

Monitoring and evaluation of reef protected areas by local fishers in the Philippines: tightening the adaptive management cycle

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Abstract. Monitoring by local community managers tightens the adaptive management cycle by linking management more closely with its evaluation, so management actions become more responsive to the field situation. Local community volunteers, usually fishers, managing coral reef protected areas in the Philippines used simple methods (e.g. snorkeling fish visual census) to periodically monitor and evaluate reef protection together with professional marine biologists. Except for estimates of hard coral, data collected by local volunteers were not significantly correlated with data collected by biologists (specifically abundance estimates of sand, major reef fish carnivores, and fish herbivores). Community-collected fish data generally have higher variance and show higher abundances than biologist-collected data. Nonetheless, though the data was less precise, the locally based monitoring identified or confirmed the need for management actions that were generic in nature (e.g. stronger enforcement, organizational strengthening, etc.). The locally based monitoring also encouraged cooperation among stakeholders and prompted a management response. Little time and financing is required after initial establishment and replication has been increasing. However, sustainability depends upon the communities' perceived added-value of undertaking the monitoring and input from a paid and/or more committed local person (e.g. government) who occasionally conducts monitoring himself/herself and supervises the community monitoring. Management impact depends heavily upon good integration with active management interventions outside the monitoring effort *per se*.

One contribution of 16 to a Special Issue of *Biodiversity and Conservation* 'Monitoring matters: examining the potential of locally-based approaches'.

Issue: Volume 14, Number 11

Date: October 2005

Pages: 2775 - 2794