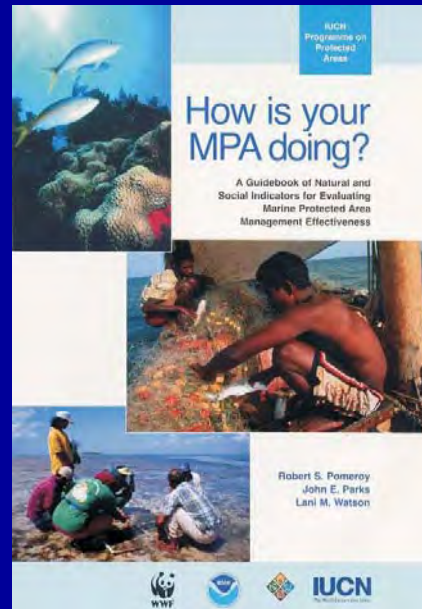


Lessons Learned from “How Is Your MPA Doing?” *Considerations for evaluating networks of MPAs*



John Parks, The Nature Conservancy

Wednesday, 22 April 2009

Marine Protected Areas Federal Advisory Committee Meeting

Annapolis, MD

Presentation Outline

- **Overview of the Guidebook**
- **Lessons to Consider**
- **Recommendations**

Presentation Outline

- **Overview of the Guidebook**

Overview of the Guidebook: Management Effectiveness

The degree to which management actions are achieving the goals and objectives of a marine protected area

*(Consensus Definition of Stewardship and Effectiveness
Subcommittee 09/23/04)*

Overview of the Guidebook: Management Effectiveness

The degree to which management actions are achieving the goals and objectives of a (network of) marine protected area(s)

Overview of the Guidebook: Management Effectiveness

■ Why evaluate it?

- Promotes adaptive management
- Improves project planning
- Enhances priority setting
- Promotes internal & external accountability
- Demonstrates public value

IUCN MPA Management Effectiveness Initiative (2000-2004)



Photo © NOAA



Guidebook Aim

To help marine managers and conservation practitioners to evaluate & adaptively improve the effectiveness of their MPA efforts through time.

Corresponding indicators:

3 categories (n=42)

Biophysical indicators (n=10)

Socioeconomic indicators (n=16)

Governance indicators (n=16)

Overview of the Guidebook:

Design highlights (2001-2004)

- 2 rounds of expert consultation
- 3 rounds of peer review (100+ professionals and academics)
- Volunteer field testing by 20 MPAs
- Community-based MPA accessible

Overview of the Guidebook:

Application highlights (2004 - present)

- Wide-spread, global adoption
- Endorsement by foreign governments
- Translation into 9 languages
- Regional/country-specific adaptation

Presentation Outline

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- **Lessons to Consider**

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3 sources of lessons

Lessons to Consider:

1. Pilot sites (field testing)

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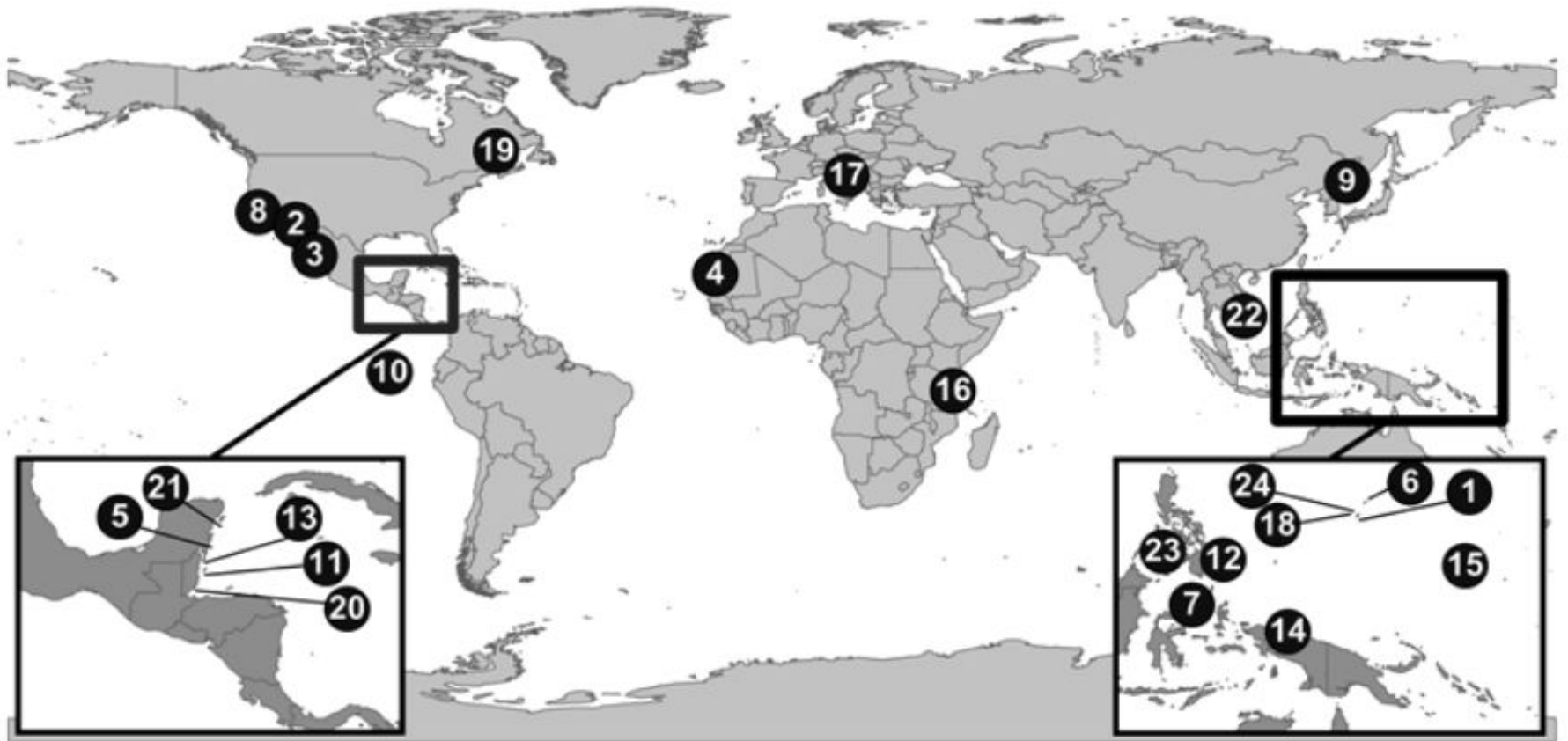
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- 4 MPAs volunteered to test final version over 1 year (2005)



