

Marine Protected Areas and their contributions to Environmental, Social and Economic Objectives



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Can marine protected areas help reduce poverty?

METHODS

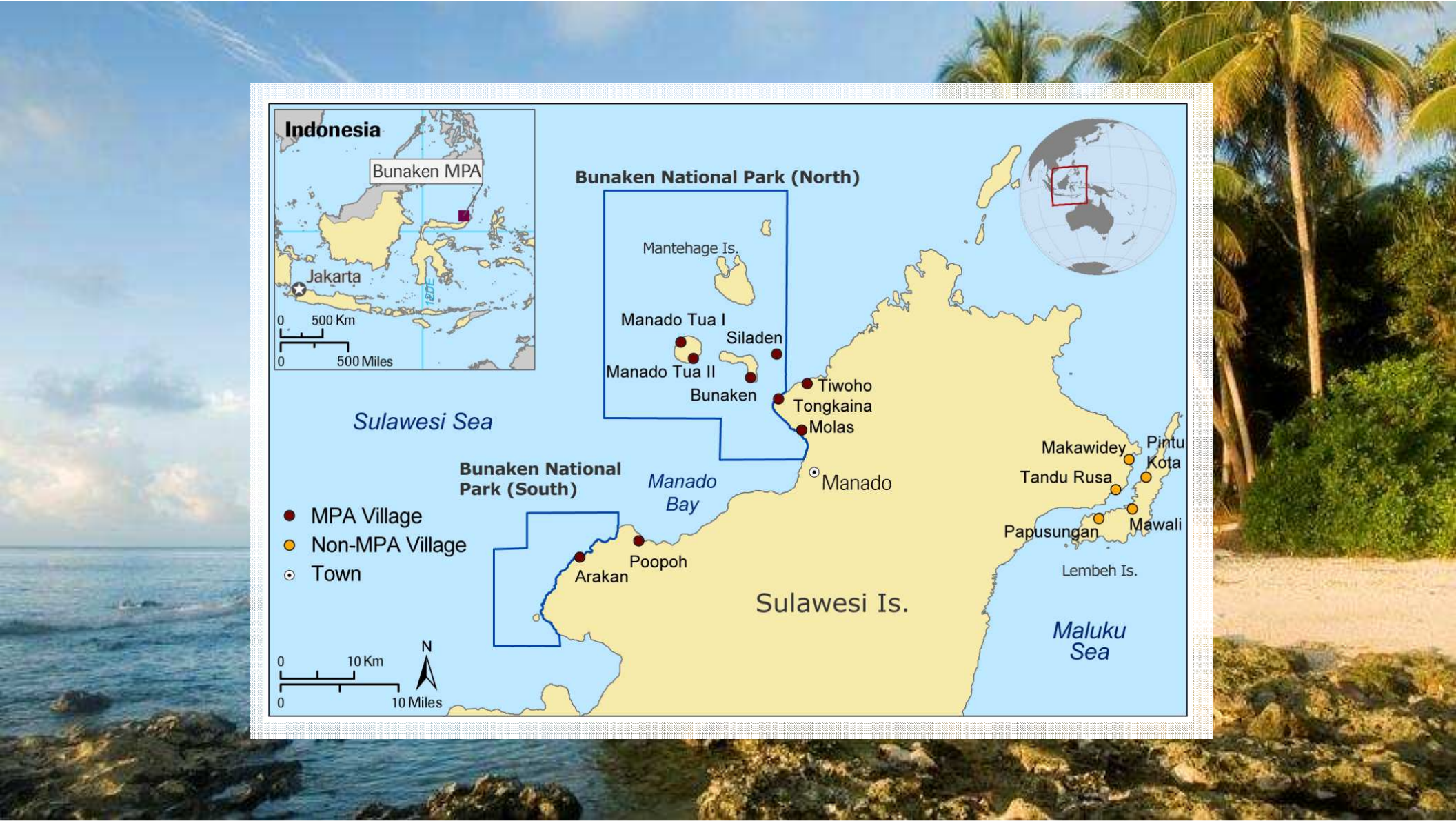
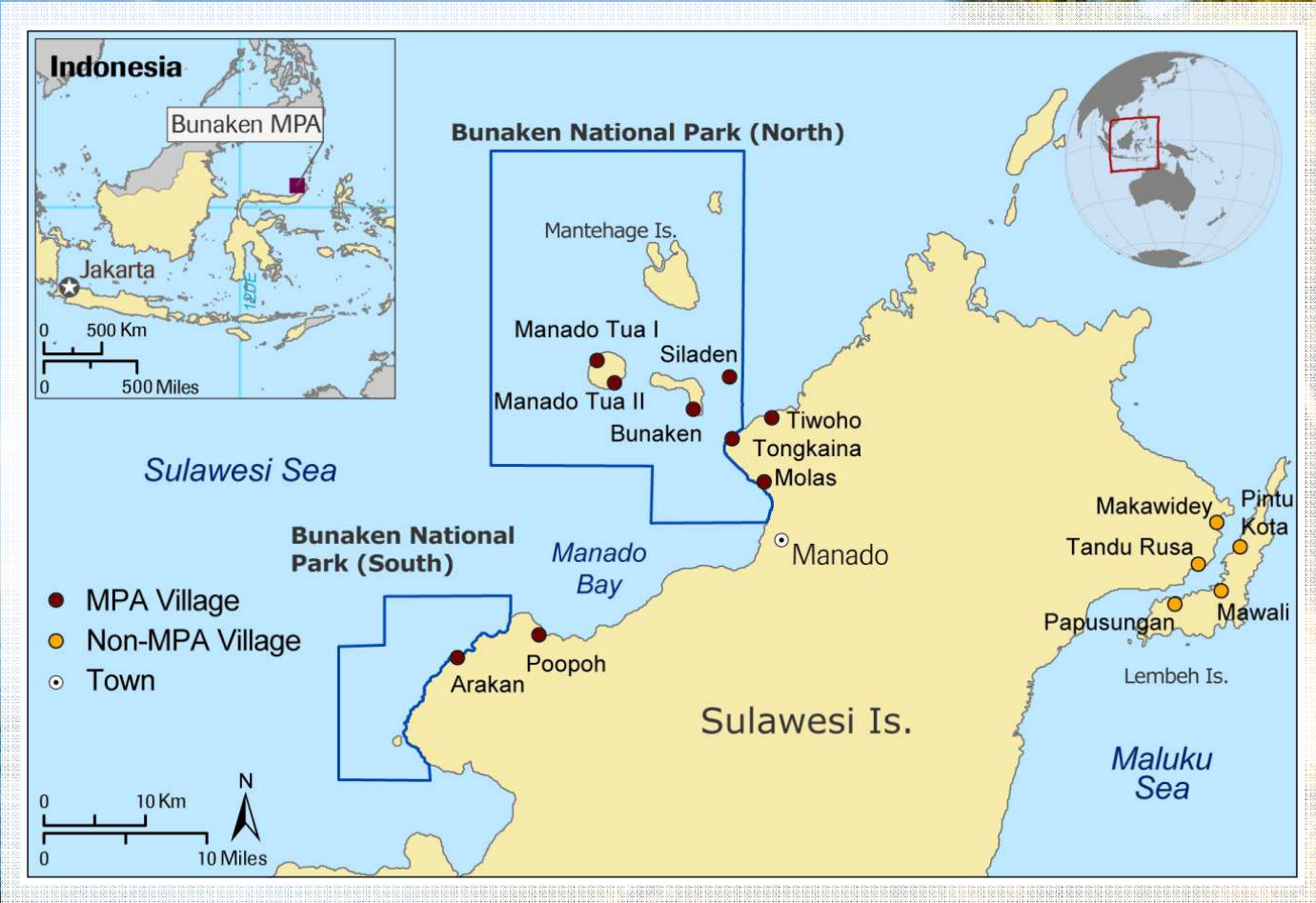
- Positive deviance approach
- (www.positivedeviance.org)
- Delphi method to choose 4 study sites in Asia-Pacific
- Mixed methods for assessing socioeconomic impact: household survey, focus group discussion, key informant interviews, videoing impacts
- Random sample of households
- BACI design: before-after, control-impact
- World Bank poverty framework
- 13 'focal areas'

