Center for Community-Based Resource Management (CBRM)

Natural Resources Institute, University of Manitoba

CBRM Database

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Case Study Name:			Incorporating Effectiveness of Community-Based Management in a National Marine Gap Analysis for Fiji
Author:			Mills, M., Jupiter, S.D., Pressey, R.L., Ban, N.C., and Comley, J.
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Region:			Oceania
Country:			Fiji
Ecosystem Type:			Coastal marine
Social Characteristics:			Other
Scale of Study:			Protected area
Resource Type:			Protected area
Type of Initiative:			Research-driven project

Community Based Work:	resource management, conservation
Keywords:	closures, conservation action, conservation-area design, effectiveness, marine protected areas, resource management
Summary:	Every action in a conservation plan has a different level of effect and consequently contributes differentially to conservation. We examined how several community-based, marine, management actions differed in their contribution to national-level conservation goals in Fiji. We held a workshop with experts on local fauna and flora and local marine management actions to translate conservation goals developed by the national government into ecosystem-specific quantitative objectives and to estimate the relative effectiveness of Fiji's community-based management actions in achieving these objectives. The national conservation objectives were to effectively manage 30% of the nation's fringing reefs, nonfringing reefs, mangroves, and intertidal ecosystems (30% objective) and 10% of other benthic ecosystems (10% objective). The experts evaluated the contribution of the various management actions toward national objectives. Scores ranged from 0 (ineffective) to 1 (maximum effectiveness) and included the following management actions: permanent closures (i.e., all extractive use of resources prohibited indefinitely) (score of 1); conditional closures harvested once per year or less as dictated by a management plan (0.50–0.95); conditional closures harvested without predetermined frequency or duration (0.10–0.85); other management actions, such as regulations on gear and species harvested (0.15–0.50). Through 3 gap analyses, we assessed whether the conservation objectives in Fiji had been achieved. Each analysis was based on a different assumption: (1) all parts of locally managed marine areas (including closures and other management) conserve species and ecosystems effectively; (2) closures conserve species and ecosystems, whereas areas outside closures, open to varying levels of resource extraction, do not; and (3) actions that allow different levels of resource extraction vary in their ability to conserve species and ecosystems. Under assumption 1, Fiji's national conservation objectives were exceeded in all marine ecosystems; under assumption 2, none of Fiji's conservation objectives were met; and under assumption 3, on the basis of the scores assigned by experts, Fiji achieved the 10% but not the 30% objectives for ecosystems. Understanding the relative contribution of management actions to achieving conservation objectives is critical in the assessment of conservation achievements at the national level, where multiple management actions will be needed to achieve national conservation objectives.