



PRINCIPLES AND PRACTICE OF ECOSYSTEM-BASED MANAGEMENT

A GUIDE FOR CONSERVATION PRACTITIONERS IN THE TROPICAL WESTERN PACIFIC

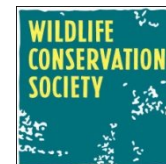
By Pepe Clarke and Stacy Jupiter



Tailoring Ecosystem- Based Management Implementation to the Tropical Western Pacific

Stacy Jupiter, PhD
Wildlife Conservation
Society, Fiji

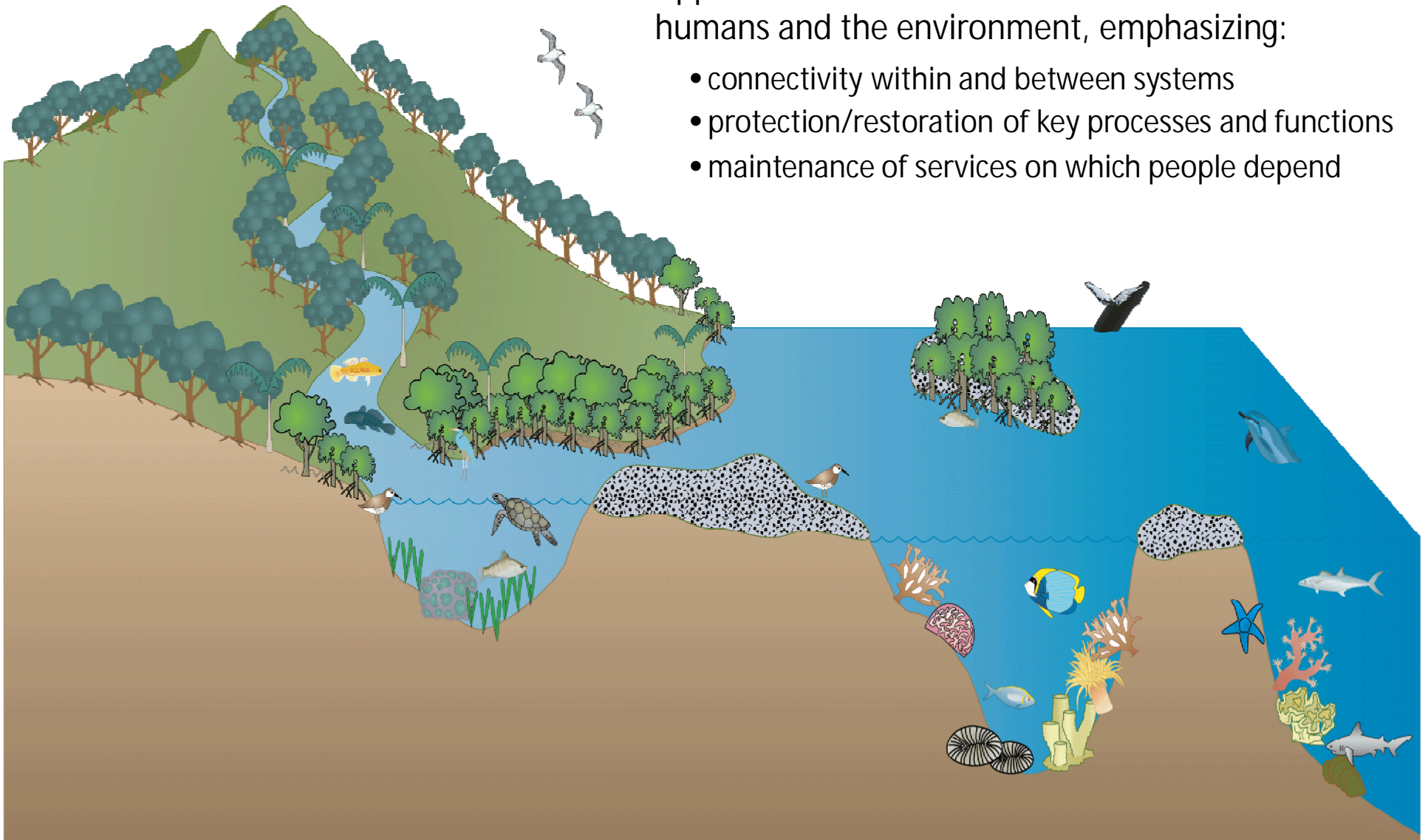
Launched at COP10 by:



What is Ecosystem-Based Management?