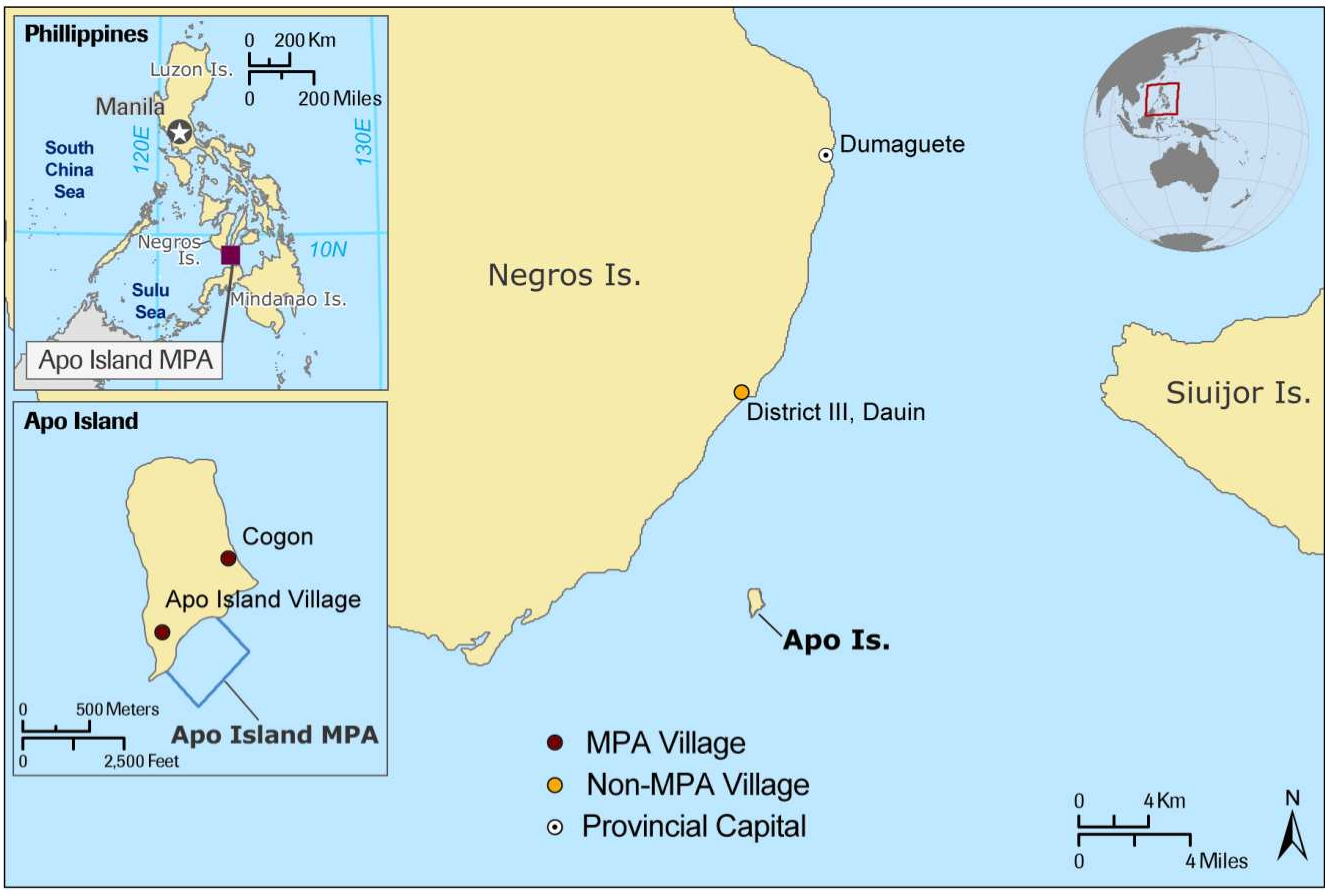


Poverty focal areas

Opportunities	Empowerment	Security
Income	Governance mechanisms	Health
Housing	Community participation	Social cohesion
Luxury goods	Benefits to ♀	Cultural traditions
Fish catch	Access and rights	
Education		
Alternative livelihoods		











