



Australian Government

Australian Government response to the
Senate Environment and Communications References
Committee report:

Win-win under our oceans: Climate-related marine
invasive species

APRIL 2026

Introduction

On 5 September 2022, the Senate referred an inquiry into the spread of climate-related marine invasive species to the Environment and Communications References Committee for inquiry and report, with the following terms of reference:

The spread of climate-related marine invasive species, particularly long-spined sea urchins (*Centrostephanus rodgersii*) along the Great Southern Reef, with particular reference to:

- a) the existing body of research and knowledge on the risks for and damage to marine biodiversity, habitat and fisheries caused by the proliferation and range shifting of non-endemic long spined sea urchins;
- b) management options, challenges and opportunities to better mitigate or adapt to these threats, and governance measures that are inclusive of First Nations communities;
- c) funding requirements, responsibility, and pathways to better manage and co-ordinate stopping the spread of climate-related marine invasive species;
- d) the importance of tackling the spread of invasive urchin 'barrens' to help facilitate marine ecosystem restoration efforts (such as for Tasmanian Giant Kelp *Macrocystis pyrifera*); and
- e) any other related matters.

In November 2023, the committee released its report, *Win-win under our oceans: climate-related marine invasive species*. The Australian Government thanks the committee members for their work in delivering the report and associated recommendations.

The committee's report recognises that climate change is one of the greatest threats to the ocean. This is supported by the National Climate Risk Assessment which recognises risks to the natural environment system as a nationally significant climate risk. The Australian Government has a strong climate response and recognises that climate change is affecting ocean health in multiple ways such as through marine heatwaves, ocean acidification and warming of ocean waters. The warming waters in turn are causing a poleward range shift of marine species, both introduced and native, as they follow their preferred temperatures. This creates new challenges for marine ecosystem and fisheries management.

The Australian Government response to the committees' report focuses on fisheries and marine ecosystem investment, development, management and monitoring related to spread of climate-related marine invasive species, particularly the long-spined sea urchin (*Centrostephanus rodgersii*, or 'Centro') along the Great Southern Reef.

The Australian Government notes that the climate-driven range expansion of Centro occurs alongside other emerging risks to temperate marine ecosystems, including the recent and ongoing harmful algal bloom (HAB) event observed in South Australia. While HABs are not directly addressed through this inquiry, they illustrate the increasing complexity of climate-related marine impacts on temperate marine environments.

Response

Recommendation 1

The committee recommends that the government consider working closely with relevant state governments to capture and harness the benefits offered by an emerging fishery for long-spined sea urchins, including:

- developing a new fishery for Centro, while supporting existing fisheries for rock lobster and abalone;
- maximising employment opportunities in harvesting and processing for urchin products;
- coordinating research and policy across jurisdictions to encourage an economically and ecologically self-sustaining Centro fishery;
- fostering programs to protect and restore kelp and reef ecologies and the species that depend upon them, including innovative cross-sectoral work with industry, environmental organisations and communities;
- involving local, regional and First Nations communities in these opportunities; and
- assisting to grow overseas and domestic markets for urchin products.

Response

The Australian Government supports this recommendation.

Developing a new fishery for Centro, while supporting existing fisheries for rock lobster and abalone; and Maximising employment opportunities in harvesting and processing for urchin products

The Australian Government recognises the commercial opportunities presented by the climate-driven range extension of Centro and is engaged in activities that will continue to support the economic development of these fisheries, such as through participation in the Australian Fisheries Management Forum (AFMF).

In addition to a commercial fishery in New South Wales, which has been operating for more than 50 years, fisheries are now developing in Victoria and Tasmania. While the total annual catch was low for the first 10 years of the Tasmanian fishery, which began in 2009, it increased fivefold in the five years to 2023/24. The Tasmanian commercial fishery now exports nationally and internationally. Development of these fisheries would create associated employment opportunities.

