



REEF BUILDER
RESTORING
AUSTRALIA'S LOST
SHELLFISH REEFS

A CLEAN OCEAN, MORE FISH, SAFE COASTLINE,
AND JOBS FOR REGIONAL AUSTRALIA

The Nature Conservancy's Reef Builder project is Australia's largest marine restoration initiative. The project will rebuild and protect 60 reefs across Australia - bringing shellfish reef ecosystems back from the brink of extinction, for the benefit of both people and nature.

Shellfish reefs are natural solutions to some of our greatest conservation challenges. They improve water quality, boost fish stocks, provide homes for a diverse range of sea life, generate regional employment and protect Australia's coastal communities and shorelines from coastal erosion.



AN ECOSYSTEM ON THE BRINK OF EXTINCTION

Two hundred years ago, Australia's southern coastline was full of oyster reefs and mussel beds stretching from Noosa to Perth – quietly keeping our coastal waters clean and clear, safeguarding coastlines and acting as nursery grounds for fish.

Unfortunately, these reefs have been decimated by years of commercial harvesting of wild shellfish, water pollution, introduced species and disease. Now, they have virtually disappeared – fewer than 8% remain today.

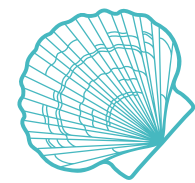
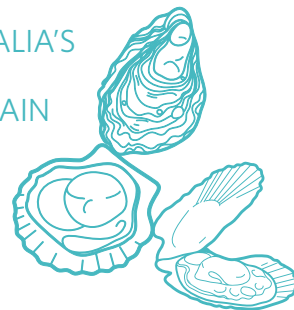
In 2014, we began an Australian-first program to accelerate and increase the scale of restoration and conservation of shellfish reefs in areas where people need them most – the populated bays and estuaries across eastern and southern Australia.

After five years of demonstrated success, we have launched Reef Builder – a new national initiative to bring this entire ecosystem back from the brink of extinction, and deliver the many benefits it provides to people and communities across coastal Australia.

FEWER THAN

8% OF AUSTRALIA'S SHELLFISH REEFS REMAIN

Their loss is contributing to decline in water quality, coastal protection, and loss of fish and other marine life in our coastal waters.

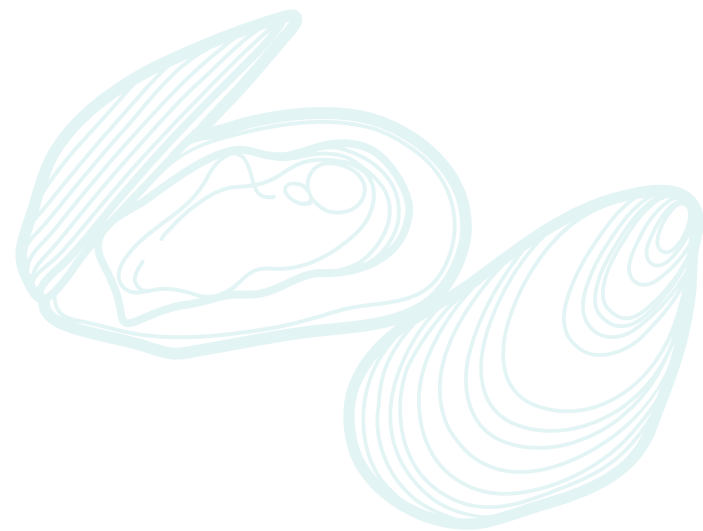


SHELLFISH REEFS ARE CREATED WHEN

Millions

OF OYSTERS AND MUSSELS SETTLE ONTO EACH OTHER FORMING HARD REEF STRUCTURES, ON THE SHORELINES AND SHALLOW WATERS OF AUSTRALIA'S BAYS AND ESTUARIES

These vibrant reefs function just like their more colourful cousins, coral reefs, providing food and habitat for fish and other marine life.