Results

- 958 household interviews, 33 key informant interviews, 18 focus group discussions between November 2006 and June 2007
- 94% Confidence Interval

Overall, we found MPA contributions to poverty reduction from:

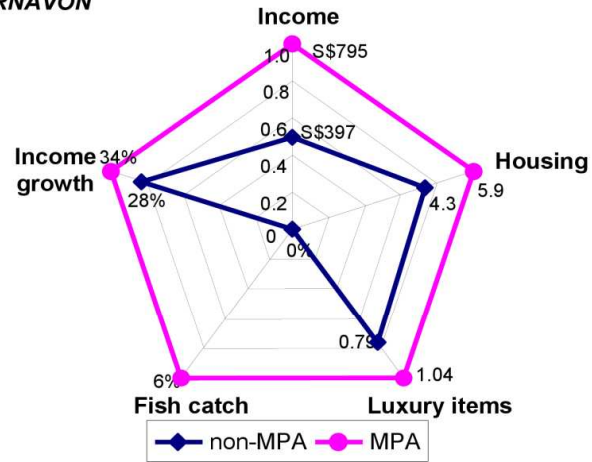
- Increased fish catches
- New jobs
- Benefits to health
- Benefits to women

Primary drivers of poverty reduction were:

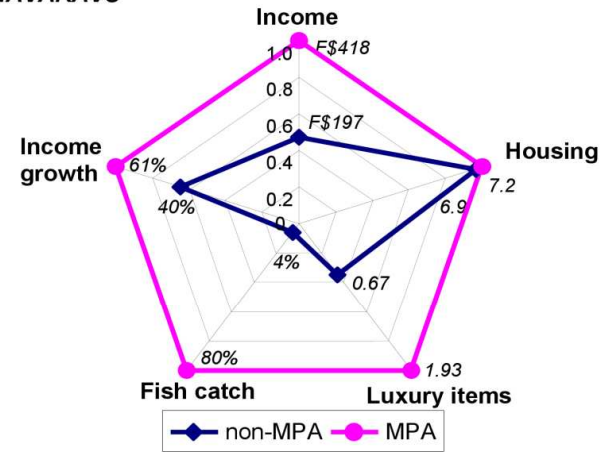
- Fish spilling over from the no-take zone
- New jobs, particularly in tourism

Opportunity Results

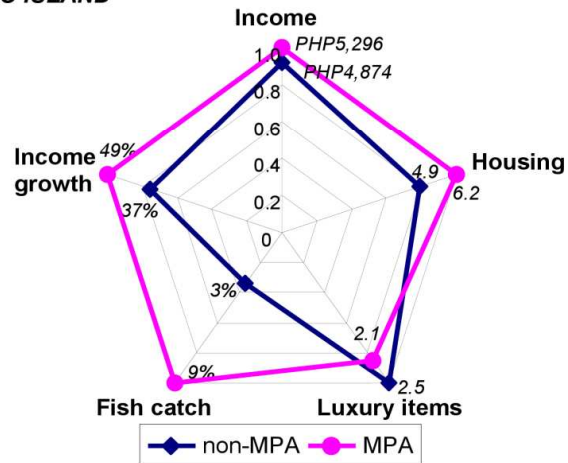
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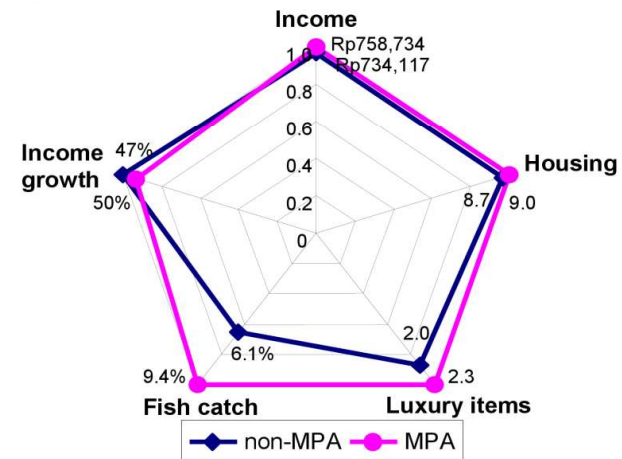
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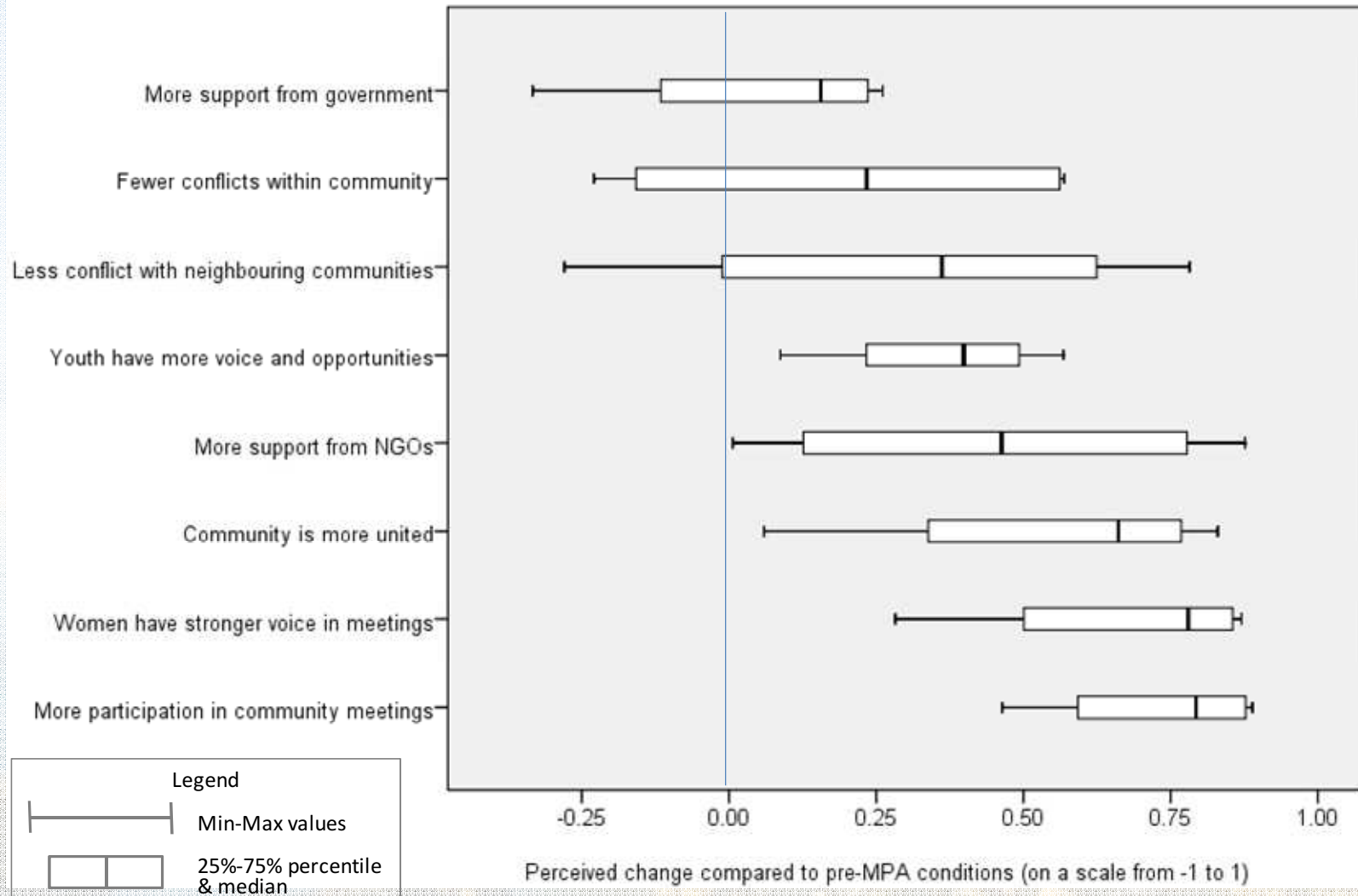
APO ISLAND