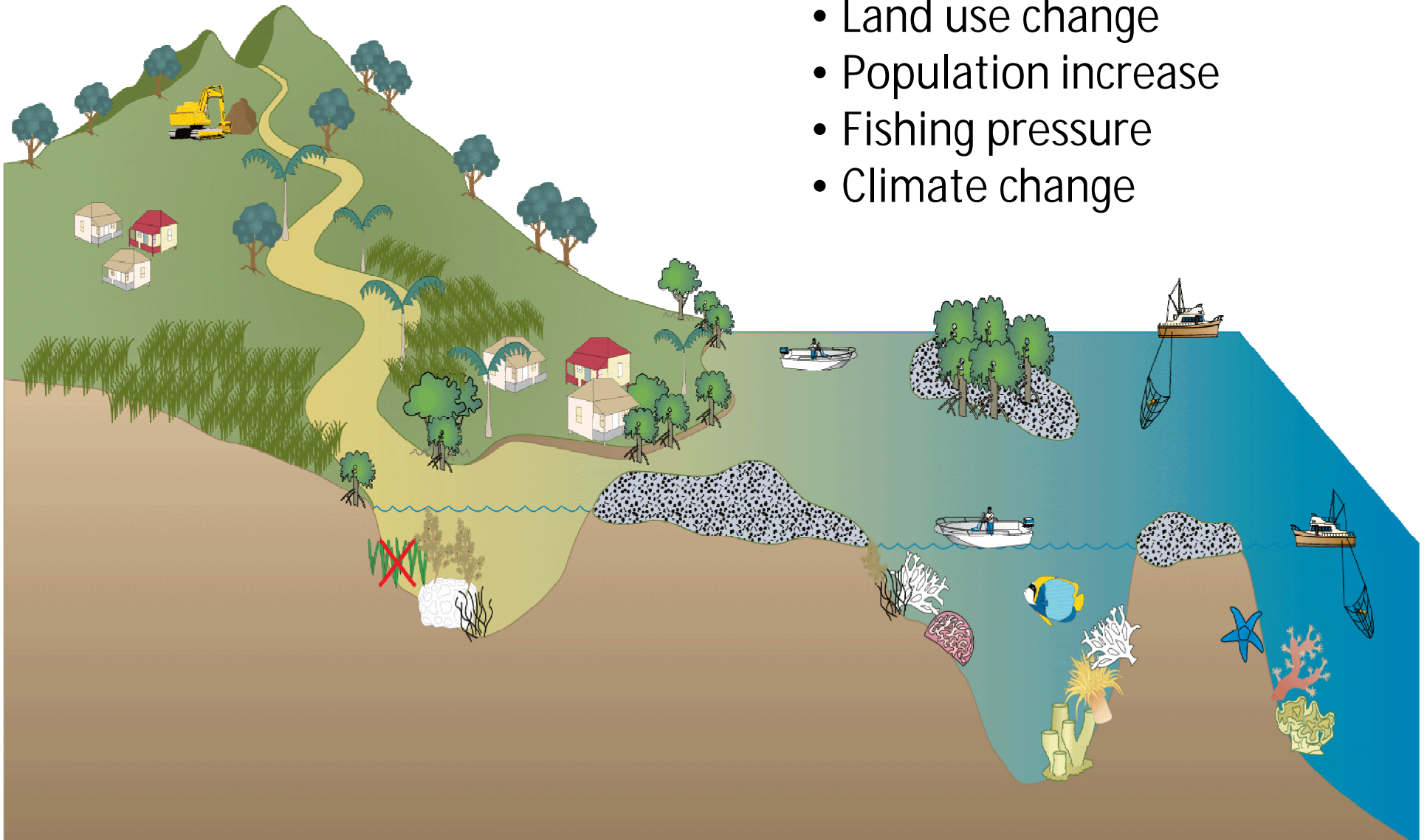
Approach that considers connections between humans and the environment, emphasizing:

- connectivity within and between systems
- protection/restoration of key processes and functions
- maintenance of services on which people depend



A Framework for Managing Threats

- Land use change
- Population increase
- Fishing pressure
- Climate change



Why Develop An EBM Guide?

- Few examples of successful implementation on the ground
- Examples that exist typically focus on temperate systems in developed countries (without coral reefs)
- More “top-down” governance and management structures may not be as applicable in many developing states



Why Develop An EBM Guide?

Guide tailored to needs of practitioners in states characterized by:

- high biodiversity and endemism
- strong links between terrestrial, freshwater and marine systems through small water catchments
- heavy reliance on marine resources
- high population growth and increased market access
- moderate to high levels of poverty
- traditional tenure and management systems
- strong role of community-based management
- high vulnerability to ecosystem degradation

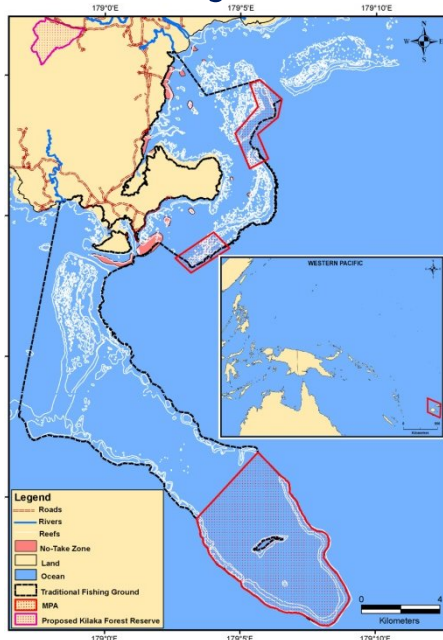


Learning from Experience

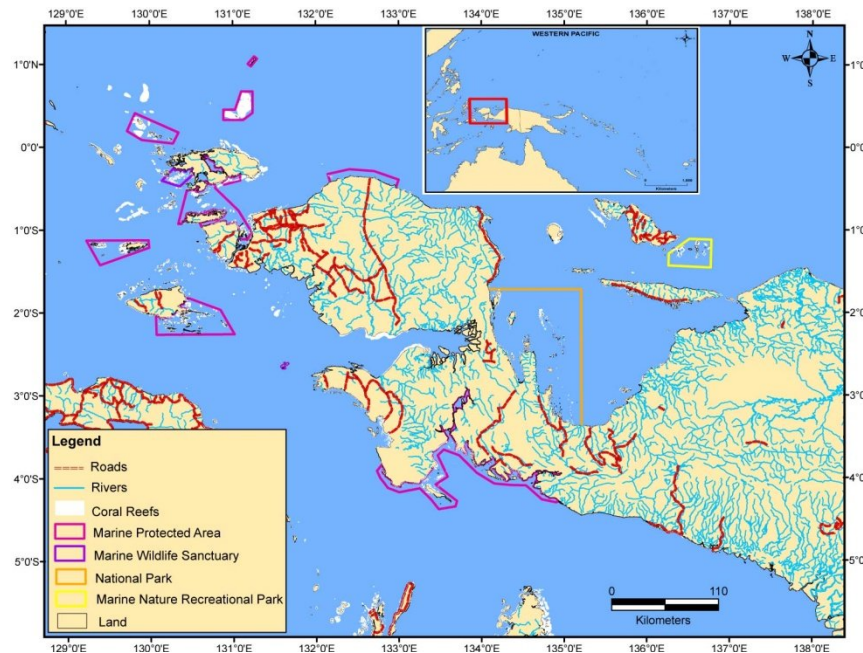


- Workshop in August 2009 with EBM practitioners from across Western Pacific
- Noted experience implementing EBM shared certain common features which differs from EBM practice in developed world

