

Creating the Necessary Management Capacity for EBM

Improved marine management is something to which most coastal nations aspire, and many have made commitments to EBM. When attempts to practice EBM are unsuccessful, the assumption is often that the "capacity" to practice it is lacking. Quick translation: there is not enough money available.

But capacity to do EBM is not automatically achieved with infusions of funding: throwing more money in the management pot does not guarantee that EBM goals will be met. In this context, what kinds of capacity are most important for EBM? And how can capacity be built so that management goes beyond the sectoral, to true ecosystem-based management?

What is "capacity building"?

The term "capacity building" generally refers to efforts to nurture and apply the capabilities of people and institutions at all levels. In the specific context of capacity for marine EBM, it means having the necessary human, financial, and informational resources to do management at ecosystem scales. This involves all aspects of planning and management: stakeholder involvement, monitoring, enforcement, evaluation, and more, including adaptive adjustments over time.

The ability to manage also requires an enabling context. That is, there must be good governance at all levels, and adequate time to plan and manage effectively. Agencies can be said to have true capacity for EBM when they (a) recognize the importance of EBM and (b) utilize the management tools that are most appropriate for their environmental, socio-economic, and political situations. Several commonly used capacity-building tools are listed in the box at the end of this article.

A new (U.S.) National Research Council report, "Increasing Capacity for Stewardship of Oceans and Coasts: A Priority for the 21st Century", recommends ways to strengthen marine protection and management capacity. It was authored by an international committee of experts and is available online at www.nap.edu/catalog.php?record_id=12043. (Although the report costs US \$35.10 in hardcopy, the website allows readers to view it online for free, page-by-page.)

The NRC report walks readers through all processes of capacity building - conducting periodic assessments, planning for long-term funding, developing leadership and political will, and more - and offers a series of recommendations for ensuring that EBM is adaptable and sustainable. Much of this MEAM article on capacity building reflects lessons from the NRC report, supported by additional examples.

Common barriers

Common barriers exist to building adequate capacity. Institutions can be myopic and focused on protecting their turf, and sometimes do not work in harmony with other institutions. This fragmentation of management can lead to significant gaps in management coverage, and sometimes redundancy. It can also cause a lack of regionally agreed-upon priorities for steering capacity-building funds to effective EBM.

Overcoming these common systemic problems is essential for the range of institutions responsible for supporting EBM. These include not only conventional resource-management institutions (such as coastal management agencies or international scientific monitoring programs) but also institutions at the local level. Each of them needs to articulate capacity-building goals and plans for achieving them, including honest appraisals of institutional strengths and weaknesses. Institutions also need to develop ways to retain the capacity they have acquired, and create incentives for continued learning.

The need to build and retain EBM capacity is shared by developed and developing nations. A recent survey by the Coastal Services Center of the (U.S.) National Oceanic and Atmospheric Administration polled more than 250 coastal managers in the U.S. on their knowledge and application of EBM. Among the findings:

- 44% of coastal managers said they had less than "a working knowledge" of EBM;
- 88% said their organizations needed professional development training in EBM;
- 60% said a lack of resources affected their organizations' implementation of EBM.

The Coastal Services Center is now using the survey to guide its development of an EBM training course. (For full results of

the survey, which covered a wide range of EBM questions, download *Summary Report for the Coastal Ecosystem-Based Management Course Needs Assessment* at http://csc.noaa.gov/bins/products/CEBM_Needs_Assessment_final.pdf.)

Making strategic investments

Given limited resources available to create adequate capacity for EBM - as well as increasing pressures on marine environments - investments in building capacity need to be strategic. This means relying on the best science: both on the nature of threats to marine resources, and on the socio-economic impacts of potential solutions.

The NRC report finds that in some cases, the donor community has not been strategic enough in its investments. Donors (both government and private) regularly focus on ecological conditions while spending little time assessing the existing capacity for coastal and ocean management. And when they do the latter, they rarely share their results with other donor institutions or with the host country. The report suggests that a standardized set of criteria for performing such capacity assessments would help ensure that adequate capacity exists to carry out funded programs. Unfortunately, no such set of standards exists.