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Empowerment and Security Results



Ancillary findings...

- Most alternative income generating activities failed to be sustainable because of changes in the market.
- Small marine protected areas had greater per capita contributions to poverty reduction.
- Modest levels of investment (US\$12k) in a community marine protected area resulted in a doubling of incomes for 600 people within 5 years.





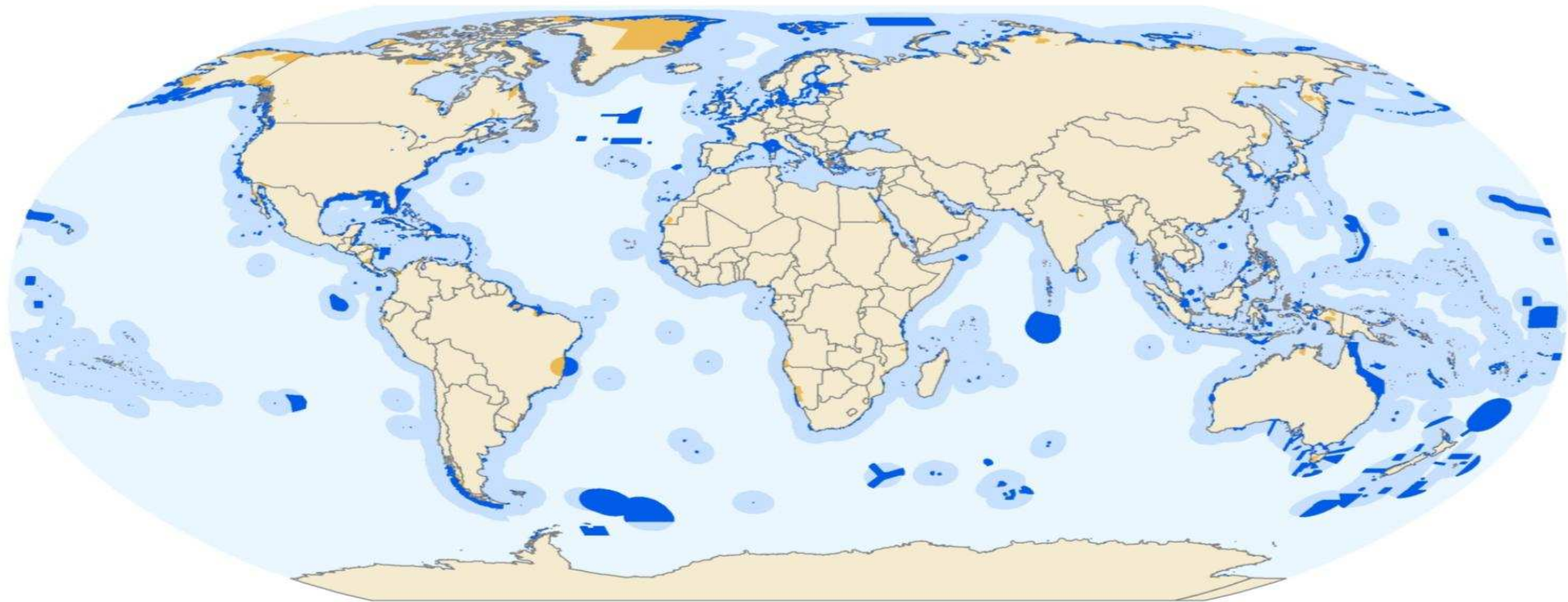
Reaching the Global MPA target

- Where are we?
- Where are we going?
- Are we getting it right?