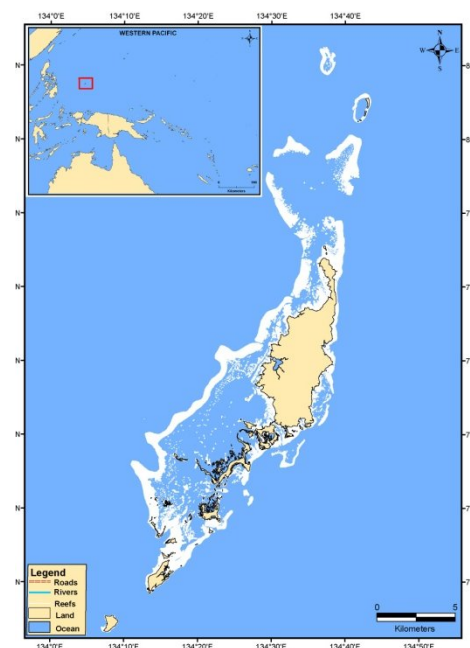
Fiji



Indonesia



Palau





Featured Contents: Guiding Principles Contextualized for the Western Pacific

- Adopt an integrated approach to ecosystem management
Capitalize on Pacific traditions of humans living in harmony with nature (e.g. vanua, ahupua'a, tabinau, puava)
- Maintain healthy, productive and resilient ecosystems
Identify and preserve key functional nodes (e.g. biological: herbivorous fish; social: local champions and messengers)
- Maintain and restore connectivity between social and ecological systems
Manage for movement of materials (e.g. through ICM), organisms (e.g. larval transport) and knowledge (e.g. through kinship ties)
- Incorporate economic, social and cultural values
Consider alternative livelihoods and compensation schemes to adequately make up for loss of access to resources from conservation and management actions
- Recognize uncertainty and plan for adaptive management
Promote flexible management institutions (e.g. through LMMA) which can respond quickly to changing environmental conditions

Featured Contents: In Focus Sections

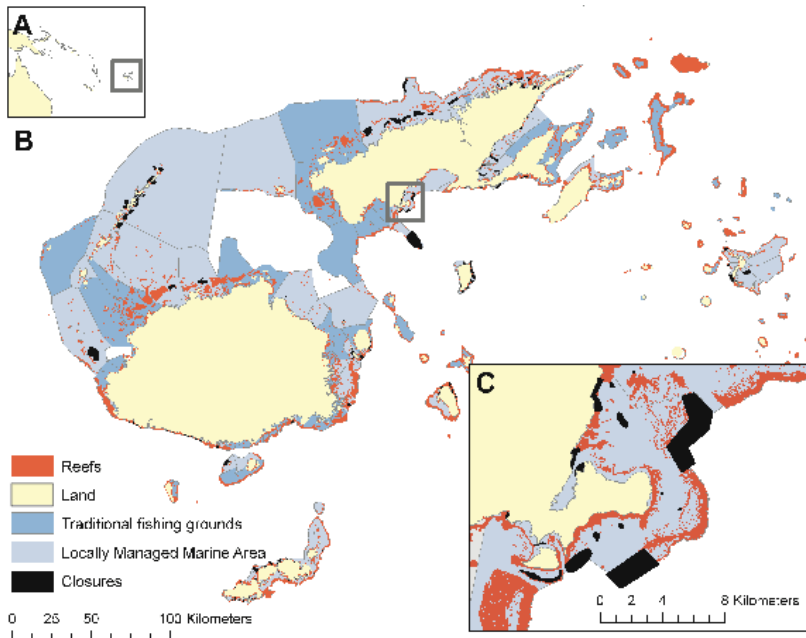
- Locally Managed Marine Areas
- Understanding and Valuing Ecosystem Services
- Ecosystem-Based Adaptation to Climate Change
- Initiating Ecosystem-Based Management

