



Mapping Australia's Ocean Wealth

Demonstrating what our oceans do for
us today, so we can maximise what they
can do for us tomorrow





Sunset fishing © Ross Kummer

“Our goal is to demonstrate all that the ocean does for us today, so that we can make smarter decisions affecting what the ocean will do for us tomorrow.”

— Dr Mark Spalding, *Senior Marine Scientist, Global Marine Team*

Cover Images

Top:
© Jeff Yonover
Bottom Left:
A Little Tern
(*Sternula albifrons*)
fishing for
bait-fish
© Peter Merritt
Bottom Right:
Recreational
fishermen
launching a
fishing boat in
Port Phillip Bay
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Boyer-Rode

The Nature Conservancy’s Mapping Ocean Wealth project is taking a fresh look at the multiple benefits humans derive from marine and coastal habitats. These benefits, encompassed in the term ‘ecosystem services’, are the provision of jobs, coastal protection from waves and storm surges, production of recreationally and commercially important fish species and recreational revenue to name but a few. We wish to translate the benefits and services provided by nature into terms that engineers, politicians, policy makers and the financial sector understand.

A New Approach to Coastal Management

Consider a coastal community that wishes to be protected from waves and storm surge.

One conceivable option, and potentially the one most commonly implemented, is to build a new seawall — an expensive single purpose investment that requires maintenance over time.

An alternative scenario might be to include protection or restoration of shellfish reefs, seagrass meadows, mangroves or saltmarsh. These habitats can slow wind-driven storm surge, reduce erosion and, unlike man-made seawalls, can adjust to sea-level rise.

The second scenario offers further risk reduction to the coastal community. Seagrass, saltmarsh and mangroves can also provide important co-benefits such as water filtration, fish habitat and carbon sequestration. Significantly, this holistic view not only reduces the risk from waves and storms, but also supports livelihoods and coastal economies.

Communicating Nature’s Benefits to Coastal Communities, Industries and Governments

The Mapping Ocean Wealth team is working alongside community groups, recreational fishers, home owners, Natural Resource Management groups, industry and governments to incorporate nature’s wealth into everyday decision making by:

- Developing interactive maps which spatially display the locations and benefits provided by Australia’s marine habitats;
- Enabling hotspot areas of ecosystem services or areas which require restoration to be identified;
- Integrating ecosystem service valuations into environmental reporting, management plans and scenario planning;
- Building the (business) case for further investment in marine habitat conservation and restoration; and,
- Identifying cost effective, nature-based solutions to coastal risks and resilience, fisheries management and coastal development.

Mapping Ocean Wealth is part of The Nature Conservancy Australia’s *Great Southern Seascapes* program and is supported by The Thomas Foundation, HSBC Australia, Ian Potter Foundation, Deakin University, the Victorian Government, NSW Government and an Australian Research Council Linkage Grant (Grant No. LP160100242).



Intermingling saltmarsh and mangroves in Port Phillip Bay, Victoria © Boze Hancock

“Mapping Ocean Wealth will create a new paradigm in coastal planning and management by helping to quantify the ecological, financial and social values of marine habitats at scales appropriate to local decision-making.”

— Dr Chris Gillies, *Marine Manager, The Nature Conservancy Australia*

A Bounty of Ocean Wealth on Our Doorstep!

Port Phillip Bay and Western Port lie on the doorstep of Melbourne, Australia’s second largest and fastest growing city with a population of 4.4 million people. Within these bays lies an intermingling network of saltmarsh, mangroves and seagrass habitats. Importantly, these marine habitats are the only habitats on earth that can store atmospheric carbon dioxide for millennia.

