THE SKIMMER ON MARINE ECOSYSTEMS AND MANAGEMENT

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US releases implementation plan for ocean policy; emphasizes regional priorities in MSP

In April, the Obama Administration released its final plan to translate the US national ocean policy into specific actions. Together the actions involve:

- Supporting and promoting the ocean economy;
- Enhancing maritime safety and security;
- Improving coastal and coastal resilience;
- Supporting local and regional priorities; and
- Advancing marine science and information.

Each action identifies the responsible agencies and an expected timeframe for completion. The final plan incorporates public comments received on a draft that was released in early 2012 (MEAM 5:4), including specifying that regional stakeholders will determine the scope, scale, and content of collaborative marine spatial planning in their region. Marine spatial planning is a central component of the national ocean policy, and will be carried out on a phased basis across nine regional planning areas (MEAM 4:1). The planning process for the northeast region of the US is already underway (https://www.openchannels.org/blog/scosgrove/new-england%E2%80%99s-regional-planning-body-making-progress).

The implementation plan specifies that participation in the regional planning bodies is voluntary, and that such bodies will be established only in regions that want them. In cases in which a region does not establish a planning body, federal agencies "will collaborate to identify and address priority science, information, and ocean management issues and coordinate with non-federal partners and stakeholders as appropriate," according to the plan. Regional planning bodies are expected to develop marine plans by the end of 2017.

To learn more about the national ocean policy or read the implementation plan, go towww.whitehouse.gov/administration/eop/oceans/policy.

US releases national climate adaptation strategy

The Obama Administration has released a national strategy to help public and private decision-makers address the impacts that climate change is having on natural resources, ecosystem services, the economy and individuals. The "National Fish, Wildlife, and Plants Climate Adaptation Strategy" provides a roadmap of steps needed over the next five years to reduce an array of climate change impacts. These impacts include altered species distributions and migration patterns, the spread of wildlife diseases and invasive species, the inundation of coastal habitats with rising sea levels, and changing productivity of coastal waters. The strategy is available at www.wildlifeadaptationstrategy.gov.

Global MPA coverage: 10% target will be met, but more focus is needed on ecosystem services

A new review of global MPA coverage by The Nature Conservancy and the UNEP World Conservation Monitoring Centre estimates that if the current pace of MPA designations remains steady, the world may meet the overarching goal of protecting 10% of the oceans by 2020, set under the Convention on Biological Diversity. However, the authors caution that the true CBD goal is more complex, requiring effective coverage of biodiversity and of ecosystem services. Much of the recent growth in MPA coverage has been in very large remote tracts of ocean, sometimes excellent for biodiversity but not so good for defending or restoring the many local benefits that MPAs can provide to people. The authors also point out the danger of such targets, which can leave the remaining 90% of the ocean as an afterthought.

They recommend that all of the ocean, inside and outside of MPAs, should be managed more effectively with the sustainability of ecosystem services in mind. Mark Spalding of The Nature Conservancy is lead author of the review, which appears as a chapter in the *Ocean Yearbook 27*, released in April. (The chapter by itself is available at www.nature.org/ourscience/protecting-marine-spaces-global-targets-and-changing-approaches.pdf) Among the review's conclusions:

- More MPAs should be placed close to people, which is where threats to ecosystem services - and benefits to be gained from sustainably managed ecosystem services - are greatest; and
- There is a need for a more holistic vision of marine conservation with greater attention to wider-scale marine spatial planning into which MPAs are embedded.

Studies integrate multiple spatial conservation proposals to recommend priorities

The Mediterranean Sea and the Gulf of California have each been the subject of multiple marine planning exercises to recommend spatial conservation priorities, and each exercise's recommendations are unique in various ways. Two recent, independent studies - one for the Mediterranean and one for the Gulf of California - have focused on identifying convergence in the conservation priorities recommended for each region. The Mediterranean study, available for free in the journal PLOS ONE (www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0059038), reviews six existing and twelve proposed conservation initiatives in the region, highlighting gaps in conservation and management planning. Despite diversity among the 18 initiatives, the integrated analysis identified ten areas, encompassing 10% of the Mediterranean, that were consistently identified for conservation. An additional 10% of the sea was selected by at least five proposals. "These areas represent top priorities for immediate conservation action," concludes the study.