Using Specific Examples from Case Studies

- Socioeconomic Assessment and Monitoring
- Law, Custom and Ecosystem-Based Management
- Ecosystem Approach to Fisheries Management
- Designing Protected Area Networks

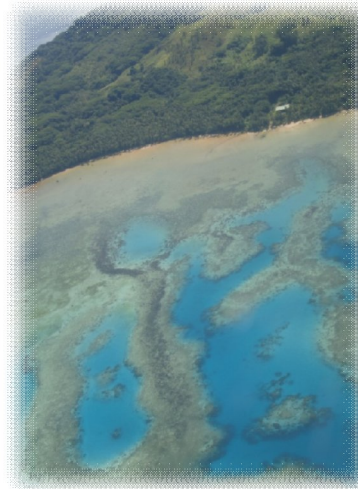


In Focus: Community-Based Management



		<u>Uncontrolled</u>	<u>Controlled</u>	
	<u>LMMA</u>	<u>Periodic</u>	<u>Periodic</u>	<u>No-Take</u>
<u>Fringing Reef</u>				
Corals	0.4	0.5	0.8	1
Target				
invertebrates	0.175	0.1	0.7	1
Non-target				
invertebrates	0.45	0.6	0.9	1
Target fish	0.2	0.3	0.8	1
Non-target				
fish	0.45	0.5	0.9	1
Coralline algae	0.4	0.5	0.8	1
AVERAGE	0.35	0.42	0.82	1.0

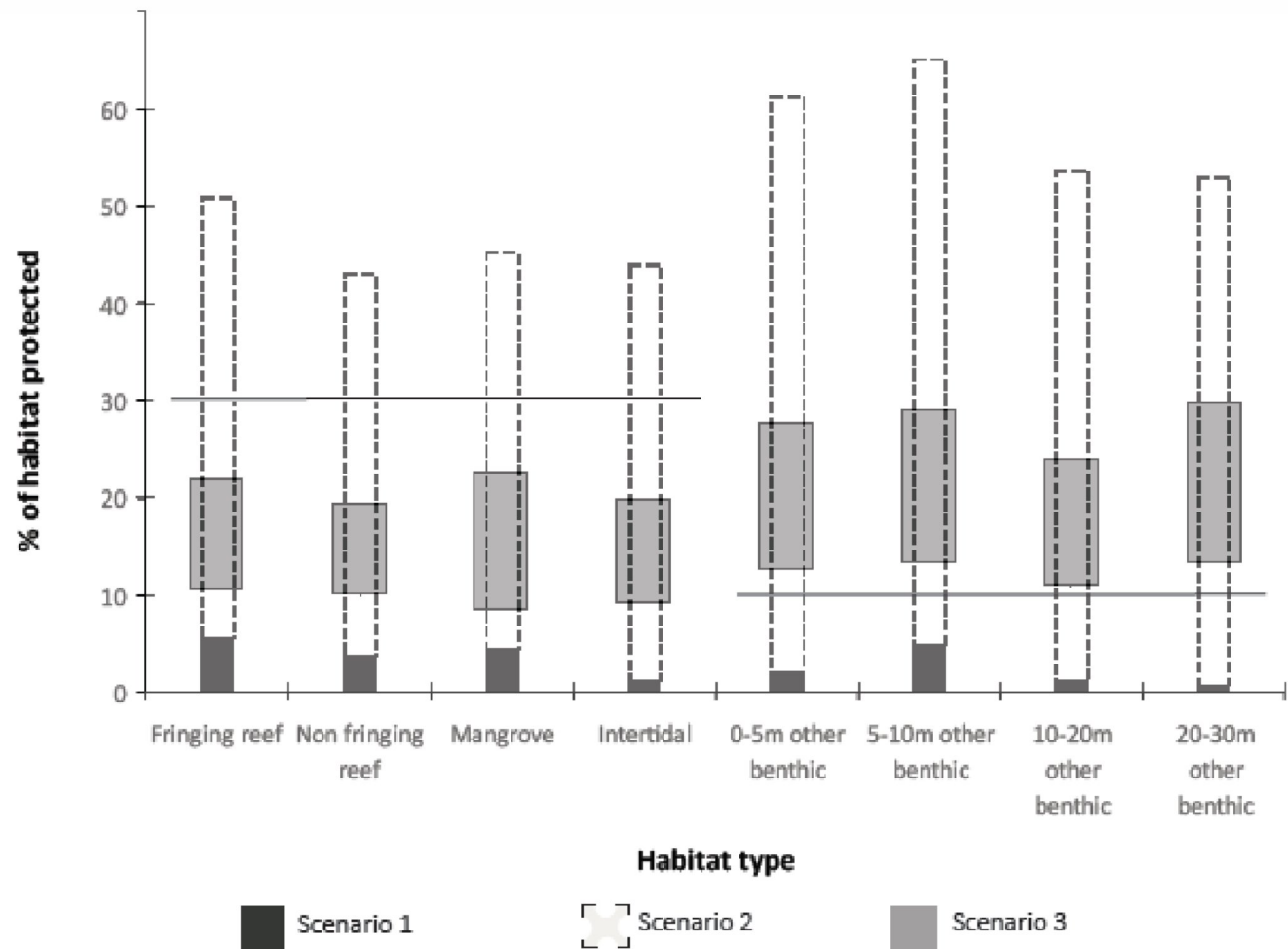
Jupiter et al. (2010) [http://www.wcsfiji.org/ Resources/Reports/ tabid/3428/Default.aspx](http://www.wcsfiji.org/Resources/Reports/tabid/3428/Default.aspx)