- | | |
|--|--|
| 1) Achang Reef Flat Marine Preserve (Guam) | 13) Hol Chan Marine Reserve (Belize) |
| 2) Alto Golfo de California y Delta del Rio Colorado Biosphere Reserve (Mexico) | 14) Kepulauan Padaido Recreation Park (Indonesia) |
| 3) Bahía de Loreto National Park (Mexico) | 15) Lenger Island Marine Protected Area (Federated States of Micronesia) |
| 4) Banc D'Arguin National Park (Mauritania) | 16) Mafia Island Marine Park (Tanzania) |
| 5) Banco Chinchorro Biosphere Reserve (Mexico) | 17) Miramare – Golfo di Trieste Natural Marine Reserve (Italy) |
| 6) Bird Island Sanctuary Marine Conservation Area (Commonwealth of the Northern Mariana Islands) | 18) Piti Bomb Holes Marine Preserve (Guam) |
| 7) Bunaken National Park (Indonesia) | 19) Saguenay-Saint-Laurent National Marine Conservation Area (Canada) |
| 8) Channel Islands National Marine Sanctuary (United States) | 20) Sapodilla Cayes Marine Reserve (Belize) |
| 9) Far Eastern Nature Reserve (Russia) | 21) Sian Ka'an Biosphere Reserve (Mexico) |
| 10) Galápagos Marine Reserve (Ecuador) | 22) Trao Reef Marine Reserve (Vietnam) |
| 11) Glover's Reef Marine Reserve (Belize) | 23) Tubbataha Reefs National Marine Park (Philippines) |
| 12) Hinatuan Bay Marine Sanctuary (Philippines) | 24) Tumon Bay Marine Preserve (Guam) |

Lessons to Consider:

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- Community-based to central government-led
- Small (<2 km²) to large (100,000+ km²) areas

Lessons to Consider:

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- 7 years (2002-2008) of grants made to support use of the HIYMPAD methodology

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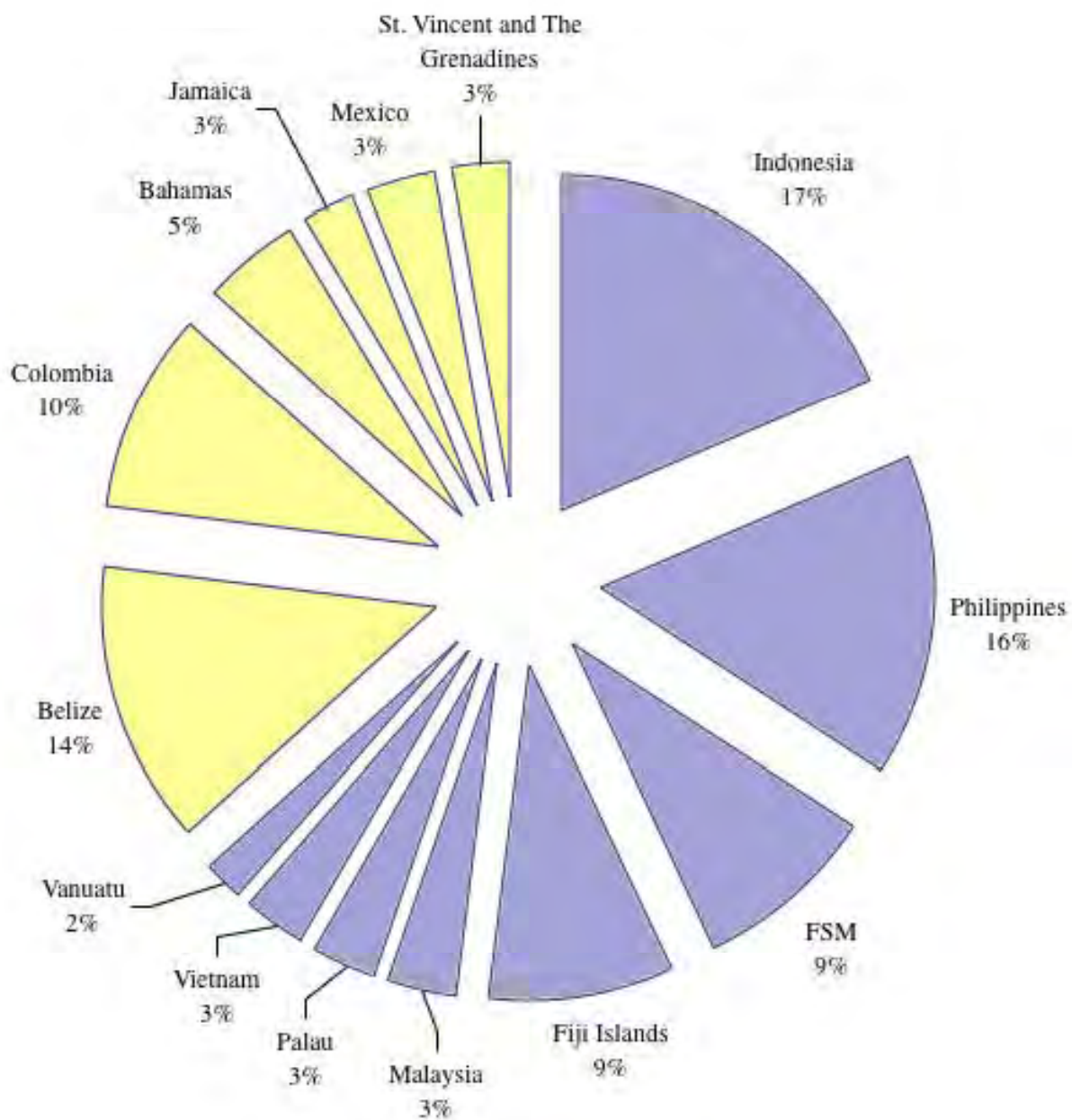
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Distribution of NOAA Coral Program Investments (\$780K) Made for MPA MEEs, 2002-2006