Spalding, M. D., Meliane, I., Milam, A., Fitzgerald, C., and Hale, L. Z., in press, Protecting Marine Spaces: global targets and changing approaches: Ocean Yearbook, v. 27.

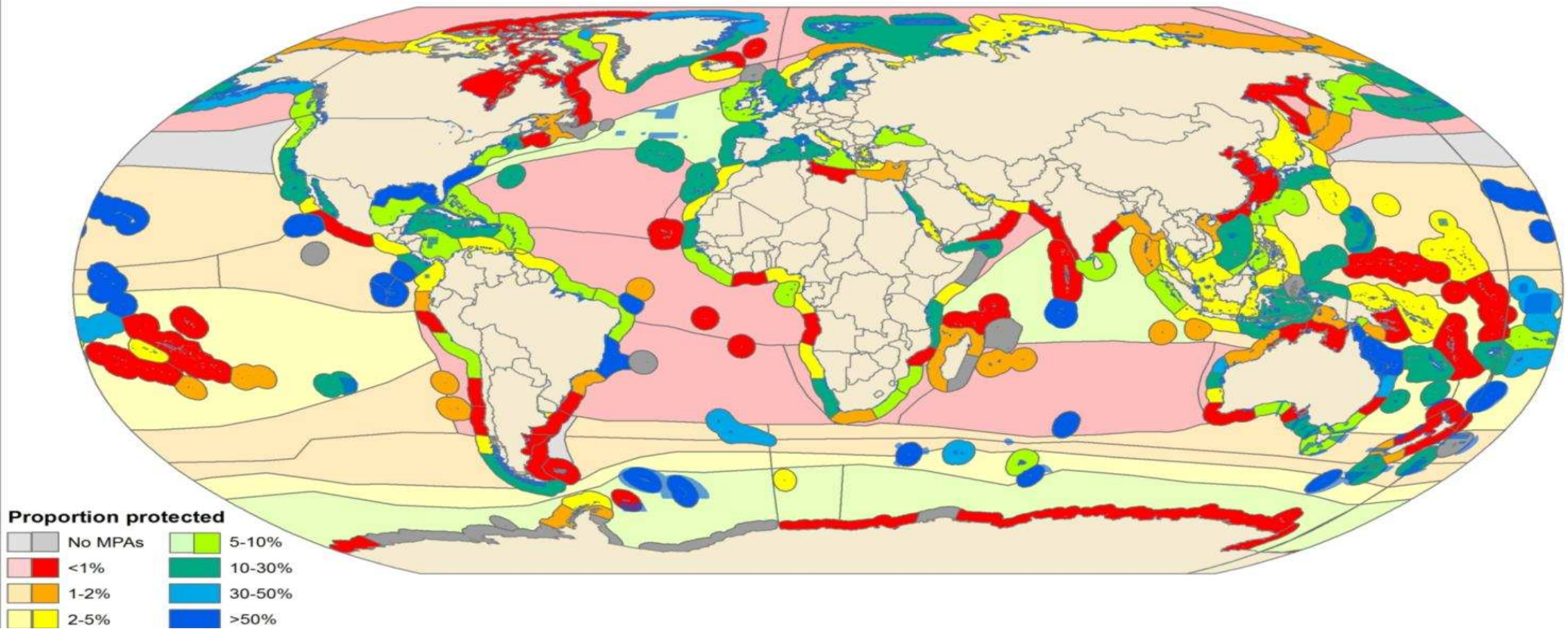


>10,000 sites; 8.3 million km²



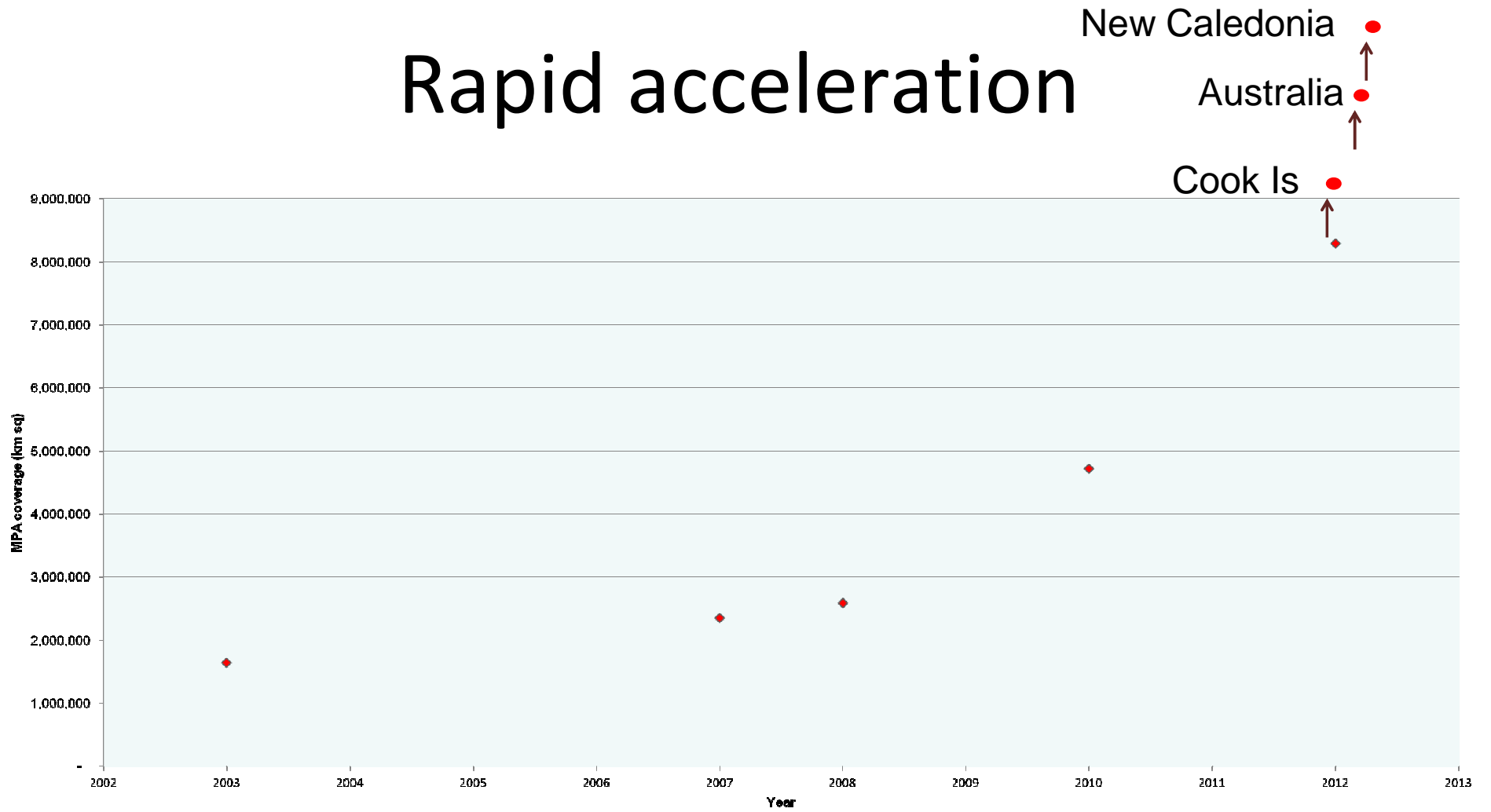
2.3% of the ocean, 5.69% within EEZ

7.9% of continental shelf; 1.79% of off-shelf waters; 0.17% of the high seas



73 ecoregions with >10% coverage

Rapid acceleration

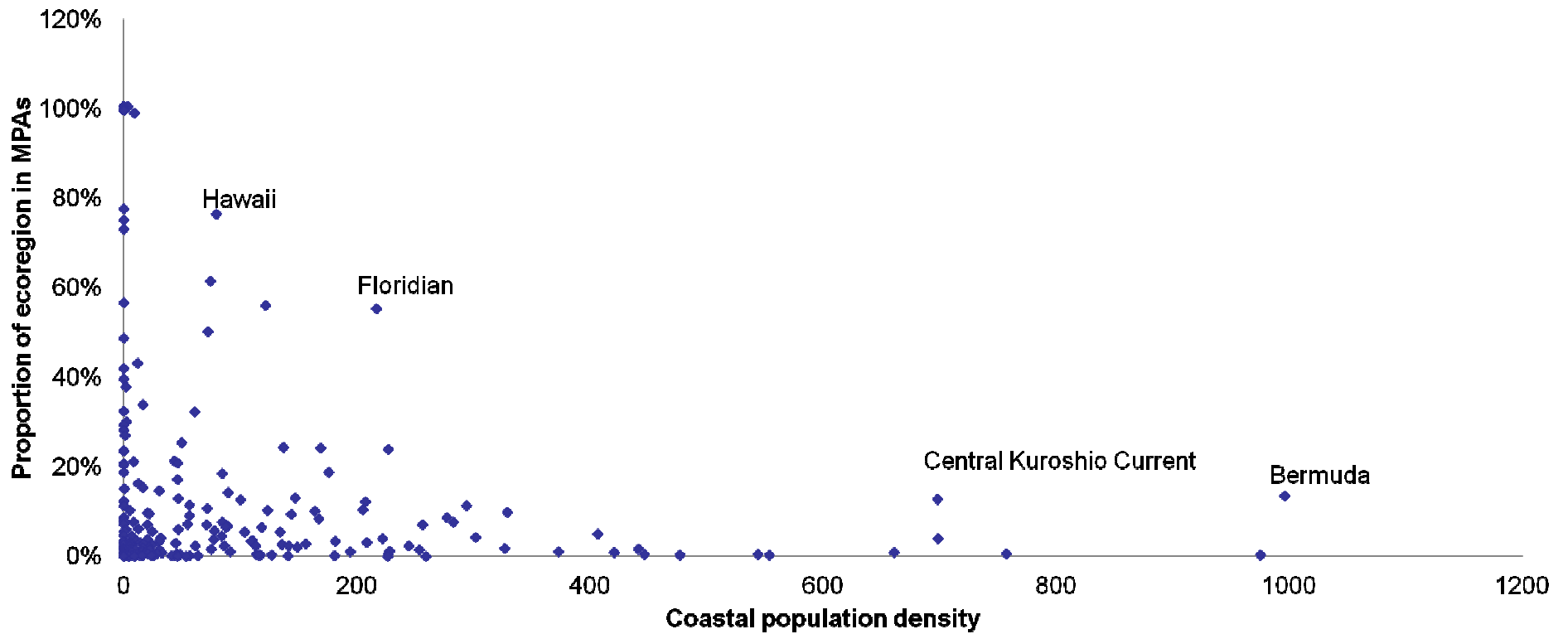


Results: 60% of global MPA coverage in 20 MPAs

Site name and designation	Country of jurisdiction	Marine extent (km ²)
South Georgia and South Sandwich Islands Marine Protected Area	UK	1,070,000
British Indian Ocean Territory Marine Protected Area (Chagos)	UK	640,000
Kermadec Benthic Protection Area	New Zealand	620,467
Phoenix Islands Protected Area and World Heritage Site	Kiribati	410,500
Papahānaumokuākea Marine National Monument and World Heritage Site*	United States	362,075
Great Barrier Reef Marine Park and World Heritage Site	Australia	344,004
Marianas Trench Marine National Monument	United States	246,600
Pacific Remote Islands Marine National Monument	United States	225,000
Motu Motiro Hiva Marine Park	Chile	203,374
Prince Edward Islands Marine Protected Area	South Africa	180,000