Together, we can bring vital shellfish reefs back

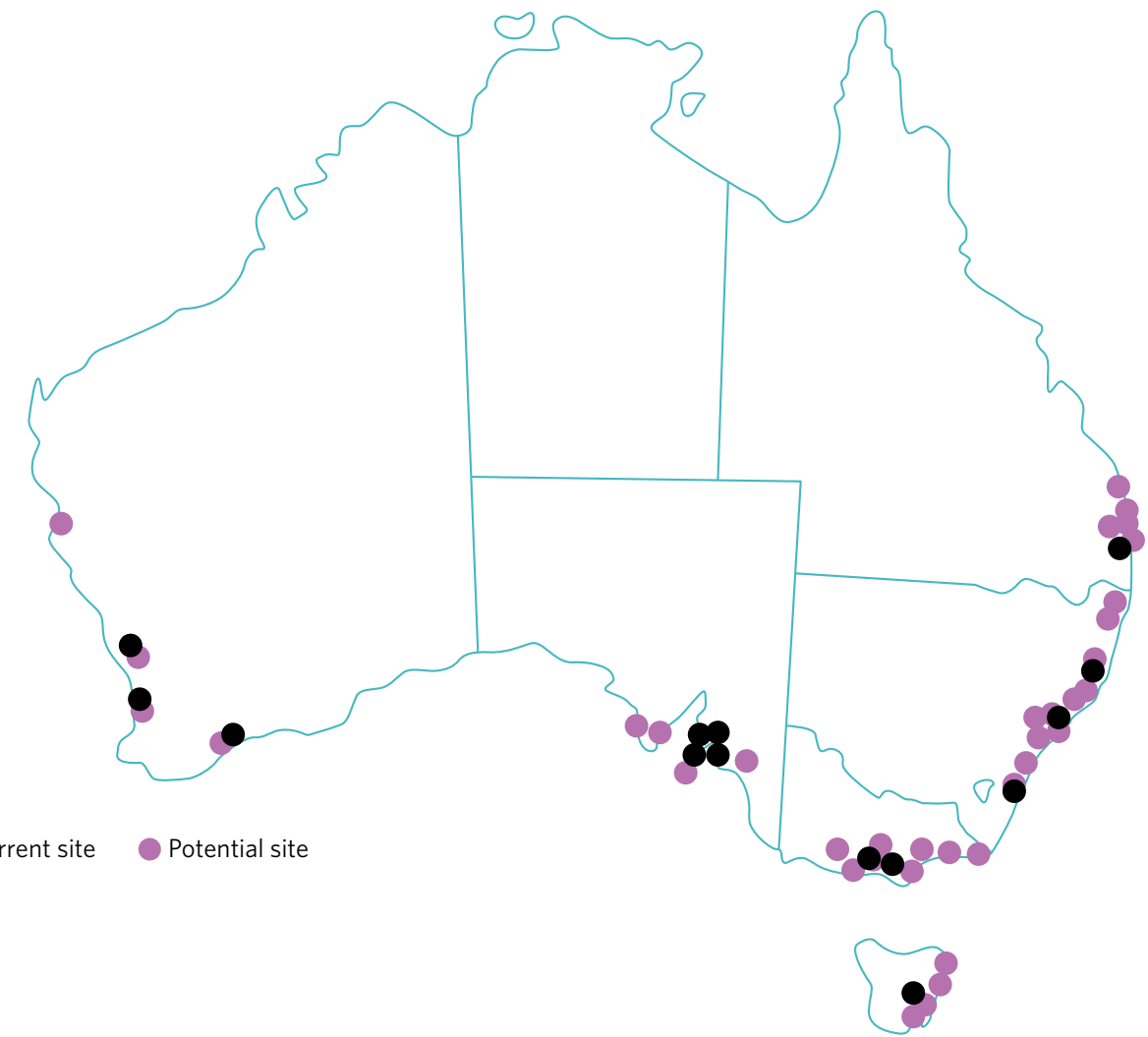
We have demonstrated that shellfish reefs can be restored at scale and their benefits returned. Rebuilding Australia's lost reefs will rapidly expand the protection and restoration of this valuable ecosystem. In scaling up the project, we invite communities across Australia to join us in practical conservation efforts where real results can be seen in the water. We will:

1. **Rebuild and protect 60 reefs across Australia, making Australia the first nation to recover a critically endangered marine ecosystem; and,**
2. **Boost local employment – through employing maritime construction, earthmoving, aquaculture, engineering and natural resource management businesses, at each of the reef locations; and,**
3. **Engage and inspire local communities, schools and businesses to become involved in hands-on restoration and marine conservation activities.**

WE WILL

Rebuild

-  **AND PROTECT SHELLFISH REEFS AT 60 LOCATIONS ACROSS AUSTRALIA:**
-  **Creating 850 new jobs**
-  **Boosting fish stocks by more than 100 TONNES annually, and**
-  **Helping to create a CLEAN OCEAN and safe coastline**



BENEFITS TO PEOPLE AND COMMUNITIES

850 

DIRECT JOBS WILL BE CREATED
in maritime construction, science, fisheries
and service sectors with half in regional areas

7,000m³

OF SHELL WASTE WILL BE DIVERTED
from landfill, to be recycled into new reefs



AUSTRALIA WILL BECOME THE

First Nation

TO RECOVER AN ENDANGERED
MARINE ECOSYSTEM




NEW

Community

VOLUNTEERING
and education opportunities

BENEFITS TO AUSTRALIA

Each year, every hectare of restored reef will:

CREATE 
375kg

OF NEW FISH
STOCKS, INCLUDING
HIGH VALUE SNAPPER,
FLATHEAD AND WHITING

FILTER 
2 Billion

LITRES OF SEAWATER
EQUIVALENT TO THE
ANNUAL WATER USE
OF 21,000 AUSTRALIANS

REMOVE 
225kg

OF NUTRIENT
POLLUTION (NITROGEN
AND PHOSPHORUS)
IN COASTAL AREAS



REDUCE COASTAL
Erosion

BY ACTING AS NATURAL
BREAKWATERS AND
REBUILDING COASTLINES



WHO'S INVOLVED

We will design, build and stock reefs with shellfish in partnership with:

- Recreational and commercial fishers, diving and fishing clubs
- Oyster and mussel growers, seafood wholesalers and restaurants
- Maritime construction labourers and engineers
- Local communities, schools and Traditional Owners
- Corporate businesses
- Natural Resource Management groups.



Volunteers measuring oysters, Melbourne.



Mussel seeding, Margarets Reef, Port Philip Bay.

HOW ARE REEFS RESTORED?

FIRST, WE 
Identify

SUITABLE SITES FOR RESTORATION

Using a combination of science, field surveys and historical and contemporary knowledge provided by fishers, divers, boaties and scientists

NEXT, WE 
Construct

A REEF BASE USING NATURAL MATERIALS

Often a combination of limestone rubble and recycled shells which mimic the foundation of a natural reef, providing elevation and hard surfaces - the reef base provides the hard surface and complexity that attracts marine life

LASTLY, WE 
Seed

THE REEF BASE WITH MILLIONS OF OYSTERS AND MUSSELS

Grown in nearby hatcheries, in partnership with shellfish farmers - these shellfish grow and attach to the reef base and each other, creating a living reef - which further attracts a diversity of fish and aquatic life



OUR TRACK RECORD

The Nature Conservancy was founded in 1951 and now works in **70 countries** with a staff of nearly **4,000 people**, including over **400 scientists**.

The Nature Conservancy Australia was formed in 2002, collaborating with partners including local communities, governments, Indigenous groups, businesses and other conservation groups. TNC Australia has supported conservation efforts across more than 126 million hectares. Our focus is to address the most pressing conservation threats at the largest scale through our scientific and collaborative approach.

Since 2000, The Nature Conservancy has restored over 200 shellfish reefs across the world, working in partnership with governments, businesses and the community to restore fish and marine life, improve water quality and protect coastlines for the benefit of people and nature.

The Nature Conservancy's reef restoration work in Australia would not have been possible without the generous catalytic contribution of The Thomas Foundation, and ongoing support from our private and public donors.

To find out more about The Nature Conservancy's Reef Builder project, visit natureaustralia.org.au/reefbuilder



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