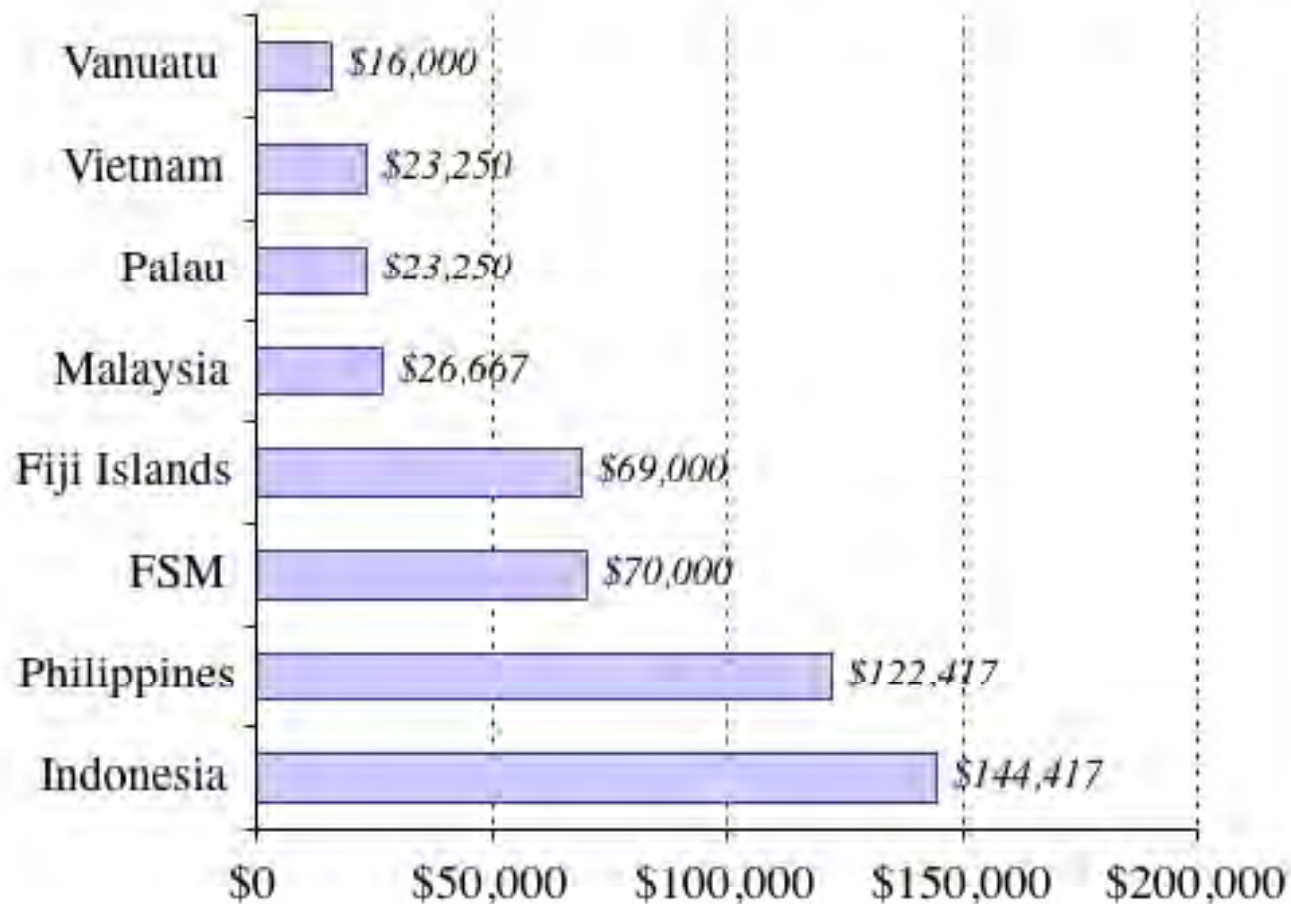


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- Total investment made (2002-2006) = \$780K
- HIYMPAD evaluations funded at 69 coral reef MPAs across 14 countries (2002-2006)
- 64% of total investment (2002-2006) went to MPAs in Southeast Asia & the Pacific Islands

NOAA Coral Grants Made for MPA MEEs in Southeast Asia and the Pacific Islands, 2002-2006 (all figures in US\$)



Lessons to Consider:

3. SE Asia and Pacific Island Review

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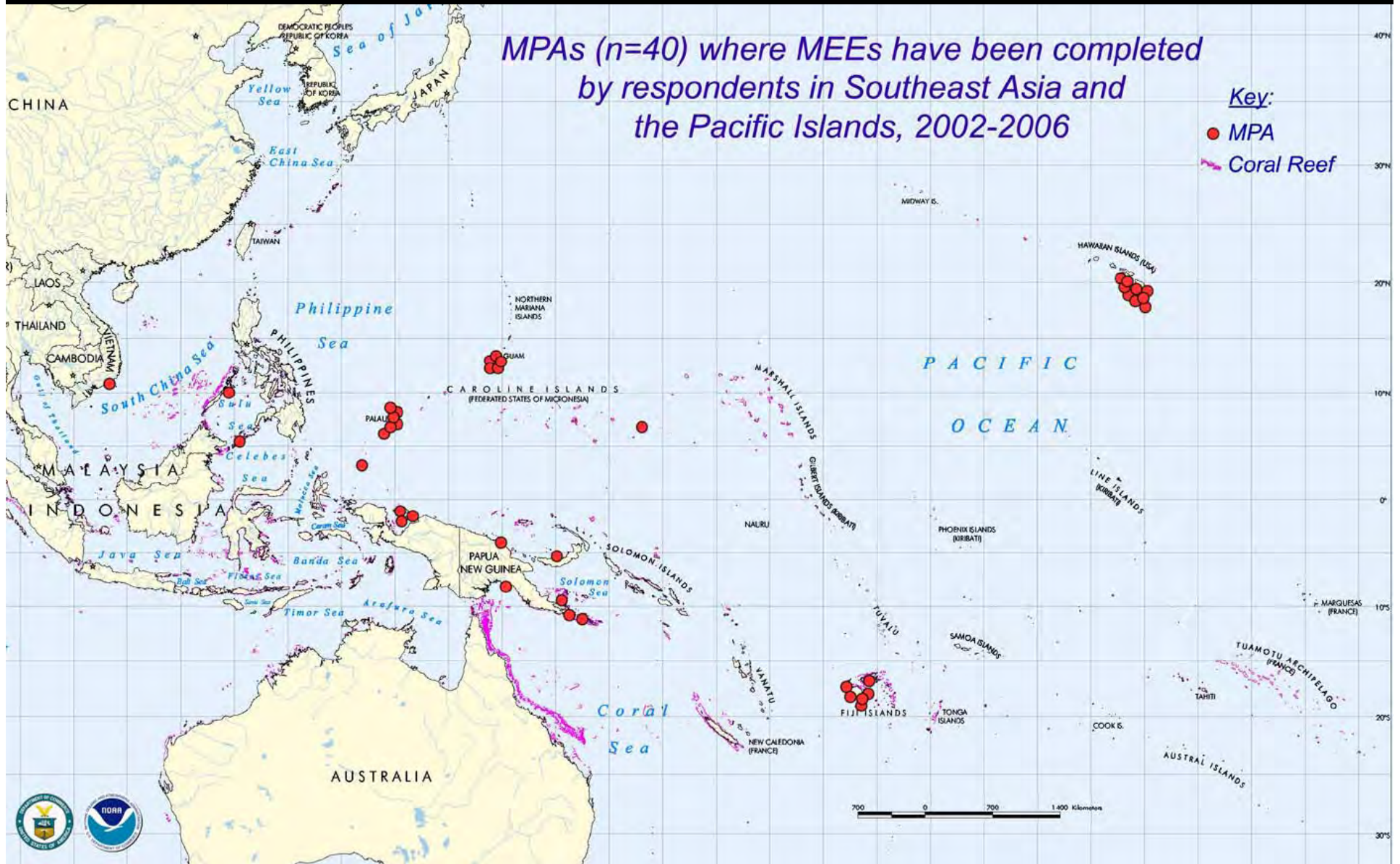
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- Review of NOAA International Coral Program-funded evaluations in 8 countries
- US Pacific (Guam and Hawaii) evaluations
- 31 respondents (managers) working at 40 MPAs in Southeast Asia and Pacific Islands

MPAs (n=40) where MEEs have been completed by respondents in Southeast Asia and the Pacific Islands, 2002-2006

Key:
● MPA
🌊 Coral Reef



Lessons to Consider:

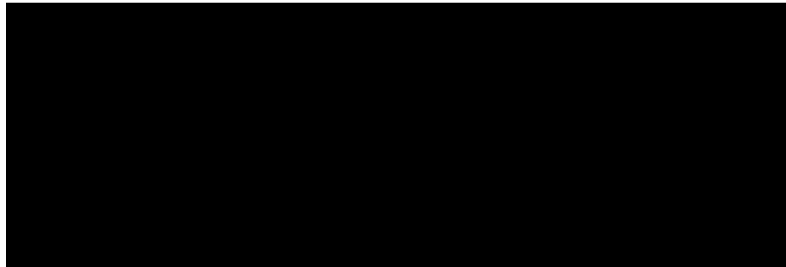
Site Findings (n = 93 MPAs)

- Evaluations average 10 - 11 mo. to complete
- Average evaluation cost \$49K
- Average measurement of 3 biophysical, 4 socioeconomic, and 6 governance indicators
- Lack of socioeconomic indicator skills (77%)
- Empirical metrics are worth the cost
- Nearly all (94%) found HIYMPAD methodology “very useful” or “useful”
- Frequent (81%) suggestion to create regional management effectiveness efforts

Lessons to Consider:

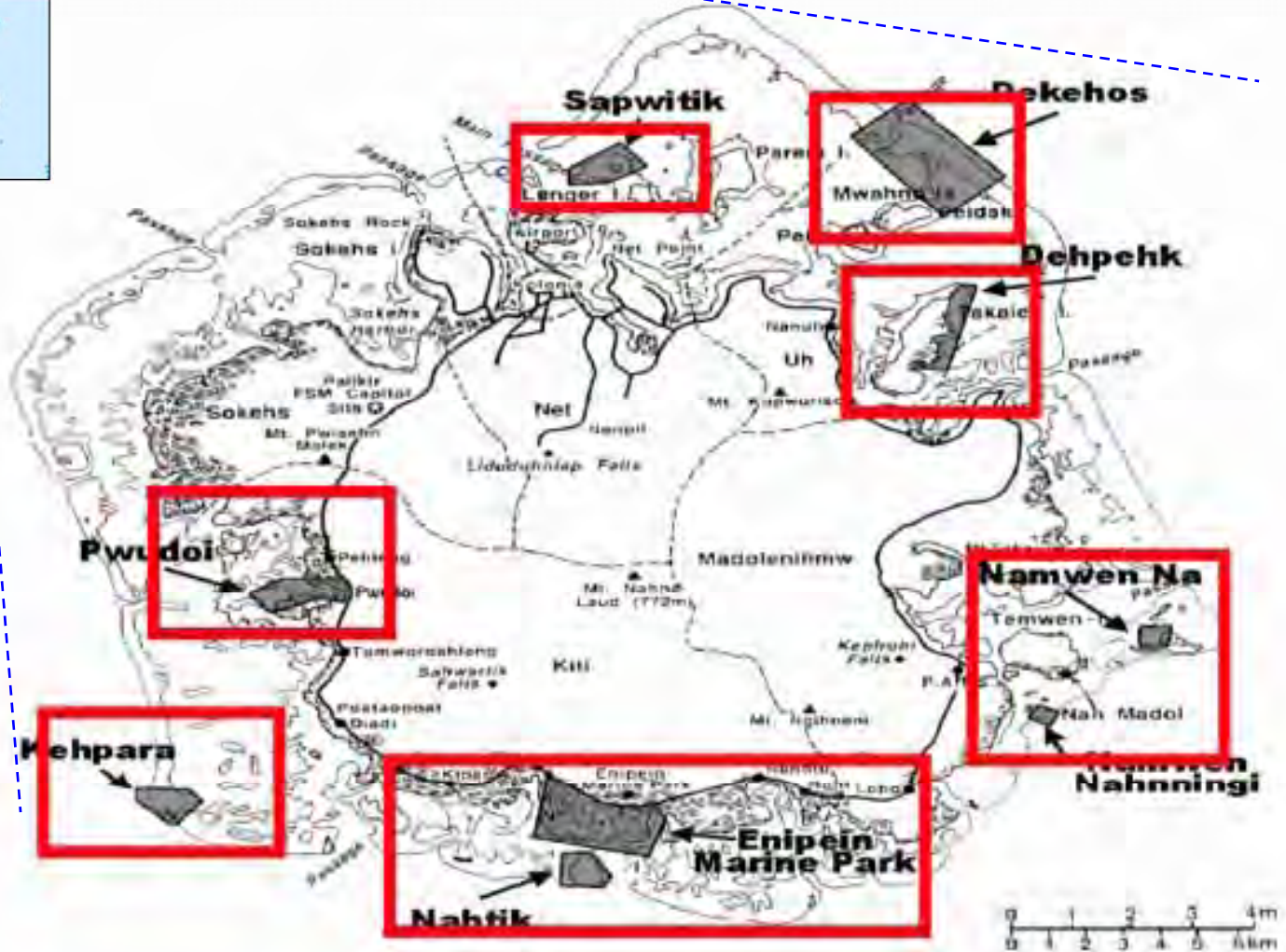
Network Findings (n = 9 networks)

