

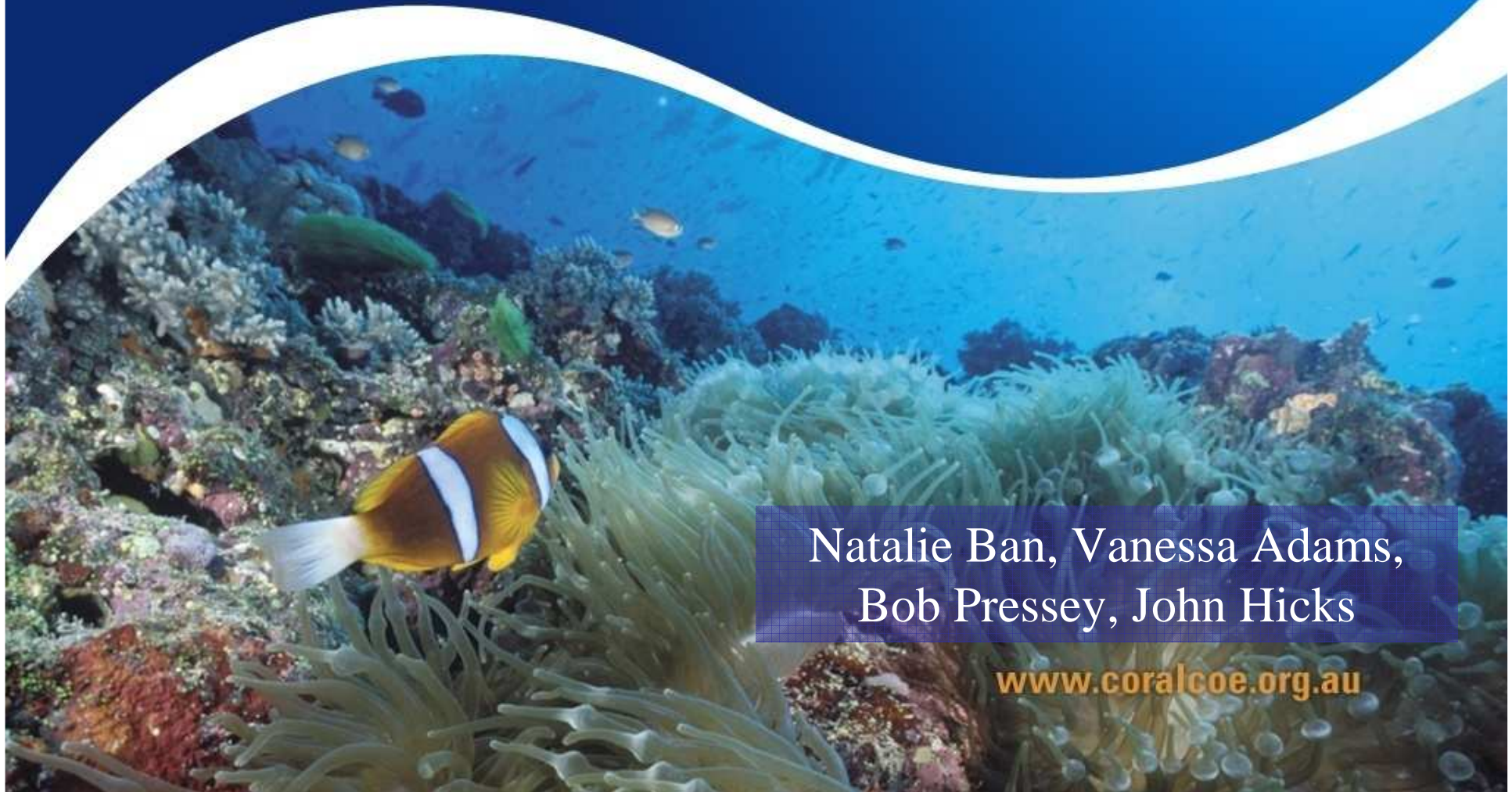


ARC Centre of Excellence
Coral Reef Studies

Estimating costs of MPA management

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Background

- Purpose of project:
Estimate potential management costs of two protection scenarios for the Coral Sea Conservation Zone
- Purpose of this presentation:
Present findings of what influences MPA management costs in Australia



3 approaches to estimating MPA management costs

1. Application of global model (Balmford et al 2004)
2. Using Australian Commonwealth MPAs to determine factors that influence management costs
3. Expert interviews



3 approaches to estimating MPA management costs

1. Application of global model (Balmford et al 2004)
2. **Using Australian Commonwealth MPAs to determine factors that influence management costs**
3. Expert interviews



1. Global model

- Predictors:
 - MPA area
 - Distance from inhabited land
 - Purchasing power parity
- Tested prediction for the GBRMP
 - Underestimates annual GBRMP management cost by 73%
 - Insufficiently accurate for Australia to be useful