Coordinating research and policy across jurisdictions to encourage an economically and ecologically self-sustaining Centro fishery

In support of this recommendation, the Australian Government is best placed to operate in a research coordination role. The Fisheries Research and Development Corporation (FRDC) and CSIRO are the key research organisations coordinating work on Centro for the Australian Government.

As discussed in the committee's report, these organisations and several universities have been working directly with the New South Wales, Tasmanian and Victorian governments as part of the Centro Task Force, which has investigated options to collaboratively address the challenges and harness the benefits of Centro range expansion. Examples of other FRDC-funded research projects relevant to the control and harvesting of Centro are detailed in the Australian Government's response to Recommendation 2 of the Committee's report.

DAFF ensures the Australian Government engages on the issue as appropriate, including through the AFMF. This forum comprises heads of fisheries management agencies from each Australian jurisdiction, and considers high-level, national fisheries issues and how collaboration can be enhanced to achieve shared goals in fisheries management and policy.

Fostering programs to protect and restore kelp and reef ecologies and the species that depend upon them, including innovative cross-sectoral work with industry, environmental organisations and communities

The Australian Government recognises the importance of Australia's kelp forests in supporting diverse ecosystems and is committed to their protection. In 2012, the 'Giant Kelp Marine Forests of South East Australia' ecological community (Giant Kelp Ecological Community) was listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. This listing protects the Giant Kelp Ecological Community under national environmental law and a Conservation Advice is in effect to guide conservation and recovery action.

The Giant Kelp Ecological Community is listed as a priority place in the Australian Government's *Threatened Species Action Plan 2022–2032*. The *Threatened Species Action Plan* maps a pathway to protect, manage and restore Australia's priority threatened species and important natural places. In May 2025, the Australian Government convened an expert workshop to identify current research and management needs for the Giant Kelp Ecological Community.

The Australian Government has invested over \$12 million towards a suite of projects aimed at supporting temperate marine ecosystems, including monitoring and kelp forest restoration and resilience. Of this, \$3.5 million was allocated to the University of Tasmania's Institute for Marine and Antarctic Studies project to improve ecological conditions for the Giant Kelp Forests of Tasmania. The project, funded through the Saving Native Species program, is removing overgrazing Centro in their expanded range from priority kelp habitat, replanting juvenile giant kelp and stocking sites with lobsters that eat urchins. Over 5 hectares of rocky reef was replanted in 2024 and 2025, including propagation of over one million juvenile giant kelps, removal of 10,000 invasive sea urchins and translocation of 50,000 undersized lobsters to the restoration sites

Involving local, regional and First Nations communities in these opportunities

The Australian Government acknowledges First Nations people's connection to Country and Traditional Knowledge of sea Country is based as it is on millennia of connection and care, is a key input to understanding, protecting and managing the ocean.

Involving First Nations communities in opportunities with range-expanding species provides valuable knowledge to improve environmental outcomes and build partnerships, and supports Closing the Gap, including strengthening cultural connections to Country and providing employment opportunities and supporting intergenerational benefits.

Assisting to grow overseas and domestic markets for urchin products

Australian seafood exporters already have access to a substantial range of export markets for sea urchins and sea urchin products. Exporters can consult the [Manual of Importing Country Requirements \(MICoR\)](#) website to identify markets where access for sea urchins and sea urchin products already exists.

Where no trade agreement exists, or where improvements are needed to address technical market access issues, the Department of Agriculture, Fisheries and Forestry (DAFF), in collaboration with the seafood export industry, supports exporters through the Seafood Market Access Working Group and the associated Seafood Market Access Prioritisation Tool.

Recommendation 2

The committee recommends that the government consider making an immediate national investment into Centro control, guided by the Centro Task Force Plan's action areas and goals.

Response

The Australian Government notes this recommendation.

The Australian Government has invested significantly in research and business initiatives related to controlling long-spined sea urchins, protecting and repairing kelp ecosystems and growing an urchin fishery.