- HIYMPAD used as a tool to facilitate national system planning





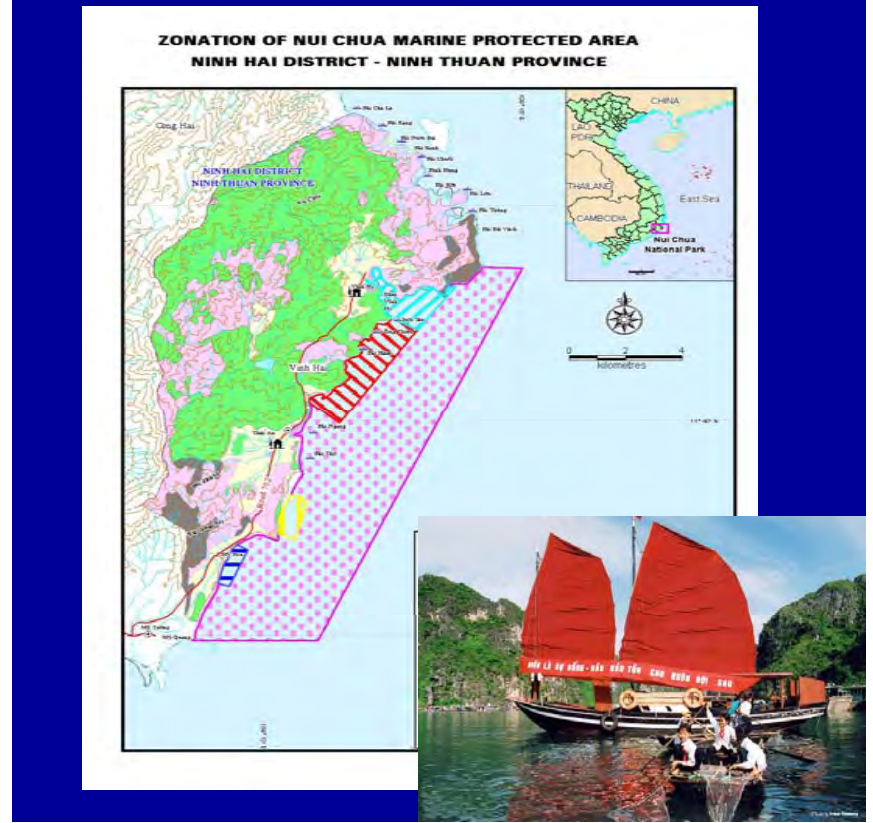
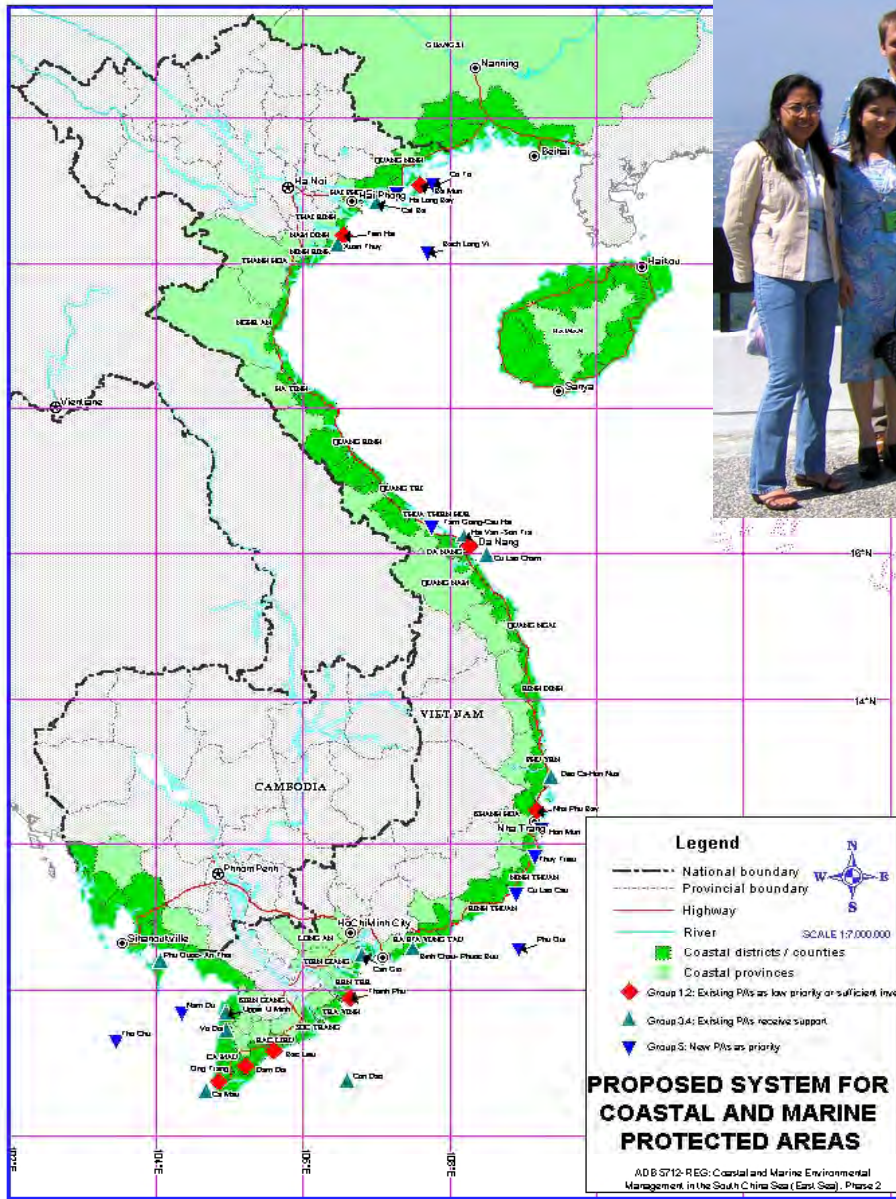
POHNPEI MARINE SANCTUARY MAP



Lessons to Consider:

Network Findings (n = 9 networks)

- HIYMPAD used as a tool to facilitate national system planning
- Evolution toward comparative analysis



Lessons to Consider:

Network Findings (n = 9 networks)

- HIYMPAD used as a tool to facilitate national system planning
- Evolution toward comparative analysis
- Request for standardization of 'core' set of biological and social indicators

Commonly recommended 'core' set of standardized indicators

<i>Biophysical</i>	<i>Social</i>
Focal species abundance	Local resource use patterns
Habitat distribution and complexity	Market conditions
Community composition	Level of resource conflict
Type and level of fishing effort	Level of public participation in management process
	Level of compliance



Photo © John Parks

Lessons to Consider:

Network Findings (n = 9 networks)

- HIYMPAD used as a tool to facilitate national system planning
- Evolution toward comparative analysis
- Request for standardization of 'core' set of biological and social indicators
- Interest & demand for network-level measures

Lessons to Consider:

Network Findings (n = 9 networks)

- HIYMPAD used as a tool to facilitate national system planning
- Evolution toward comparative analysis
- Request for standardization of 'core' set of biological and social indicators
- Interest & demand for network-level measures
- Easy-to-interpret, public-friendly presentation of multi-site/network results



Ministero dell'Ambiente e della Tutela del Territorio



Federparchi



WWF - Associazione Italiana per il WWF (ex Natura ONLUS)

Management effectiveness and adaptative management for the system of italian MPAs

The biophysical indicators	Torre Guaceto	Sinis	Ciclopi	Secche di T. P.	Miramare
Focal species abundance	✓	✓ (III)	✓	✓ (III)	✓
Focal species population structure	✓	(III)	✓ (III)		
Habitat distribution and complexity	✓		✓ (III)		✓ (III)
Composition and structure of the community	✓				
Recruitment success within the community			(III)		
Food web integrity					(III)
Type, level and return on fishing effort	✓	⚠	✓ (III)	✓	✓
Water quality		(III) ⚠	✓		
Area under no or reduced human impact	⚠	✓ (III)		(III) ⚠	⚠ (III)