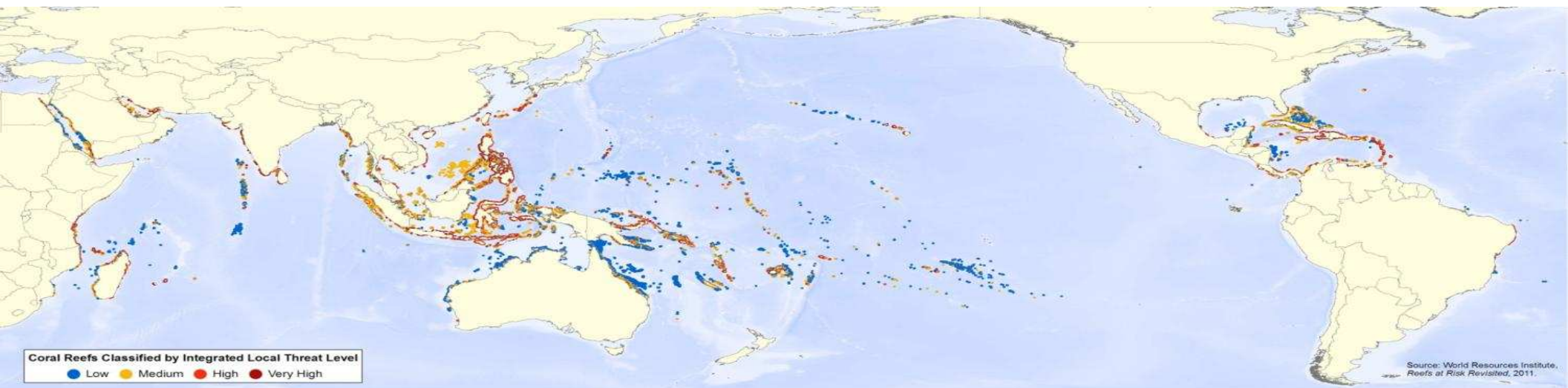


But...Are we getting it right?



Protected areas are far from people

...and far away from threats

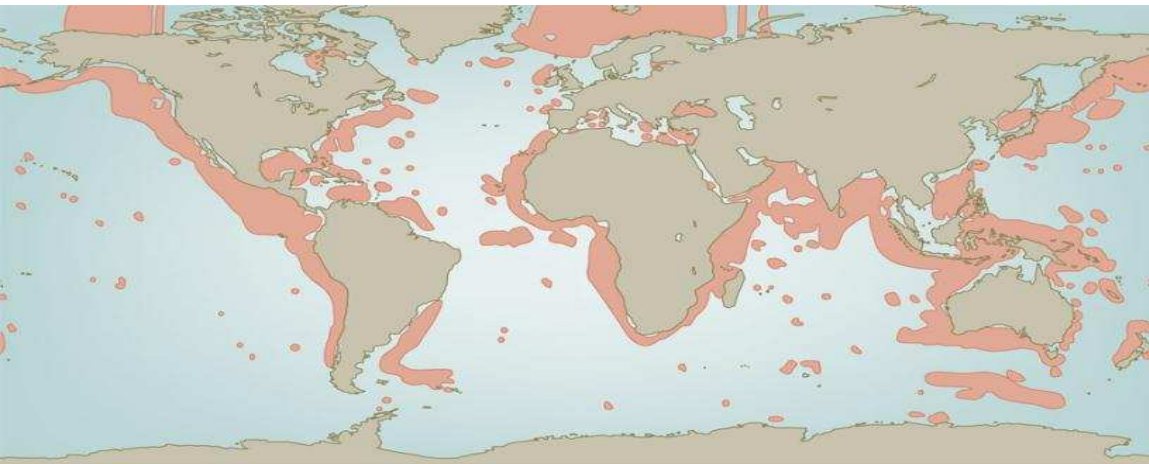


25% of reefs in MPAs

61% of reefs threatened by direct impacts

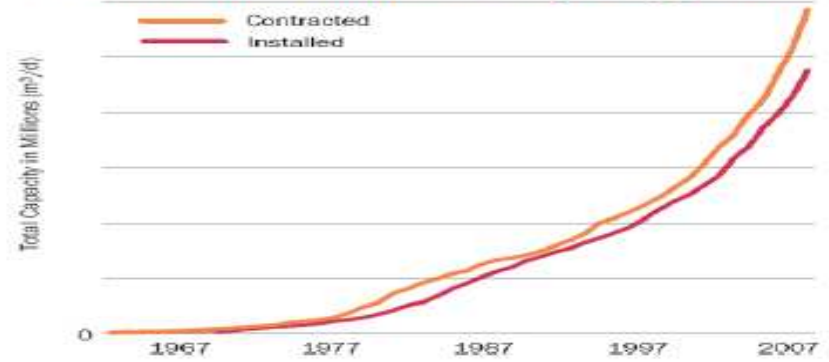
Burke et al 2011, *Reefs at Risk Revisited*

...and

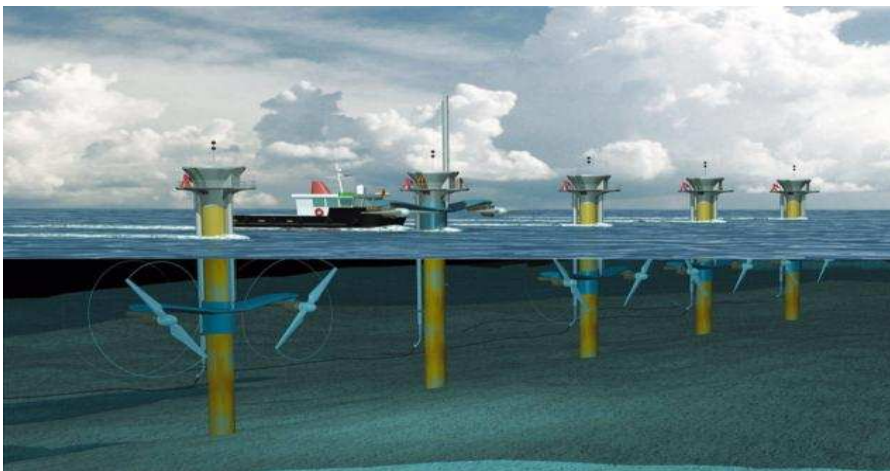


Occurrences of methane hydrates

Cumulative desalination capacity growth



Source: GWI DesalData/IDA



An underwater photograph showing a school of large, vertically striped fish swimming over a coral reef. The water is clear and blue. The fish have dark vertical stripes on a lighter background. The coral is diverse, including branching and table corals. The text 'Where to from now?' is overlaid in white at the top center.

