Four ecosystem challenges our lives depend on

Simon Thrush

Philanthropy Summit 2019
The Future of Trust
Te pono, te tika, te māramatanga me te aroha anō o tētehi ki tētehi

AMP CAPITAL
perpetual guardian
SMARTSHARES
BLOOMSBURY ASSOCIATES
fi360 global fiduciary insights
DEVON FUNDS.
Kiwi Invest.
SmartyGrants Software & data science for revolutionary grantmakers
ourcommunity.com.au Where not-for-profits go for help
MILFORD
Harbour ASSET MANAGEMENT
blackbaud power your passion
PIMCO
thankyou payroll
fisher funds
FLUXX
SUE BARKER CHARITIES LAW
MERCER
BoardPro Smart Board Software

Ecosystem Challenge: Oceans

Prof Simon Thrush

Philanthropy New Zealand, 16 May 2019, Te Papa, Wellington

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

SCIENCE
INSTITUTE OF MARINE SCIENCE

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

SCIENCE
GEORGE MASON CENTRE FOR THE NATURAL ENVIRONMENT

- Our survival
- Our economy
- Our culture
- Our wellbeing

New Zealand's extensive marine environment, more than 20 times the land area, 18,000 km shoreline with 75% of its population living within 10km of the sea

Robotlab

Coastal seas around New Zealand head into another marine heatwave

More Hector's dolphin deaths prompts call for trawling ban

Climate change a driver in NZ's warming oceans

More endangered animals killed in commercial fishing nets

Microplastics Found in Every Marine Mammal Surveyed

What's lurking below: Fighting the weird and not-so-wonderful pests in Tauranga waters

Revisiting Antarctic ice loss due to marine ice-cliff instability

Acid seas: Can New Zealand's unique kaimoana survive climate change?

Mussels lose grip when exposed to microplastics - study

Warm New Zealand seas could be 'devastating', NIWA warns

Contaminated sludge from Auckland destined for site near Hauraki Gulf marine park

Climate change will shift the oceans' colors

Ocean acidification and the threat to coral reefs

Battle begins to rid Opua of Mediterranean fanworm

Sedimentation degrading Kaiteriteri, Otuwhero estuaries

Drop in crayfish stocks worries marine scientists

Differences in water temperature can create new marine species

Macroinvertebrate health of New Zealand's waterways 'likely or very likely degrading' at two out of five sites

How we're eating the plastic we put in the ocean

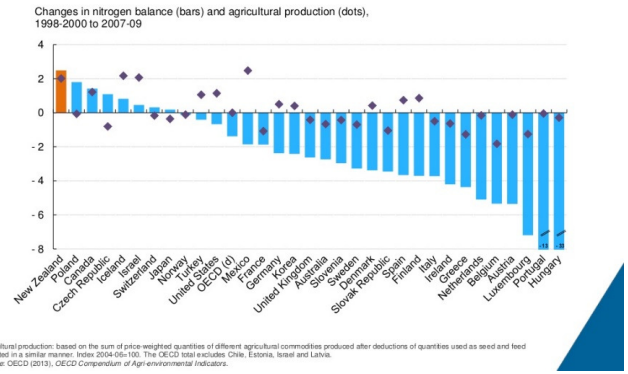
Opportunity and gaps

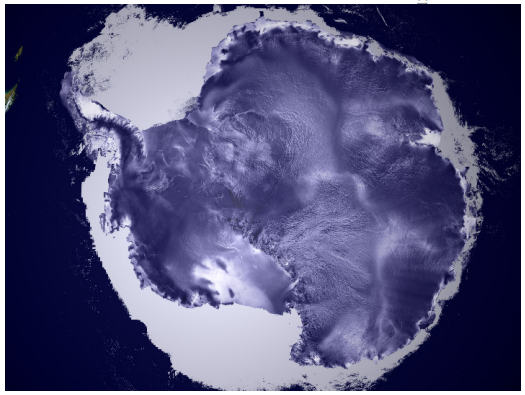
- Out of sight and out of mind
- Negative trends
- Disconnects on governance and management
- Rights and responsibilities
- We can do better but there are major knowledge gaps

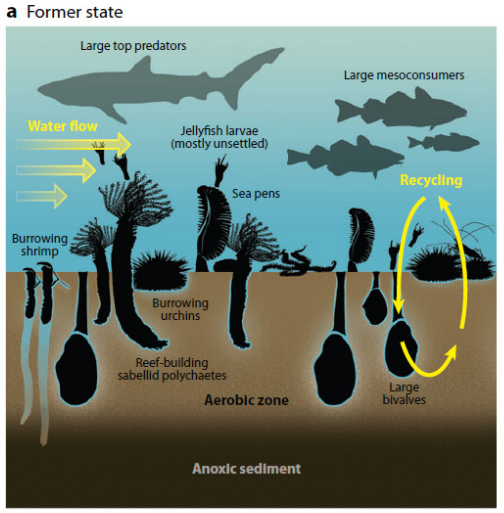
… Please do not put Coasts & Oceans in the too hard basket