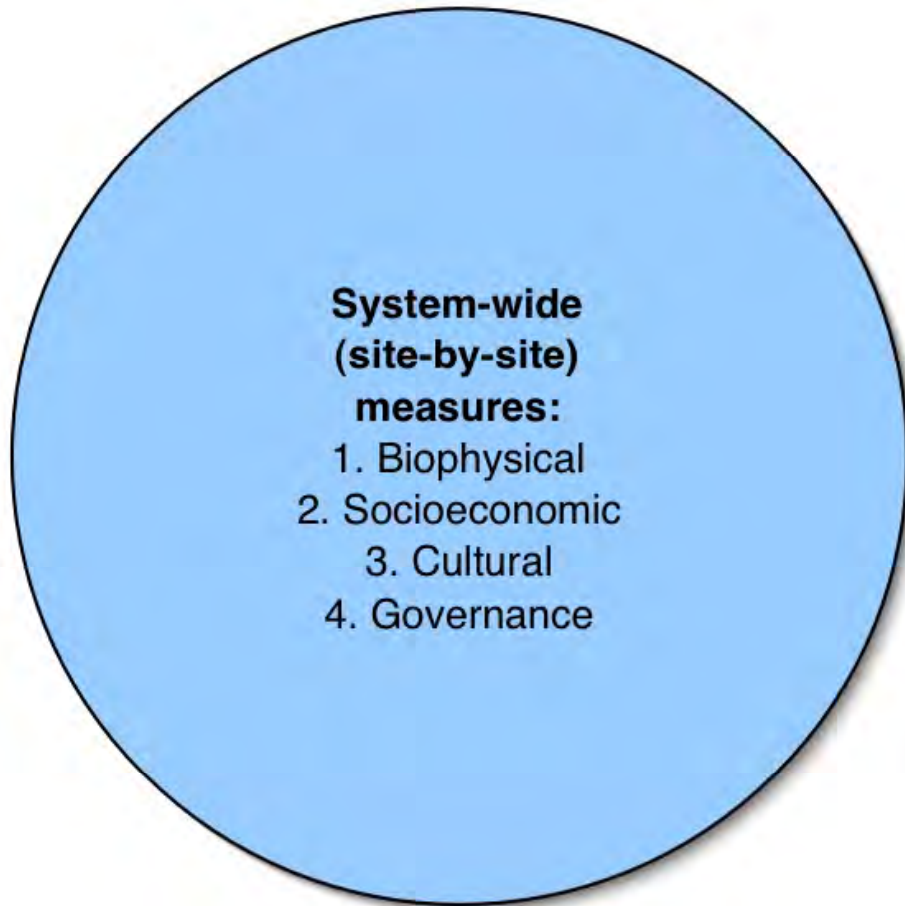
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Recommendations

- Measure both system-wide and system-level

Aggregated



How Is Your MPA Doing (2004)

Functional



How Is Your Network Doing (2010?)

Recommendations

- Measure both system-wide and system-level
- Use both **comparative** and **synthesis** analysis

Recommendations

■ Evaluations to date:

- Static evaluation at single site
- Time series comparative at single site
- Cross-site comparative (non-standardized)

Recommendations

■ Current exploration:

- Cross-site comparative (standardized)
- Multi-site (synthesis) performance
- System-wide (synthesis; aggregate) performance

Recommendations

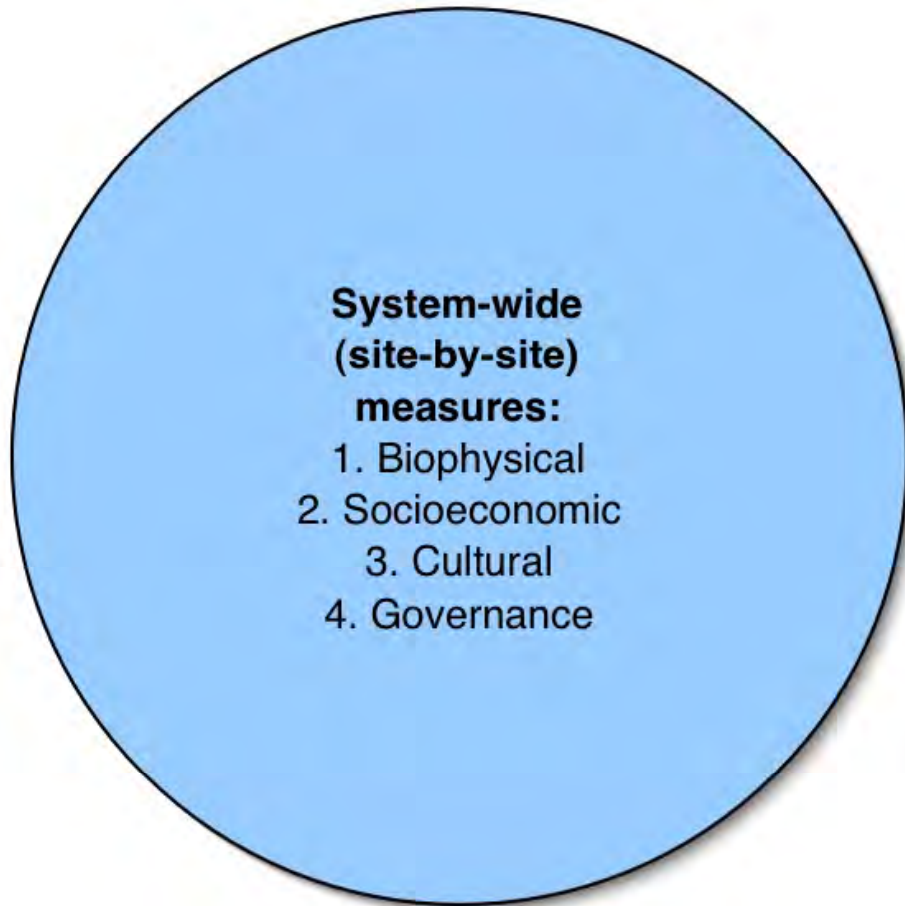
■ Future:

- System-level (functional) performance
- Cross-regional comparative
- Cross-national comparative

Recommendations

- Measure both system-wide and system-level
- Use both comparative and synthesis analysis
- Identify and **standardize a limited, minimum set** of indicators; offer incentives to measure

Aggregated



How Is Your MPA Doing (2004)

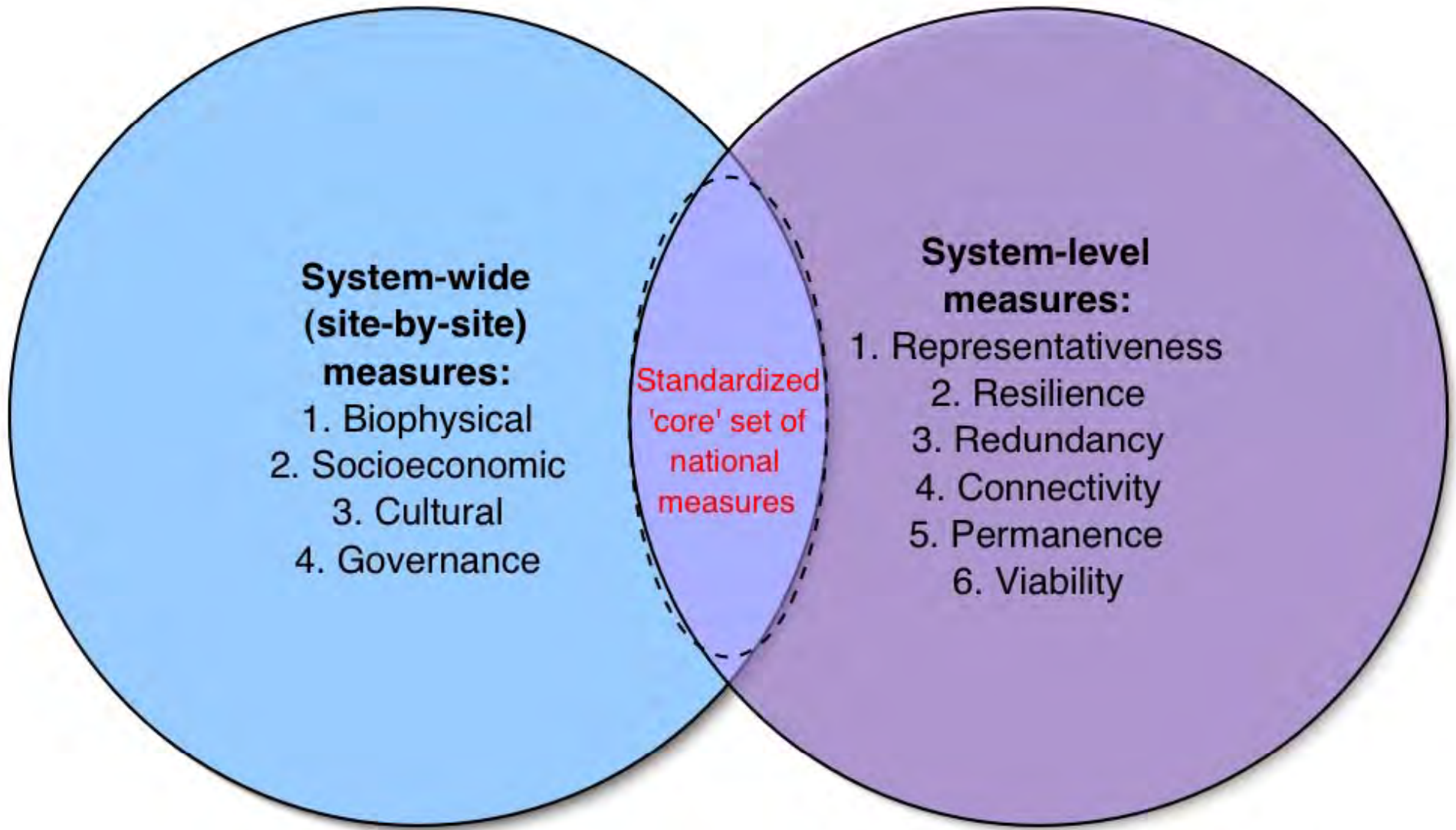
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How Is Your Network Doing (2010?)

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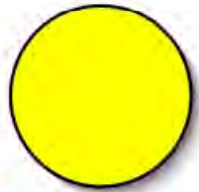
Recommendations

- Measure both system-wide and system-level
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- Identify and standardize a limited, minimum set of indicators; offer incentives to measure
- Develop simple, easy-to-interpret **'status' scale** and **index score**

Status



= Outstanding



= Satisfactory



= Unsatisfactory

Index

.92 = **A-**

.78 = **C+**

.53 = **F**

Recommendations

- Measure both system-wide and system-level
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- Develop simple, easy-to-interpret 'status' scale and index score
- Establish & support **regional evaluation teams**

Recommendations

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- Use both comparative and synthesis analysis
- Identify and standardize a limited, minimum set of indicators; offer incentives to measure
- Develop simple, easy-to-interpret 'status' scale and index score
- Establish & support regional evaluation teams
- Plan to meet needs for increased site-based **socioeconomic** measurement **capacity**

Thank you.
Mahalo nui loa.

