

APPENDIX A.1

Conservation arrangements

Where ecosystems remain **intact**, the most cost-effective measure is to ensure they can prosper into the future, fulfilling their multiple roles for **communities**.

Where ecosystems are **degraded** in some way, it is imperative to first try to address the causes before venturing out to rehabilitate or restore ecosystems. To illustrate this point, it would make little sense to spend energy and resources on reef restoration if the cause for degradation continues to exist (e.g. the coral mining, overfishing, boats anchoring at reefs). Such efforts would likely lead to failures or short-lived successes.

It should be noted that it will not always be possible to fully address all factors behind ecosystem degradation through local/regional action, since climate change and other non-local factors put many ecosystems under added stress. In settings of **severe degradation**, additional remedial actions (as those outlined in appendices A.2-7) may need to be pursued. But even then, some form of conservation arrangement should accompany the actions.

The success of ecosystem preservation is inevitably bound in the level of commitment by government, communities and key stakeholders, as well as by the availability of staffing, resources, enforcement and resource monitoring.

While [marine protected areas \(MPA\)](#) are usually designated through a top-down government approach and legislated, [locally managed marine areas \(LMMA\)](#) may be designated and managed at the local level by communities, land owning groups, partnerships and/or collaborative governments based in the same area. LMMA will usually include some or most of the key recommendations outlined below but may also include revival or continuity of traditional practices that have sustained the area over generations. While the participatory nature of LMMA may require more investment at a local level, the ownership and commitment can be a major strength.

[Marine Conservation Agreements \(MCA\)](#) have been increasingly used by NGOs when working with coastal communities and are defined as “any formal or informal contractual arrangement that aims to achieve ocean or coastal conservation goals in which one or more parties (usually rights-holders) voluntarily commit to taking certain actions, refraining from certain actions, or transferring certain rights and responsibilities in exchange for one or more other parties (usually conservation-oriented entities) voluntarily committing to deliver explicit (direct or indirect) economic incentives”.

Supporting and promoting ecosystem preservation areas plays an important role in DRR and coastal **resilience**. Not only can they provide a protective effect from storm surges, waves and reduction of erosion, coastal ecosystems also provide opportunities for community and stakeholder engagement and learning about coastal resilience practices. Regardless as to whether MPA, LMMA or MCA approaches are selected, basic principles should be applied across all areas and adapted to fit the local conditions.

Step 1: Manage MPA effectively

No-take areas (no fishing, collecting, harvesting) need to be in place for the long term (20-40 years) or permanently. Action must be taken to minimize and reduce stressors to the environment. Aim to embed MPAs in a broader management framework, for example through integration with coastal management regimes, to effectively control threats coming from outside the MPA and in network of multiple MPAs that are ecologically connected.

Step 2: Represent and replicate

Represent the full suite of marine habitat types to help preserve all key elements of biodiversity (species, communities and physical/oceanographic factors). Designate multiple representative habitats to reduce risk in the event of an adverse event in one location. This method spreads the risk and

increases the likelihood that surviving habitats will help seed affected habitats and encourage natural recovery. It also increases the diversity of habitats.

Step 3: Critical areas

Ensure that ‘no take’ areas include critical habitats, including spawning, feeding, breeding grounds, juvenile fish habitats and larval sources. Include special or unique sites (e.g. turtle nesting sites, rare or threatened habitats) and resilient sites in the MPA network.

Step 4: Connect protected areas

Apply minimal sizing to protected areas in the network with a variety of spacing distances between protected areas them. For instance, space marine reserves 1 - 15 kilometers apart and smaller reserves closer to each other. With LMMAs and MCAs, this may not be possible or feasible. Locate MPAs in habitats that are important to focal species. Use square or circular shapes for MPAs subject to considerations of compliance (e.g. including using landmarks).

Step 5: Consider social, cultural, economic and governance aspects of coastal communities in design and management.

Community acceptance and involvement is critical for the preservation of sites. Thus, it is important to address current patterns of use by coastal communities (recreation, education, cultural practices and economic benefits). Explore whether conflicts of interest are present, how resources can be managed, and what cost-sharing arrangements are feasible. Community groups and stakeholders must be involved in decision-making, management and monitoring of all conservation arrangements.

Step 6: Adaptive management

Make well-informed decisions about what actions are the best for a conservation project. Measure and test the effectiveness of



strategies used and learn and adapt in order to improve strategies. Use [adaptive management cycles](#) to continually improve.

Step 7: Measure effectiveness

Identify effective practices. This helps determine which activities a manager should continue and build upon. Some practices might be modified and replicated for other programs or initiatives based on the results. Explore whether local regulations allow for options of expansion.

Identify practices that need to be improved. Some activities may need to be changed in order to improve the effectiveness of a management program. Provide value to existing and potential funders: funders are acutely aware of the need to document the success of programs. Future funding opportunities will often depend on the managers’ ability to demonstrate that the program and activity is effective.

ON PATROL A team of rangers patrols a marine protected area in Raja Ampat, Indonesia. Photo: The Nature Conservancy

➔ FURTHER RESOURCES

- ▶ [Introduction to Marine Conservation Agreements](#)
- ▶ [Practitioner’s Field Guide for Marine Conservation Agreements](#)
- ▶ [MCA Field Guide Checklist](#)
- ▶ [Advanced Studies in Coral Reef Resilience: Module 5](#)