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Ocean & Coastal Management 48 (2005) 485–502

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Ocean &
Coastal
Management

How is your MPA doing? A methodology for evaluating the management effectiveness of marine protected areas

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Abstract

Effective management of marine protected areas (MPAs) requires continuous feedback of information to achieve objectives. In 2000, a collaborative initiative was launched to improve the management of MPAs. The initiative focused on working with managers, planners, and other decision-makers to develop a set of indicators for assessing the effectiveness of MPA use. This initiative was aimed at both enhancing the potential and capability for adaptive management of MPAs, as well as improving our understanding of how effective MPAs that are now being used around the world. This paper presents an overview of the MPA management effectiveness methodology and indicators, summary results of the testing phase of the guidebook at 18 MPAs around the world, and considerations for its application and use as an adaptive management tool for MPAs.

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1. Introduction

An increasing need exists for the evaluation and understanding of the effectiveness of marine protected areas (MPAs) operating around the world. To meet this need, in 2000 The World Conservation Union (IUCN's) World Commission on Protected Areas—Marine and the World Wide Fund for Nature jointly initiated the *MPA Management Effectiveness Initiative* (MEI), an international collaborative project designed to create a methodology for planning and conducting performance evaluations of MPA management effectiveness. After a two-year participatory design and development process, the initiative identified and described a set of biophysical, socioeconomic, and governance indicators that can be selected and adapted to fulfill different MPAs' evaluation needs while accounting for the different resources they have available. MPAs around the world field-tested a draft version of the methodology and indicators, providing feedback and results that were incorporated into a MPA–MEI guidebook. This paper presents an overview of the MPA–MEI methodology and indicators, results of the testing phase of the guidebook at MPAs around the world, and considerations for its application.

1.1. *The rationale for evaluating management effectiveness*

During the last few decades, the empirical evaluation of terrestrial and marine protected area performance and impacts has gained increasing attention and notoriety as a conservation priority. The growing interest has been driven in part due to wide interest in using objective evaluation to assess future needs and adapt current practices so as to improve the effectiveness of management efforts and optimize related human and financial resource allocation. As a result, the performance evaluation of protected areas is actively being pursued around the world today.

For the purposes of this paper, the term management effectiveness is defined as the degree to which management actions are achieving the goals and objectives of the protected area [1]. Documented, real-world experience is already demonstrating that the protected area management effectiveness has an important degree of influence over whether or not long-term impacts on natural resources and the people who depend on them can be addressed (see [1]). Management effectiveness evaluations that have been carried out show how they can allow for improvement of protected area management actions through learning, adaptation, and the diagnosis of specific issues influencing whether goals and objectives are being achieved. Management effectiveness evaluations also provide a mechanism to encourage accountability in the management of a protected area. This may be a particularly attractive attribute of management effectiveness evaluations at protected areas that are socially contentious or under frequent public scrutiny.

1.2. *Interest in marine protected area management effectiveness*

At present, there are broad expectations placed on MPAs as instruments to both:

- (1) maintain or restore marine biodiversity and ecosystem function, particularly through marine reserves, also called 'no-take' areas [2,3], and

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