Failures in governance impede the growth of capacity. Stephen B. Olsen, a co-author of the NRC report, tells MEAM that governance is not analogous to government. "There is no single mode of governance that fits all societies and all circumstances," says Olsen, who has advised coastal zone management projects in Ecuador, Sri Lanka, and Thailand, among other nations. "Governance is a composite of the influence that government, civil society, and markets all exert on individuals and societies. Increasingly it is markets - particularly international markets - that are the drivers of change. In some settings the role of government as both a driver and a responder to ecosystem change is modest or even insignificant. As ecosystem change accelerates, government, NGOs, and markets all have important roles to play in the practices of stewardship."

To create the conditions for true EBM, the governance situation must account for the roles, responsibilities, and strengths of various institutions, and the larger societal context in which these institutions are embedded. To improve governance, key leverage points must be identified, including investing in leadership development in the realms of government, civil society, and the private sector.

Financing EBM capacity building

The greatest impediment to creating capacity for EBM, according to the NRC report, is lack of sufficient long-term funding. But infusions of funds, as stated earlier, often do not lead to true EBM. This is partly due to the lack of attention given to long-term sustainable financing of projects. Donors and practitioners should each determine how capacity can continue to grow, or be effectively used, once donor investments have been made. Development of sustainable financing mechanisms - such as user fees; fines; licensing and certification; biodiversity offsets; mitigation banking; debt-for-nature swaps; and compensation mechanisms for environmental/social impacts caused by ocean industries - needs to be endorsed as a priority.

Another barrier to building capacity can crop up when the allocation of donor money is based neither on need nor on objective appraisals of whether the funding can be absorbed. Donors often attempt to minimize their risk by pursuing "low-hanging fruit" - problems that are easily resolved - rather than responding to the greatest management challenges. And there is a tendency to invest in tangible capital assets (vehicles, buildings, state-of-the-art technology), rather than investing in less tangible things like operating expenses and development of social capital. This means that EBM practitioners can be flooded with things that they do not need or cannot maintain - such as boats or equipment that are difficult and/or costly to maintain.

Additionally, infusions of large sums of money into projects in developing countries, especially small community-based projects, can often be counterproductive. As one example, an EBM project on Tanzania's Mafia Island faced the prospect of receiving large sums of donor funds that could not be absorbed by local institutions. This created such conflict that plans were developed to decrease the stream of donor support to levels that could be absorbed and utilized.

In the U.S., the coastal state of Rhode Island is one of many that face the challenge of securing adequate financial capacity for coastal management. In 2004, the state created an interagency commission - the Bays, Rivers, and Watersheds Coordination Team (BRWCT) - to apply EBM principles to the management, protection, and restoration of Rhode Island's fresh and marine waters and watersheds (www.coordinationteam.ri.gov). Now, amid a national economic recession and state-level budget cutbacks, the team is due to issue a plan this year to provide the basis for agency-based annual budgeting and programming.

Ames Colt, chair of the BRWCT, says, "We are seeking to launch the plan in a time of extreme fiscal duress in Rhode Island government. It is quite possible that agency budget cuts, some severe, will compel deeper strategic thinking and reorganization around EBM principles." A shortage of funds, he suggests, could focus the management spotlight on what is most needed to achieve EBM, and willow out programs that were superfluous to reaching that goal.

Public education

Capacity building occurs in the context of societal constraints to ocean and coastal stewardship, such as inadequate public education and environmental literacy, generally low awareness of ocean issues, and inhibited access to information.

These challenges, specifically regarding how oceans and coasts contribute to human well-being, pose a major obstacle to implementing EBM at large scales. Where there is little public knowledge of the importance of well-managed resources, there is often little political will to make the necessary changes. Facilitating the transfer of information is important to overcoming the ignorance barrier. Thought must be given to packaging current knowledge for current and future generations. In other words, information flows need to go beyond the specialized language of experts and out to the people - cascading down the steps of generations.