2. Commonwealth MPAs

- Had data (2008-9) for:
 - Area of MPA
 - # years since establishment
 - # years since last gazettal
 - % area as recreational zone
 - # of zones
 - % area no-take





2. Predictors of management cost:

- Area:
Management cost per unit area decreases with size up to a point
- Years since gazettal
Management cost decreases as more time since gazettal passes
- Percentage no-take
Management cost increases slightly as proportion of no-take increases; 100% no-take cheapest to manage
- Number of zones
Management cost increases with number of zones

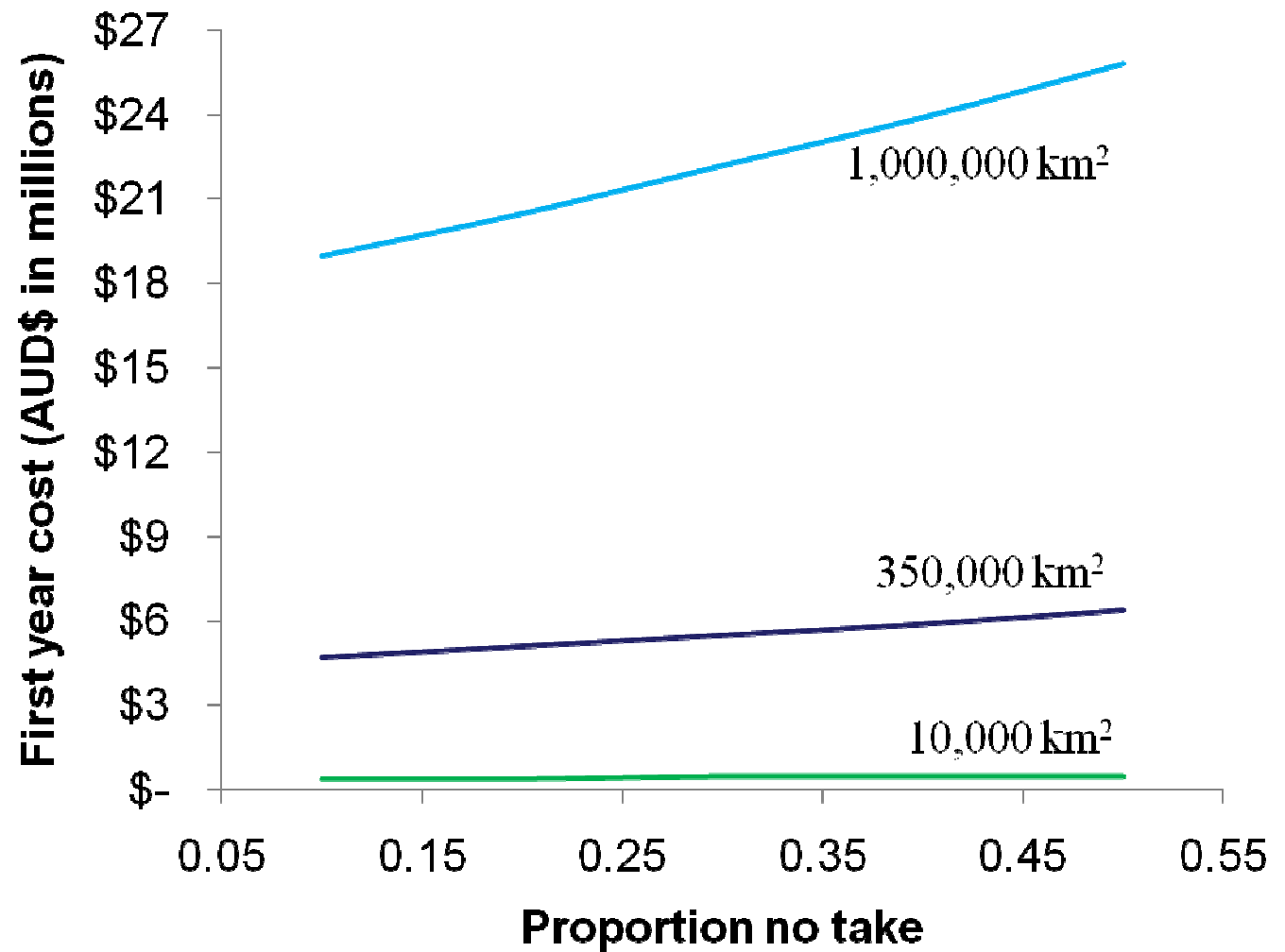
Coral Sea results

Using the Australian cost model, 1st year management costs:

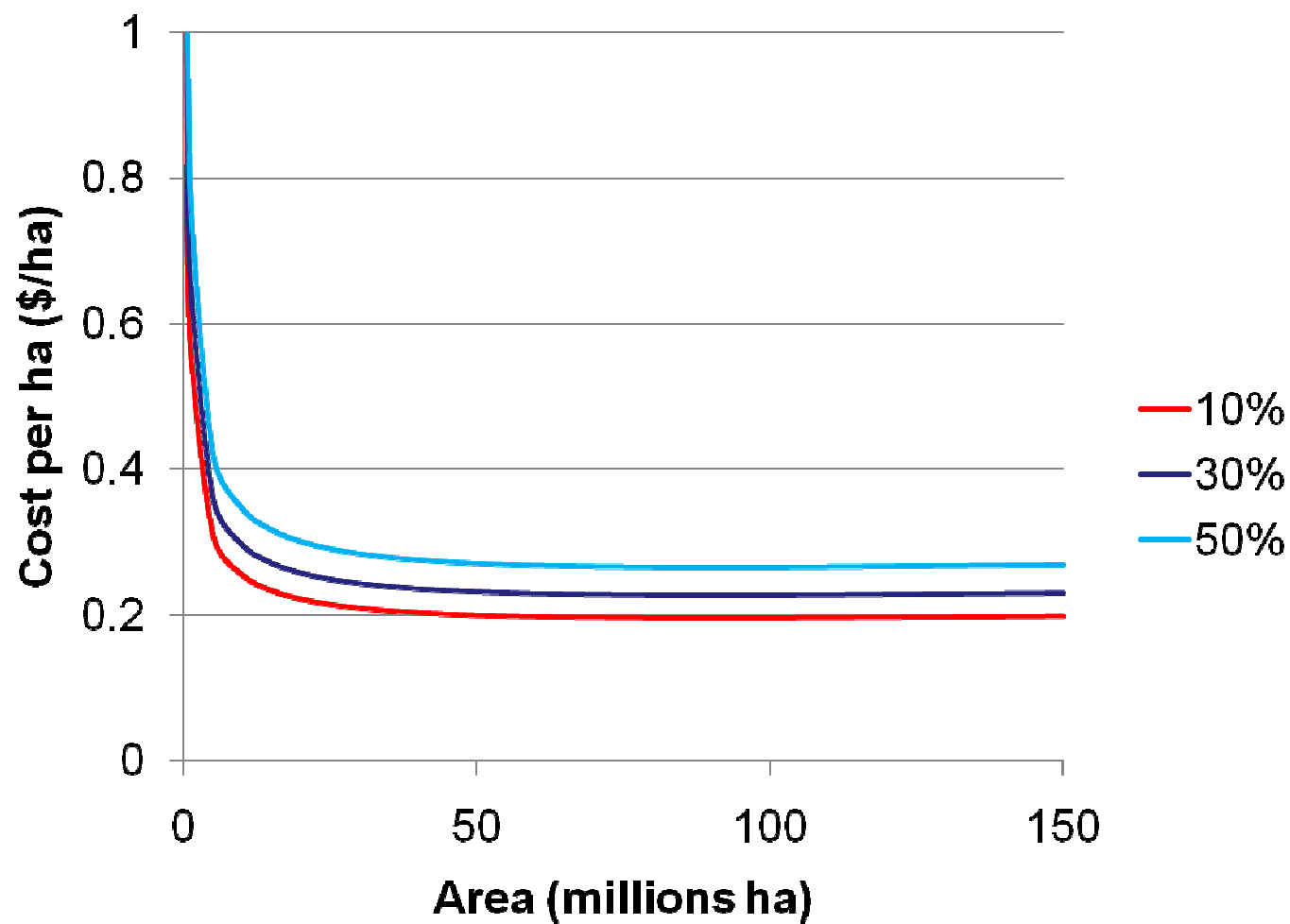
- 30% no-take: ~\$22 million
- 100% no-take: ~\$14 million



2. Estimated management costs, 2 zones



2. Estimated management cost, cost/ha



3. Expert interviews

- Interviewed key managers from GBRMPA, QPWS, AFMA to get their estimates of management costs for Coral Sea
- Many assumptions, incl. management synergies with GBRMPA
 - Coral Sea 100% no-take scenario:
~8 million/year
 - Coral Sea 30% no-take scenario:
~13.5 million/year



Limitations of model

- Limited data points for Commonwealth MPAs
- Current budgets may not be adequate
- Possible predictors for which we had no data
 - Visitor numbers
 - Costs for managing different zones
 - Island management
 - Management activities



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Discussion

- Conclusion: no-take areas cheaper to manage than multiple use, fewer zones cheaper than more zones
- Difference in management costs between scenarios due to increased compliance and enforcement costs for 30% scenario
- Caveat: cost is not the only consideration



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Thank you

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