven baskets and string nets), hand spears, hand collecting and handlining. Garby Elders will ensure that threatened species or communities are not harmed or affected by resource use. Garby Elders will ensure the rock platform is free of fish carcasses following collection, capture and cleaning of all catches. The sale of any plant or animal taken from the Arrawarra Headland special purpose zone is prohibited.
- 3.3 Monitoring of Indigenous resource use on Arrawarra Headland. Monitoring of resource use is an important component of the management of the Arrawarra Headland special purpose zone. The objectives of the monitoring program are to: identify resources that will be harvested; develop suitable assessment and monitoring strategies to assess short and long term effects of harvesting on populations; provide training for local Indigenous people to carry-out effective, quantitative, long-term monitoring; and to conduct regular, long-term monitoring of harvested taxa to ensure sustainability.

Source: http://www.arrawarraculture.com.au/images/arrawarra_conservation_plan.pdf