In the Bahamas, a conservation initiative by The Nature Conservancy and the Bahamas National Trust has centered on the island of Andros. Using the occasion of a large-scale ecological assessment, the project has aimed in part to build local capacity by training Androsian students in marine science and management. (Background on the project is at www.nature.org/wherewework/caribbean/bahamas/press/press2137.html.)

Student participants not only developed skill sets, but contributed to capacity for outreach across generations. "Although we are growing as a country, Andros is definitely one of those parts that should be saved and conserved - a vital part of our beautiful Bahamas land," said Ketroya Oliver, an Androsian college student.

Leadership

Local leaders and "champions" for the oceans need to be identified and nurtured. Support is also needed to catalyze scientific leadership, building on existing capabilities to enhance key areas of applied research. Creating centers of excellence and linking these centers in regional networks can help create a foundation of science for decision-making and spur leadership.

The approach to EBM of the Coral Reef Alliance (CORAL), an NGO with projects throughout Oceania and the Caribbean, focuses on developing capacity by encouraging ocean leadership at the community level. This is done by focusing resources on activities that leverage existing groups, local community interest, and private sector involvement around projects that increase MPA effectiveness. "We have found that perhaps the single-most important aspect for effective EBM capacity building has been in finding the right local people," says Rick MacPherson, director of conservation programs at CORAL. "These people are able to broker the collaborative alliances between stakeholders - many of whom may not necessarily communicate with, let alone trust, one another. The challenge, of course, is finding the people who can play this delicate role early in a project. Our experience is that it is a formula partly based on knowing what to look for, as well as a dose of good fortune."

CORAL's project in the Namena Marine Reserve in Fiji demonstrates this. The Namena Marine Reserve is a remote, locally managed marine area where resident communities had previously established some degree of resource management. CORAL's early work in Fiji involved recruiting a local field staffer who could bridge the concerns of two sectors: the local communities responsible for Namena's reef management, and the tourism sector, which desired greater administrative transparency of the managed area.

MacPherson underscores the notion that leadership is a key element of capacity. "Ideal candidates for field staff are individuals already in some conservation role within the local community, or individuals whose connections to the marine recreation sector lend them unique credibility and access," he says. "CORAL was successful in sharing a percentage of staff time with one of our project partners to hire a local Fijian to serve this capacity-building role. An added bonus was that this young man was born and raised in one of our project villages, could advise on all aspects of Melanesian culture, and knew first-hand the challenges that the local community faced in managing their reefs. As a former divemaster for one of the resorts, he also had immediate credibility with tourism operators."

Importance of regional frameworks

EBM is more than an additive process of gathering local-level ocean and coastal management projects together until the scale of focus extends to whole ecosystems. It requires integration of management across sector-focused agencies, and often across the jurisdictions of coastal nations. The regional focus is paramount.

Sometimes the key to creating adequate EBM capacity is developing an underlying regional governance framework. Arrangements such as the Commission for the Conservation of Antarctic Marine Living Resources, or CCAMLR (www.ccamlr.org) - an intergovernmental body that manages the resources of the Southern Ocean - can lay the groundwork for EBM successes. In 2007, for example, the 25 member nations of CCAMLR unanimously adopted a binding conservation measure to protect vulnerable seafloor ecosystems from destructive bottom fishing activities. Seamounts, hydrothermal vents, cold-water corals, and sponge fields around Antarctica will now be protected from the adverse impacts of bottom fishing. The measure is a significant step in protecting the Antarctic marine environment.