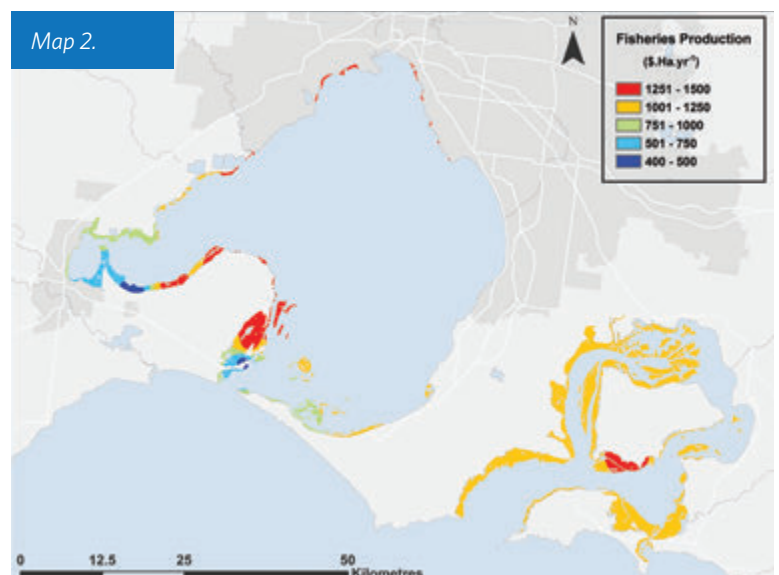
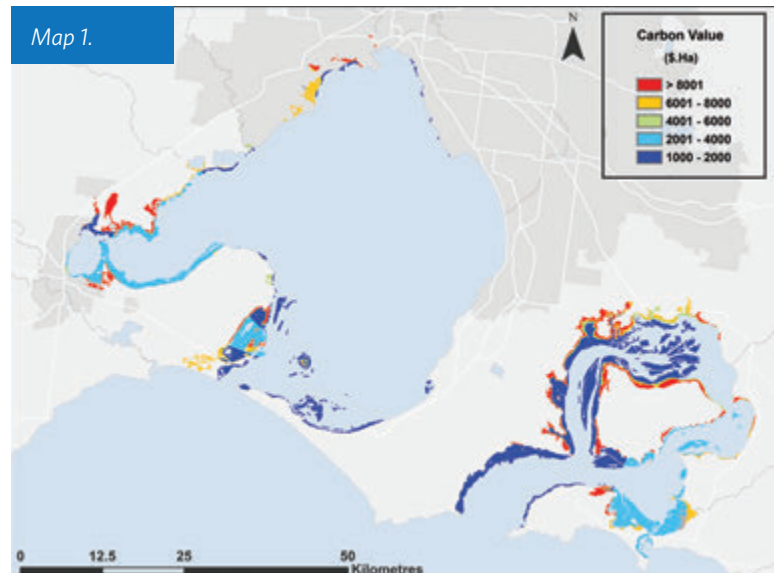
Recent modelling undertaken by our Mapping Ocean Wealth partner, Deakin University, has highlighted the value and location of our ocean wealth, in terms of the atmospheric CO₂ stored and fish produced, in Port Phillip Bay and Western Port (see Maps 1. and 2.).

Map 1.

Blue carbon benefit map for Port Phillip Bay and Western Port. Blue carbon benefit is shown mapped over three blue carbon habitats, saltmarsh, seagrass and mangroves, as carbon value in dollars AUD per hectare (\$.Ha). Blue through red areas show the range of low to high carbon values spanning a range from 1,000 to >8001 \$.Ha.

Map 2.

Fisheries production benefit map for Port Phillip Bay and Western Port. Fisheries production is shown mapped for seagrass habitat as fisheries production in dollars AUD per hectare per year (\$.Ha.yr⁻¹). Blue through red areas show the range of low to high fisheries production values spanning a range from 400 to 1,500 \$.Ha.yr⁻¹.



Melbourne's marine habitats
store the equivalent of
5% of the city's
annual carbon emissions
and enhance our coastal
fisheries, at a rate of
1 kilogram of fish
per year,
just these two benefits are
worth up to
\$110m annually.



© Jeff Yonover

Old jetty pilings of Princes Pier, Port Melbourne, Victoria © Luke Barrett

To find out more about
Australia's Mapping Ocean Wealth project visit:
**[www.natureaustralia.org.au/
our-impact/water/mapping-ocean-wealth/](http://www.natureaustralia.org.au/our-impact/water/mapping-ocean-wealth/)**

The Nature
Conservancy 
Australia

The Nature Conservancy Australia
Suite 2-01, 60 Leicester Street, Carlton VIC 3053
Tel: +61 (0) 3 8346 8600 Fax: +61 (0) 3 8346 8620
www.natureaustralia.org.au