



RESEARCH OVERVIEW 4.

Marine and coastal habitat restoration

Australia's commitment to the United Nations Leaders' Pledge for Nature includes a target to protect and restore 30% of degraded land, freshwater and ocean ecosystems by 2030.

Australia's *Nature Positive Plan* echoes the need for urgent investment in nature repair, facilitated by coordinated planning. National policy mechanisms introduced to accelerate nature repair include those that leverage the carbon market and encourage investment. Many nature repair projects are happening across Australia's coastal and marine habitats, but on a limited scale and with limited coordination. Clear guidance and governance are needed to clarify the priorities, risks and opportunities and make nature repair attractive to investors. Marine and Coastal Hub projects are removing the barriers to investment by mapping habitats and threats, improving practices, supporting First Nations leadership and participation, and advancing national approaches to nature repair.







SURVEYS AND MAPPING

- Map seagrass across northern Australia and survey seagrass habitat at the Nijinda Durlga (Gangalidda) and Thuwathu/ Bujimulla Indigenous Protected Areas and at Tasmania's Furneaux Islands.
- Review mangrove recovery in Gulf of Carpentaria, prioritise sites for restoration, and develop a management response plan for critical weather conditions.
- Assess northern Australia's tropical shellfish reefs and identify needs for protection and restoration.
- Apply new aerial and remote sensing methods to map coral and rocky reefs across northern Australia, with an emphasis on Gulf of Carpentaria.

IMPROVING PRACTICES

- Investigate physiological mechanisms that allow some giant kelp strains to develop at relatively warm temperatures.
- Provide advice on how to incorporate sediment processes in seagrass restoration; undertake and assess intensive seagrass restoration at Cocos Keeling Island.
- Explore systematic, coordinated and cost-effective approaches to improve data access and habitat restoration monitoring.

SUPPORTING FIRST NATIONS LEADERSHIP

- Support participation in Emission Reduction Fund and Nature Repair Market frameworks to enable Indigenous-led feral animal management in northern Australia.
- Develop and trial integrated pest management of feral pigs to implement at coastal sites by Indigenous organisations.

NATIONAL COORDINATION

- Examine policy and legislative barriers to marine and coastal restoration in consultation with regulators, engineering sectors, non-profit agencies and Indigenous groups.
- Guide the scaling up of nature repair in Australia by updating project databases; compiling an evidence base to lessen the risk for investors, managers and practitioners; and scoping a national framework to guide and coordinate investment.



COLLABORATIVE RESEARCH OUTCOMES FOR RESEARCH USERS Surveys and Mapping intertidal seagrass habitat together Indigenous land manager and rangers, Ports mapping with Traditional Owners, Indigenous ranger North, QLD Government and the Department groups and the Carpentaria Land Council of Climate Change, Energy, the Environment Aboriginal Corporation and Water (DCCEEW) > capacity for seagrass monitoring and knowledge for regional planning Mapping seagrass habitat at Tasmania's Furneaux **DCCEEW and Pakana Community** > knowledge and Islands in partnership with the Tasmanian capacity to protect the proposed Tayaritja Milaythina Aboriginal Centre Muka IPA through Aboriginal-leg management Assessing tropical shellfish reefs and identify Ozfish Unlimited, The Nature Conservancy, needs for protection and restoration, with DCCEEW and Traditional Owners > a new evidence Traditional Owners and Ozfish Unlimited base for regional planning and Sea Country management and restoration **DCCEEW and Parks Australia** > new evidence base Mapping coral and rocky reefs across northern Australia with an emphasis on Gulf of Carpentaria for improved regional planning Improving Establishing protection areas for seagrass recovery, Parks Australia and CKI community > local capacity practices to implement effective marine restoration with the Cocos Keeling Island (CKI) community Seagrass restoration managers and practitioners, Reviewing knowledge of sediment processes including Malgana Rangers, OzFish, Gamay Rangers that influence seagrass health, through national > better technical guidance for seagrass restoration engagement with researchers and practitioners Exploring systematic, cost-effective approaches to DCCEEW, practitioners and researchers > guidelines data access and monitoring and new insights to support more effective monitoring Supporting Supporting participation in Emission Kimberley Land Council, Wunambal Gaambera **First Nations** Reduction Fund and Nature Repair Market Aboriginal Corporation, North Australian leadership frameworks by establishing an evidence-based Indigenous Land and Sea Management Alliance case for ungulate control as a novel carbon and the Indigenous Carbon Industry Network abatement system > evidence to develop a carbon abatement mechanism to fund Indigenous-led feral pig control Developing integrated pest management for **DCCEEW, NT Government, Carpentaria Land Council Aboriginal Corporation, Cape York NRM** feral pigs, with the North Australian Indigenous Land and Sea Management Alliance > increased pig control efficiency for improved wetland protection and restoration National **Examining barriers** to restoration in consultation Indigenous communities. DCCEEW and coordination with regulators, engineering sectors, non-profit state resource management agencies agencites and Indigenous groups > a consolidated evidence base and advice on national coordination for scaling up nature Guiding the scaling up of nature repair by repair activities in Australia compiling knowledge and drafting a national framework to guide investment



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