At the other pole, attempts to manage Arctic ecosystems have been relatively piecemeal so far, although that may be

changing. The Arctic Council, an intergovernmental forum for Arctic governments and peoples (www.arctic-council.org), is embarking on several projects to look holistically at the Arctic ecosystem. One project will be an examination of Ecosystem-Based Ocean Management in the Arctic (EBOMA) to look at existing practices among the Council's eight member states. The Circumpolar Biodiversity Monitoring Program and other initiatives will monitor changes in the Arctic ecosystem on land and at sea, and will be part of the Arctic Observing Network, a project of the International Polar Year. Additionally, the Arctic fishery management plan being developed by the North Pacific Fishery Management Council proposes to restrict fisheries in newly ice-free areas until a scientific basis for management exists.

Of course, society and geography at the poles are vastly different. While the Arctic is an ocean surrounded by sovereign countries - the northern regions of which have long been inhabited by indigenous peoples - Antarctica remains uninhabited by humans, save a small number of visiting scientists.

Mark Mallory of the Canadian Wildlife Service notes the Arctic's convolution of aboriginal interests, shared resources among countries, unclear jurisdiction on boundaries or rights of way, and internal overlap of bureaucracies. "In Canada, a big challenge is that local communities have considerable input and control over issues in their area, and their views may not be the same as those of different regulatory and management organizations," says Mallory. "Add to that the differing international views, and I think that reaching a pan-Arctic treaty [similar to CCAMLR] would be tough - and implementing it even tougher."

Will the capacity to practice EBM in a strategically important region like the Arctic ever be developed, through partnerships between governments and the indigenous people for whom the ecosystem is their sole life-support system? If so, it will require strong commitments and multilateral cooperation among the Arctic nations.

Summary

Creating lasting capacity for EBM is necessary to resolve issues of ocean sustainability, and should be recognized as a vital investment of time and resources. Capacity needs to be strengthened not only in developing countries, but in developed ones as well. There is no single formula for creating adequate capacity, but the following elements are often features of it:

- Implementing a long-term and sustainable funding plan, with a wide variety of sources making coordinated investments;
- Relying on the best available scientific information across disciplines and, where that information may be lacking, investing in scientific and management training;
- Communicating scientific information so that it is understood and accessible to the public;
- Making strategic decisions based on assessments to pinpoint obstacles to EBM;
- Catalyzing the creation of (or building on existing) regional frameworks for governance, cooperation, information exchange, and/or sharing of management duties; and
- Investing in individuals and institutions to develop leadership.

For more information

Stephen B. Olsen, Coastal Resources Center. E-mail: sbo@crc.uri.edu

Rick MacPherson, Coral Reef Alliance (CORAL). E-mail: rmacpherson@coral.org

Ames Colt, Rhode Island Department of Environmental Management. E-mail: ames.coltdem.ri.gov

Mark Mallory, Canadian Wildlife Service. E-mail: mark.mallory@ec.gc.ca

Box: Commonly used capacity building tools for EBM

Management training programs

Example: Coastal Resources Center summer program in integrated coastal zone management (www.crc.uri.edu)

Marine management degree programs

Example: International Ocean Institute Advanced Degree Programs, in Malta (www.ioinst.org)

Centers of excellence

Example: Coral Reef Targeted Research Centers of Excellence (www.gefcoral.org)

Outreach and media training

Example: Aldo Leopold Institute (leopoldleadership.org)

Institutional evaluation and restructuring

Example: Packard Foundation Organizational Effectiveness Program (www.packard.org)

Scientific mentoring

Example: Andros Rapid Assessment Project, undertaken by The Nature Conservancy (www.nature.org)

Innovative financing assistance

Example: GEF-assisted Marine Legacy Fund of Tanzania (see [MEAM 1:2](#))

Management networks

Example: Partnerships for Environmental Management in Seas of East Asia (pemsea.org)

Leadership recognition programs

Example: Pew Fellows in Marine Conservation Program (www.pewoceanscience.org)

Example: International Cosmos Prize (www.expo-cosmos.or.jp)

Source URL: <https://www.openchannels.org/news/skimmer-marine-ecosystems-and-management/creating-necessary-management-capacity-ebm#comment-0>