

Supporting Torres Strait marine ecosystems and sustainable livelihoods

Torres Strait is home to Australia's Indigenous sea-faring nations who have been stewards for these tropical marine ecosystems for thousands of years. CSIRO is proud to have spent the last 40 years working closely with Torres Strait Islanders to monitor key resources and associated unique biodiversity (e.g. seagrass which supports the world's largest dugong population). Our research has been supporting the management of valuable, sustainable fisheries that are the backbone of livelihoods and cultural identity for communities living on country. This research contributes to CSIRO's commitment as noted in our Reconciliation Action Plan (RAP) to build stronger relationships with Aboriginal and Torres Strait Islander peoples through scientific knowledge sharing, education, employment opportunities and

mutually beneficial partnerships that can deliver a positive impact for the benefit of all Australians.

Building relationships

CSIRO has built a trusted reputation in Torres Strait that has strengthened via continuous two-way communication, collaboration and capacity building. Examples include collaborative research, data collection, surveys, participation in joint management meetings, capacity-building initiatives that are resulting in fully Indigenous-led projects in addition to employment opportunities (eg. Tropical lobster survey assistant; bêche-de-mer processing techniques). These



relationships demonstrate deep ongoing commitment, excellent science with outputs shared with Islanders as well as acknowledging and embracing broader forms of communication, respecting, valuing and integrating traditional knowledge.

How we're making a difference - today and into the future

• Our teams are responsible for conducting research surveys, processing and analysing data, modelling, engaging with Torres Strait Islanders and providing **management advice** for the region's major fisheries, which are considered **world-leading** in many respects. Moreover, our team continue to innovate in terms of the approaches used such as to **integrate socio-cultural considerations**¹ into the fishery management systems (<u>1</u>), develop novel harvest strategies that account for Indigenous aspirations and are being used as a leading example of how to integrate Indigenous engagement in strategy development (<u>2</u>,<u>3</u>), develop and apply novel genomics approaches to delineate Torres Strait finfish stocks² and provide the first fisheries-independent estimates of absolute abundance³, account for **climate change** impacts and plan adaptation strategies⁴, build robust supply chains⁵ as well as encourage

¹ Keynote opening presentation at the Ocean Modelling Forum (OMF) in Vancouver, 2015 to diverse audience incl. First Nation tribes from Canada and Alaska, US and Canadian fisheries managers, Pew Charitable Trust, industry, scientists. It has been used to assist in planning and influencing the work of the OMF working group on Pacific herring.

² Completed AFMA-funded project: Designing a close-kin mark-recapture study for Torres Strait Spanish mackerel.

³ New project funded by AFMA and prioritised by Torres Strait Finfish Resource Assessment Group.

⁴ New project built off back of previous projects, funded by TSRA and prioritised by Torres Strait Islanders.

⁵ Work ongoing as part of CSIRO VS FSP project.

development of innovative new indigenous-led ventures (e.g. beche-de-mer sea ranching)⁶.

- High calibre of the Torres Strait fisheries research recognised⁷, supporting necessary export permits and stock recovery.
- Our research directly **informs policy** e.g. Two new harvest strategy policies implemented in 2019 with Torres Strait Islander endorsement.
- Research supports Papua New Guinea management of fisheries, bilateral arrangements, recent achievement of Marine Stewardship Council certification for tropical rock lobster (based on CSIRO surveys and research).
- CSIRO's Torres Strait tropical lobster survey is currently **the longest running fishery-independent dive survey for any marine resource globally** (<u>4</u>), supporting the most valuable fishery in the region (and includes critical baseline monitoring of habitats (eg seagrass) and physical data that can help inform on climate change impacts and adaptation in the region.

Integrated holistic research

- Our longest-running project focuses on kaiar (tropical rock lobster) and is constantly adapting to changing needs thanks to a holistic approach that incorporates scientific diving surveys, extensive stakeholder consultation and state-of-the-art modelling approaches (including stock assessment, ecosystem modelling, management strategy evaluation and climate-related modelling).
- Our research on the fully Indigenous-owned bêche-de-mer fishery resulted in successful re-opening of the black teatfish fishery plus export permit granted (leading example in Australia and internationally).
- Our new marine climate change project includes a Torres Strait Islander-led steering committee and is addressing high priority research requested by Islanders.
- Our supply chain research is being progressed as part of a broader CSIRO Future Science Platform with a workshop planned for June 2024 on Waibene (Thursday Island) to explore pathways for building resilience under disruption.
- Our work supporting Indigenous-led bêche-de-mer ranching venture is engaging with communities to look into sustainability and novel business models to support livelihoods, with consultations at Ugar Island planned for the 2nd semester of 2024.



In the news..

Considerable recent media coverage (TV, radio, blogs) related to the <u>35th lobster survey celebration</u>, <u>launch of new climate</u> <u>change project</u>, success of new harvest strategies, capacity-building initiatives (including supporting 3 Torres Strait Islanders to present at international conferences/workshops) as well as featuring Torres Strait Islander Rocky Stephen re development of a sea cucumber aquaculture project.

As Australia's national science agency and innovation catalyst, CSIRO is solving the greatest challenges through innovative science and technology.

CSIRO. Unlocking a better future for everyone.

Contact us | 1300 363 400 | csiro.au/contact | csiro.au

For further information

Environment Éva Plagányi +61 4 3 850 0926 Eva.plaganyi-lloyd@csiro@csiro.au Environment Laura Blamey +61 4 5 923 6349 laura.blamey@csiro.au

⁶ Work supported by CSIRO Indigenous Science and Engagement Program

⁷ Research led to Torres Strait lobster fishery added to "the List of Exempt Native Specimens (LENS) for a period of 10 years (until 4 Dec 2033)" in recognition of excellent well managed fishery - fishery eligible for longer-term export approval"