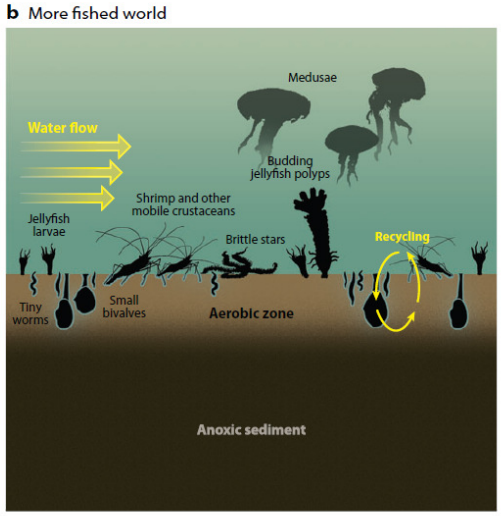
Big issues for NZ and wicked problems

Nitrogen balance has worsened more than in any other OECD country









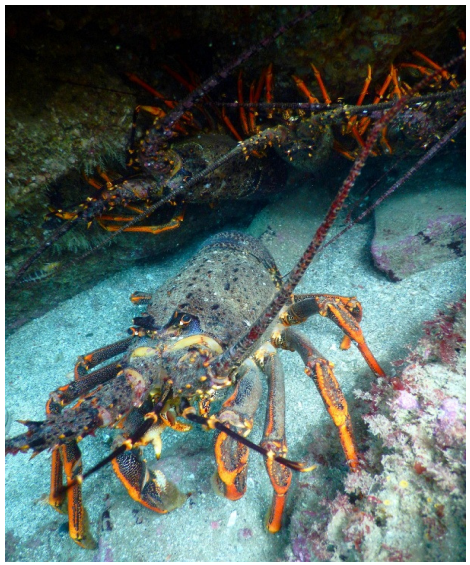
Today: Is Earth Near Its 'Tipping Points'?

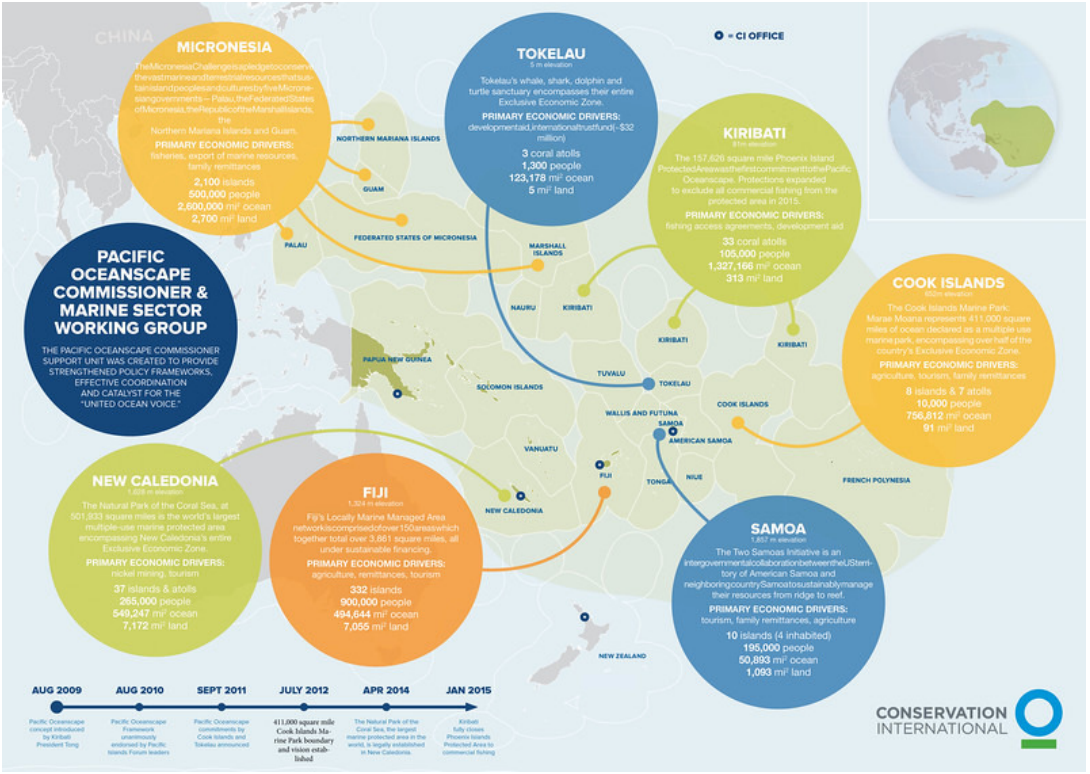
Finding Solutions - Restoration

Horse mussels in Mahurangi Harbour – same place different habitat. Photo 1 c 1998 photo credit Simon Thrush; Photo 2 October 2016 photo credit Jenny Hillman

