Overview of Resilience-Based Management

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Why focus on resilience

• reefs face increasing climate impacts

• human stressors continues to degrade reefs

➢ Improves prospects for recovery & adaptation
➢ Helps maintain ecosystem services
➢ Reduces vulnerability of ecosystems & dependent people
Resilience-based management:

Addresses current and future stresses influencing ecosystem function to prioritize, implement, and adapt management actions that sustain ecosystems and human well-being

Mcleod et al. 2019
RBM main goal:

• ID & prioritize management actions that enhance ecosystem resilience
• protect species, habitats, and processes that support a system’s ability to withstand and recover from disturbance
RBM Actions

• threat mitigation
• actions that support ecosystem processes (improving water quality and managing herbivores)
• developing alternative livelihoods
• strategies that build adaptive capacity and adaptation for reef dependent people
A brief history...

**Single-species management**
- Manage single resource or species
- Manage to maintain current condition
- Avoid natural disturbances
- Reduce variability
- Humans are separated from ecosystem

**Ecosystem-based management**
- Manage multiple species, habitats, & ecosystem services
- Manage for change
- Accept natural disturbances as part of ecosystem dynamics
- Plan for historical range of variability
- Humans are linked to ecosystems

**Resilience-based management**
- Manage ecosystem services to support human wellbeing
- Manage for large-scale change, uncertainty, & surprise
- Shape change to sustain social-ecological properties & apply adaptive management
- Maintain variability, diversity, and redundancy
- Humans are integrated w/ ecosystem; drive changes, adaptation, & transformation in socio-ecological system

Mcleod et al. 2019
Why apply resilience-based management?

• Essential under climate change
• Prioritize management actions
• Informs resource allocation (funding, human capacity)
• Delivery of global commitments (Aichi, Paris Agreement, SDGs)
RBM empowers practitioners

- Manage reefs in the face of climate change
- Can validate the importance of local actions
- Compelling story, positive messaging
- Links ecosystem management and human wellbeing
- May allow access to climate funding