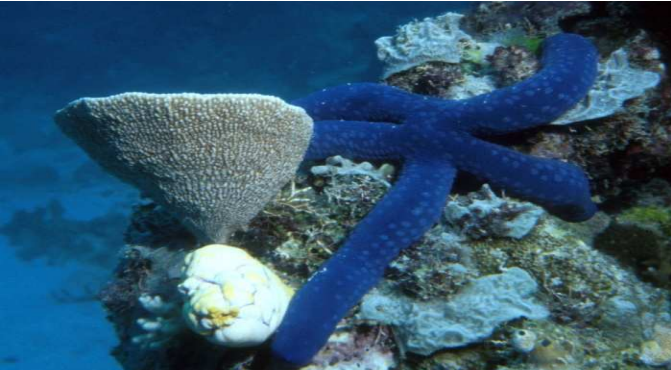
Where to from now?

Aichi Target – a game changer

Aichi Target 11

10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity **and ecosystem services**, are conserved through effectively and **equitably managed**, ecologically representative and well connected systems of protected areas and **other effective area-based conservation measures**, and **integrated into the wider landscapes and seascapes**





“...ecosystem services”

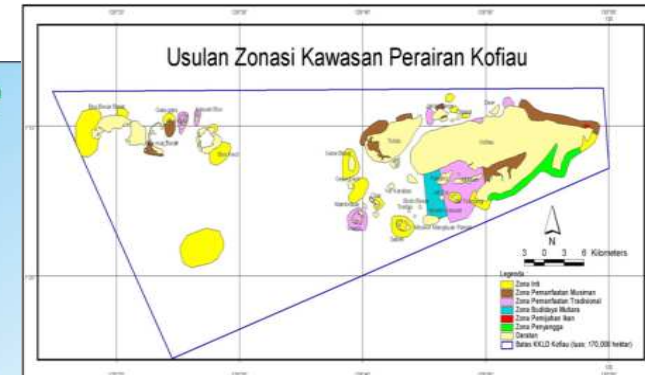
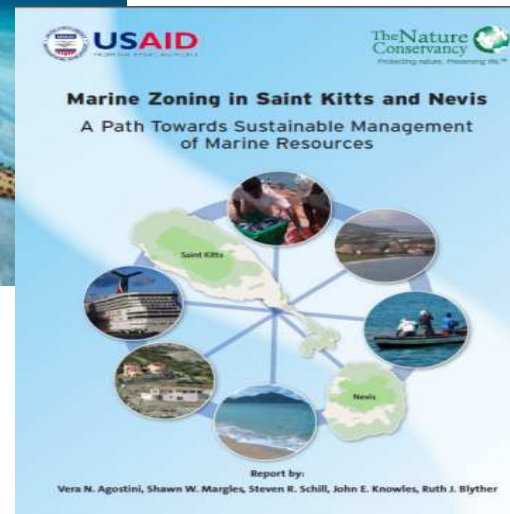
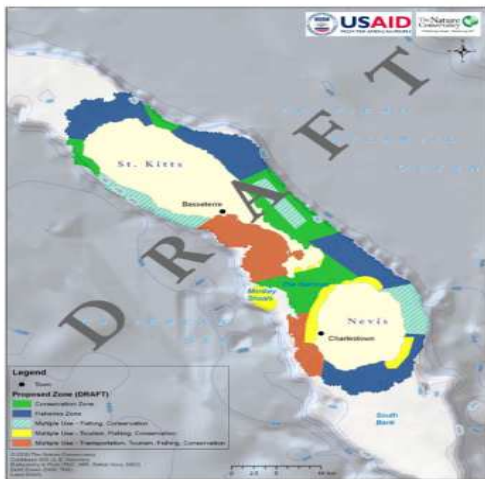
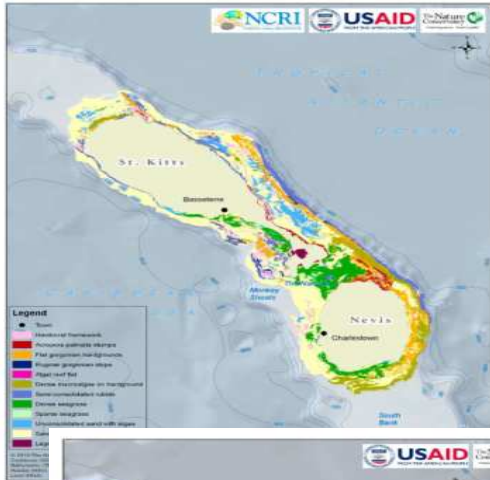


OEABCM - What Areas are counted?



- IUCN definition: Sites must have nature conservation as a primary objective, but conservation can be limited, even to just a subset of species or habitats, or a subset of threats acting on any site
- a range of interpretation by the data suppliers to WDPA of which sites meet this definition
- Simple MPA coverage assessments not best indicator for the target

“...integrated into wider landscapes and seascapes”



What else is needed?

- identifying areas that best safeguard ecosystem services and better link to delivering social, cultural and economic benefits to communities;
- benchmarks for “effectively and equitably managed” MPAs which need to be taken into account in the design, implementation and reporting on the achievement of Target 11
- defining what should be counted in the 10%; what constitutes “effective area-based conservation measures” in the marine environment, in particular for fisheries management areas
- recommendation of approaches for integrated planning, and encouraging the documenting of progress towards such approaches

Thank you!

<http://www.nature.org/ourscience/conservation-and-poverty-reduction-project.xml>

<http://www.nature.org/ourscience/protecting-marine-spaces-global-targets-and-changing-approaches.pdf>

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