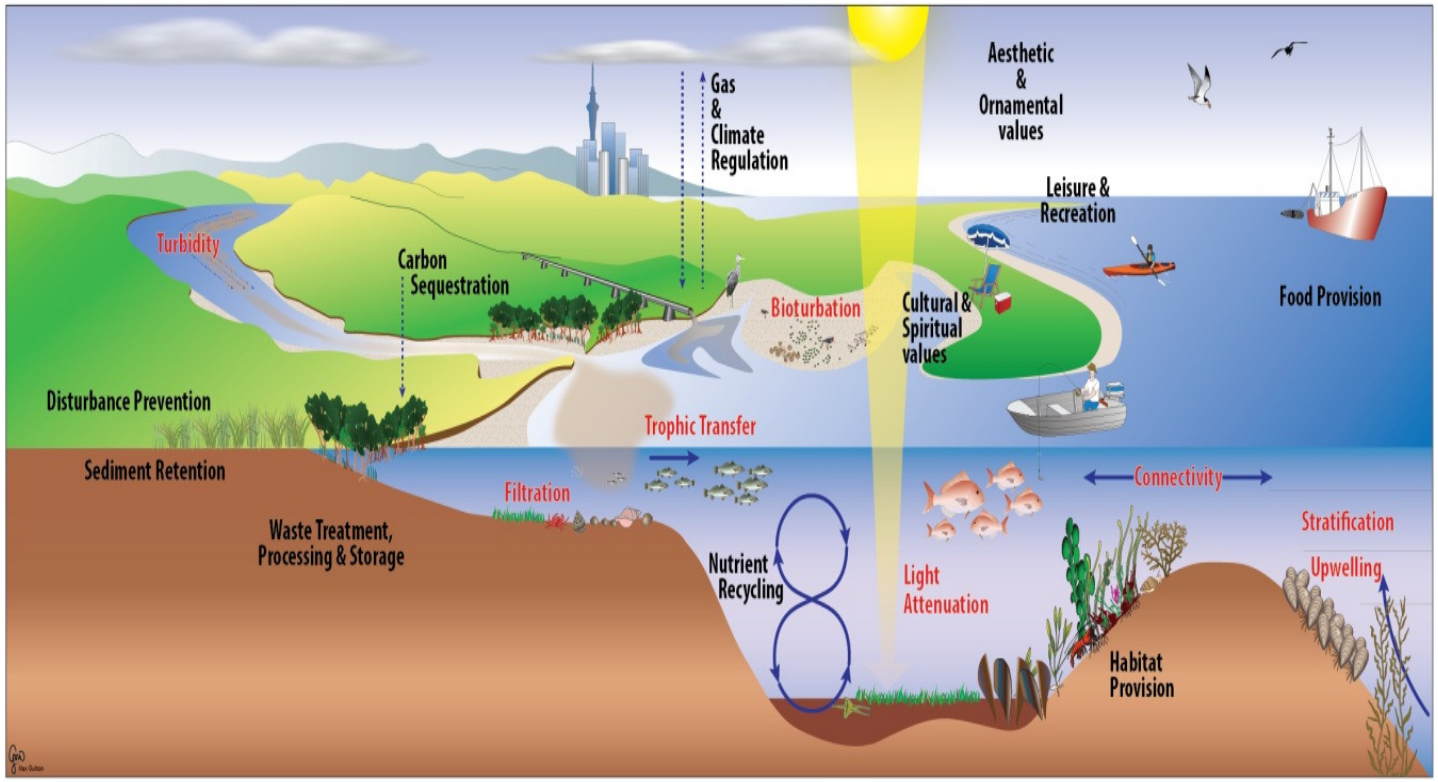
Positive action → Engagement and learning → Restoring responsibilities