The FRDC, a party to the National Centro Task Force, funds fisheries research, development and extension activities that support economic, social, and environmental benefits for fisheries, aquaculture and the wider community. Examples of recent projects that have been funded through the FRDC that relate to the sea urchin issue include:

- 'Assessing the benefits of sea urchin processing waste as an agricultural fertiliser and soil ameliorant', which received funding of \$199,996 from 2020 to 2024
- 'Analysis of historical sea urchin research for improvement management of nearshore fisheries in NSW', which received funding of \$107,000 in 2022–23
- 'Researching, trialling and evaluating a market driven approach to commercialising a range extended marine species – Tasmanian wild sea urchin (long spined sea urchin)', which is receiving funding of \$560,000 from 2023 to 2026
- 'Centro workshop – Actions and management outcomes for long spined sea urchin', which received funding of \$38,985.98 from 2024 to 2025
- 'Are sea urchins at risk of accumulating paralytic shellfish toxins during exposure to live microalgae?', which is receiving funding of \$299,254 from 2025 to 2027.

The Australian Government's NESP funds multidisciplinary, applied research that supports decision-makers to better understand, manage and conserve Australia's environment. Previous projects that have been funded through NESP that relate to temperate reefs, including the Great Southern Reef and giant kelp, include:

- 'Quantifying the ecosystem services of the Great Southern Reef' (NESP Marine and Coastal Hub), which received funding of \$50,000 from 1 September 2021 to 30 April 2022

- 'Future-proofing the restoration and thermal physiology of giant kelp' (NESP Marine and Coastal Hub), which received funding of \$49,880 from 1 September 2021 to 30 June 2022
- 'Assessing the feasibility of restoring giant kelp beds in Eastern Tasmania' (NESP Marine Biodiversity Hub), which received funding of \$149,909 from 1 January 2019 to 31 March 2021.

NESP also provided funding of \$4,829,464 from 1 January 2017 to 31 March 2021 for the NESP Marine Biodiversity Hub's project 'Implementing monitoring of Australian Marine Parks and the status of marine biodiversity assets on the continental shelf'. One component of this funding was to investigate the impacts of no-take reserves on urchin barrens including whether no-take reserves offer resilience against long-spined sea urchins around Governor Island Marine Reserve in Tasmania.

The Australian Government allocated up to \$3.5 million in recovery actions for the Giant Kelp Ecological Community, including addressing threats such as overgrazing by Centro. This work commenced in 2024 and is supported under the Saving Native Species program.

Recommendation 3

The committee recommends that the government consider the continuation of the Centro Task Force to govern the national investment delivery, and drive coordination, implementation, and reporting.

Response

The Australian Government notes this recommendation.

The Australian Government acknowledges the participation and contribution from the relevant state agencies to the Task Force. The Australian Government continues to engage through the AFMF as the most appropriate forum to coordinate and collaborate on cross-jurisdictional fisheries matters.

Recommendation 4

The committee recommends that the government consider the establishment of a Centro Advisory Group led by the Commonwealth, to include representatives from Aboriginal community-controlled organisations, industry, researchers, commercial dive, processing and the recreational dive sector, to provide guidance, co-design, coordination and delivery of actions at a state and regional level.

Response

The Australian Government notes this recommendation.

The Australian Government is committed to leveraging existing forums, such as the National Centro Task Force and AFMF, to avoid duplication of efforts while enhancing coordination and delivery outcomes.

The Australian Government will continue to engage in National Centro workshops and work with relevant jurisdictions. Attendees to the workshops have included a diverse range of stakeholders including government regulators, leading researchers, cultural leaders of Sea Country, commercial industry members from the diving, processing, and export sectors, as well as recreational fishers. Australian Government representatives have also participated in discussions and exercises at these workshops.

The Australian Government will continue to engage with the Task Force and relevant states and stakeholders to explore whether additional mechanisms or refinements are required to support its objectives.