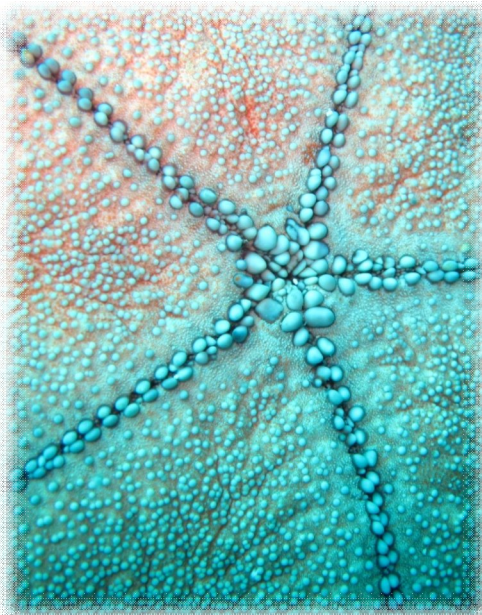
In Focus: Community-Based Management

Gap Analysis Results with Differential Effectiveness Weightings



Major Lessons Learned

- Ecosystem management processes should respect the needs, interests, rights and aspirations of local communities, and contribute to local as well as national goals
- Effective EBM requires an understanding of biological, social and cultural connectivity
- Management should be adaptive and iterative as new information becomes available
- EBM provides a cost-effective approach for reducing vulnerability to climate change impacts
- Collaborative partnerships and broad stakeholder participation greatly enhance management effectiveness





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For More Information:

www.wcs.org/EBMguide

www.wcsfiji.org

sjupiter@wcs.org

Select publications:

The importance of ecosystem-based management for conserving aquatic migratory pathways on tropical high islands: a case study from Fiji

Jenkins et al. (2010) Aquatic Conservation:
Marine and Freshwater Ecosystems 20: 224-238

**Ecosystem-Based Management in Fiji:
Successes and Challenges after Five Years of Implementation**

Jupiter and Egli (2011) Journal of Marine Biology
doi:10.1155/2011/940765

Law, custom and community-based natural resource
management in Kubulau District (Fiji)

Clarke and Jupiter (2010) Environmental
Conservation 37: 98-106