Finding Solutions - Habitat protection





Enhancing the narrative – new knowledge

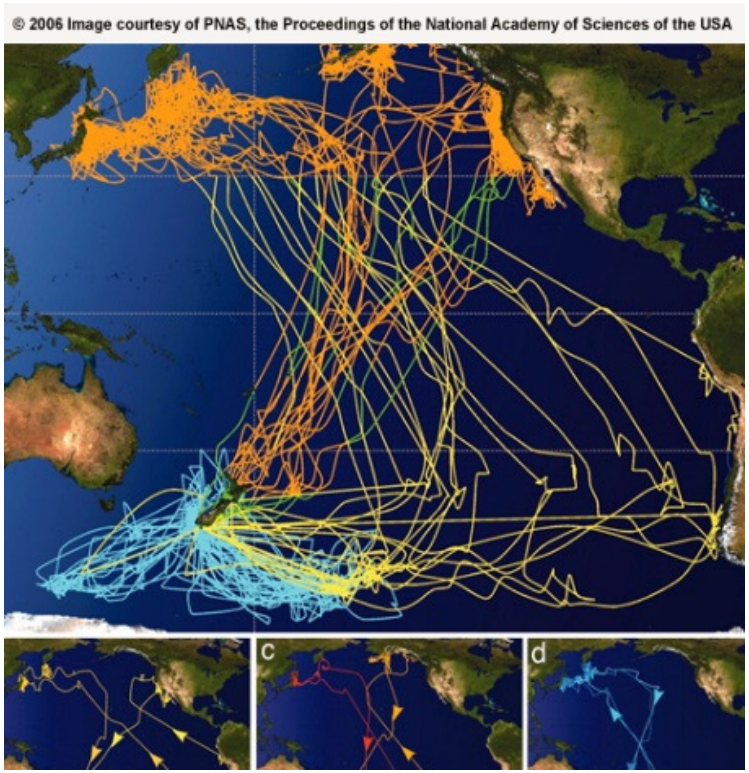


Defining Multiple Ecosystem Benefits

Tipping Points

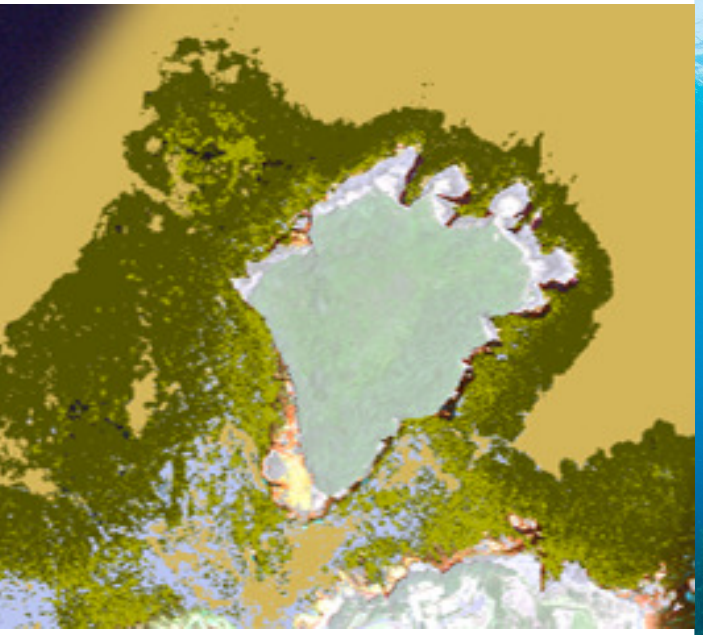
Restoring Services

Enhancing the narrative – new knowledge



Behaviour Changes → Ecology of Sound → Mitigating Human Impacts

Enhancing the narrative – new knowledge



Remote Sensing

Mediating Ocean Acidification

Impacts and Conservation

Ocean Literacy

Capacity building

Partnerships –

THE UNIVERSITY OF AUCKLAND
NEW ZEALAND
SCIENCE

Research and Education
- People, Infrastructure, Opportunity

Applications for Ecomerit Technologies
- Sustainable Technologies; Mitigation – options for marine ecosystems

Institute of Marine Science

George Mason Centre for the Natural Environment

Fostering an environment in which ideas are valued and creative problem solving can flourish

Thank you

Brought to you by

Philanthropy New Zealand
Tōpūtanga Tuku Aroha o Aotearoa

Philanthropy New Zealand Sponsors

AMP CAPITAL

perpetual guardian

Philanthropy Summit Sponsors

Kiwi Invest.

DEVON FUNDS.

fi360 global fiduciary insights

SMARTSHARES

BLOOMSBURY ASSOCIATES

SmartyGrants Software & data science for revolutionary grantmakers

ourcommunity.com.au Where not-for-profits go for help

Harbour ASSET MANAGEMENT

PIMCO

blackbaud power your passion

MILFORD

thankyou payroll

fisher funds

FLUXX

BoardPro Smart Board Software

SUE BARKER CHARITIES LAW

MERCER