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What Rachel Carson Knew about Marine Protected Areas

CRAIG LEISHER

In 1951, a book about the world's oceans hit the *New York Times* best-seller list and stayed there for an astonishing 86 weeks. Rachel Carson's *The Sea Around Us* highlighted how people depend on the sea, and presciently predicted the impoverishment of the world's oceans. As a long-time US Fish and Wildlife Service employee and a public advocate for regulating pesticides like DDT, Carson understood the benefits of effective governments: they can protect us from the worst while perpetuating the best.

The rocky cove in Maine where she often went to write and think was bought by the Nature Conservancy in 1966 and named the Rachel Carson Salt Pond Preserve. Carson would have liked the idea of protecting part of her favorite coast, especially had she known how people and marine life can both benefit. Yet it is not in Maine but in the developing world—where most of the world's biodiversity is—that the depletion of the world's oceans is felt most keenly. One of the few hopeful spots in ocean research today is a growing body of evidence showing that marine protected areas can not only help conserve biodiversity but also improve the well-being of people in developing countries. Some of the benefits of marine protected areas are well known: improved income from fisheries and tourism, for example. Carson would appreciate the much less well-known governance benefits of marine protected areas.

But what is “governance” and why should conservationists care about it? Governance is an often vague term that can be simplistically rendered as a government's ability to improve people's well-being—that is, make citizens' lives better. Conservationists should care about governance because the better the government, the better the protected areas,

and governments and protected areas are the cornerstones of biodiversity conservation in developing countries. Though conservationists are good at understanding the ecological aspects of a site, and are getting better at understanding the social aspects as well, it is the political aspects of a site that more often determine its life or death as a protected area. The financial and administrative support of government frequently has a much greater bearing on a site's survival than either ecological or social aspects. If the government does not support a protected area, it is rarely protected for long. Good governance clearly matters for protected area conservation in developing countries—and vice versa, as a recent study shows.

A study by the Nature Conservancy, the Australian government, WWF-Indonesia, and Vrije University in Amsterdam identified how four particular marine protected areas have helped reduce local poverty while many other marine protected areas have not (a “positive deviance” approach). The study found that one of the main success factors was community involvement in the management of the marine resources. This finding comes as no surprise to many people in conservation today. Anyone working at the coal face of conservation knows the importance of involving local people. A finding that might be a surprise is that incorporating local communities into the management of the marine protected area can have governance benefits. In all four study sites, the team found that organizing communities to provide input to the management of a marine protected area led to more effective local governance, which in turn led to less poverty and better conservation.

In the Solomon Islands study site, before the establishment of the marine protected area, the three Arnavon Islands were an open-access area claimed by three different communities. More than two decades of local conflict among the communities led to a sharp decline in marine resources in the Arnavon Islands as people took as much as they could get as quickly as they could get it. It was a classic tragedy of the commons. In 1995, the islands and their waters were set aside as a marine protected area where no harvesting of marine resources was allowed.

Today the islands are again one of the largest nesting areas for Hawksbill turtles in the western Pacific. The marine protected area is run by a management committee with representatives from each of the three communities, the provincial and national governments, and an international nongovernmental organization. In this remote part of the Solomon Islands, communications are difficult, and the marine protected area management committee has become a forum for discussing issues beyond the management of the marine protected area.

Because the community representatives sit together on the management committee, there are now many more intercommunity activities, visits, and exchanges. This has improved community cooperation and governance and given the communities a more forceful and unified voice when requesting services from the provincial government. The committee, for example, became the lead group to successfully lobby the provincial government to provide more support for

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basic health care and fish processing. In this site, the marine protected area's management committee has not only conserved globally important marine biodiversity but also helped improve community and provincial governance by increasing participation and fostering greater equity among the communities. Tip O'Neill was right: all politics is local.

In the Indonesian study site, the management advisory board for Bunaken National Park provides input to park management. This advisory board includes representatives from the national and provincial governments, local tourism operators, academia, and the local communities; it has had a key role in determining, for example, the boundaries of the no-fishing areas and the use of community funds collected from entrance fees. The management advisory board has helped boost the legitimacy of the park authority, and this in turn has reduced conflict. Thus, the rule of law has improved, participation has increased, and the management of the park has greater transparency. All of these factors have contributed to better governance for the 30,000 people who live inside the national park while also protecting the many unique kinds of

marine life in the park, such as the critically endangered *Coelacanth* (a "Lazarus taxon" that until 1938 was believed to be extinct).

In the Philippines study site, Apo Island marine reserve is comanaged by the national government and the local community. Most of the community live within sight of the marine protected area and largely self-police the no-fishing area. There are few violations. Thus the rule of law has become extensive and the enforcement costs are modest, and this has strengthened local governance. For conservation, the fish biomass and coral cover have both increased dramatically compared with when the marine protected area was established in 1979.

In the Fiji study site, the community-managed marine protected area roughly doubled incomes, compared with the control sites, as a result of greater fish catches outside the no-take zone. Fiji and much of Melanesia has a tradition of setting aside reef areas where no fishing is permitted for a period of time. Establishing a legally recognized marine protected area helped the local Navakavu community make the management of their reefs more productive for both nature and local residents. Sections of

the community's reefs are now closed indefinitely, and enforcement is strong to ensure fishing is done only outside the marine protected area. The protected area has helped to strengthen local cultural traditions and improved community participation in decisionmaking. Many residents feel the marine protected area has improved the local governance of their community.

These marine protected areas were more successful than others at improving local peoples' well-being mainly because of their comanagement or community-management approach. Community participation was also the key factor in each site for improving local governance.

Anyone who loves the ocean as Rachel Carson did should know that comanaged or community-managed marine protected areas can beget more than greater fish catches and better tourism opportunities: they can also help spur good governance. And governance matters to conservation.

The full Nature Conservancy study can be downloaded at www.nature.org/mpapovertystudy.

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