The Gulf of California study, which appears in the journal Aquatic Conservation: Marine and Freshwater Ecosystems (http://onlinelibrary.wiley.com/doi/10.1002/aqc.2334/abstract), analyzed seven marine conservation planning exercises in the region. Although this study found a degree of convergence among proposals, particularly in well-studied ecosystems, there was significant divergence among plans overall. Lead author Jorge Álvarez-Romero of the ARC Centre of Excellence for Coral Reef Studies at James Cook University (Australia) says the findings may surprise planners and marine conservationists in the region "who have a general perception that all plans point to the same priority areas," he says. "However, our findings are in agreement with previous studies in systematic conservation planning that have found that objectives, approach (e.g., avoiding threats vs. protecting threatened areas), and spatial scale of planning will have a strong influence on planning outputs."

Report provides baseline knowledge on existing blue carbon projects

A report from Conservation International catalogs 28 "blue carbon" projects from around the world, providing baseline knowledge on the involved organization(s), ecosystem type, activities/goals, results, timeline, and more. Blue carbon projects use marine and coastal ecosystems - specifically mangroves, tidal marshes, and seagrasses - to help mitigate global climate change through the storage and sequestration of carbon dioxide. The report "Profiles in Blue Carbon Field Work" is available on the Blue Carbon Initiative website at http://thebluecarboninitiative.org/wp-content/uploads/Profiles-in-Blue-Carbon-Field-Work.pdf.

New publications on areas beyond national jurisdiction

A new report concludes that although various obligations exist to conduct environmental impact assessments for activities on the high seas, the obligations are mostly sector-based (deep sea fisheries, seabed mining) or region-specific. An international, trans-sector, and legally binding instrument to govern environmental impact assessments on high seas activities is therefore needed, states the report. Co-produced by the Institute for Sustainable Development and International Relations (a non-profit policy research institute in Paris) and the French Agency for Marine Protected Areas, the report recommends a set of minimum requirements under such an instrument, including creation of a global compliance committee. The report *Environmental impact assessments of areas beyond national jurisdiction*is available at www.iddri.org/Publications/Environmental-impact-assessments-in-areas-beyond-national-jurisdiction.

Meanwhile, a new study by an international team of researchers concludes that the current legal regime on the high seas in general is insufficient to maintain ecosystem health and productivity while also enabling sustainable use. Published in the journal Conservation Letters, the study concludes that a two-pronged approach is needed for future management of areas beyond national jurisdiction: an improved global legal regime that incorporates systematic planning, and the expansion of existing and new regional agreements and mandates. The abstract of the paper "Systematic conservation planning: a better recipe for managing the high seas for biodiversity conservation and sustainable use" is available at http://onlinelibrary.wiley.com/doi/10.1111/conl.12010/abstract.

Handbook applies risk management standards to marine and coastal EBM

The International Council for the Exploration of the Sea (ICES) has published a guide to managing marine and coastal ecosystem-based risk. The authors acknowledge that measures in environmental and spatial policy-making are rarely formulated specifically in terms of risk management. However, they add, elements of risk assessment underlie many marine and coastal policies, such as avoiding the risk of ship accidents and oil spills. The handbook applies the existing risk management framework of the ISO (the International Organization for Standardization) to concepts of environmental assessment, integrated coastal zone management, and marine spatial planning. The *Marine and coastal ecosystem-based risk management handbook* is at http://ices.dk/news-and-events/news-archive/news/Pages/Publication-of-ICES-CRR317-on-Marine-and-coastal-ecosystem-based-risk-management.aspx.

Study examines balance of conservation, social equity, and cost-effectiveness

A study in the Proceedings of the National Academy of Sciences examines the achievability of "triple-bottom-line outcomes" in marine resource management and conservation - i.e., where (a) conservation outcomes and (b) equity in social outcomes are both maximized, while (c) overall costs are minimized. Equity in the study was defined by distribution of costs and access to resources. Focusing on three cases that each involved the planning of MPAs (in California, Indonesia, and the greater Coral Triangle region), the study found that as conservation outcomes were improved (typically from limiting fishers' allowable catches or access to certain areas), equity declined, assuming a level budget. However, if the budget was increased, equity and conservation could both be achieved. The study "Achieving the triple bottom line in the face of inherent trade-offs among social equity, economic return, and conservation" is at www.pnas.org/content/110/15/6229.full.pdf+html.

Newsletter available on marine ecosystem services

The Marine Ecosystem Services Partnership (MESP) - a virtual center for information and communication on the human uses of marine ecosystem services worldwide - has launched a newsletter focusing on marine ecosystem service news, events, and publications. MESP aims to connect practitioners, economists, and policy-makers to raise the profile of ecosystem services and ease access to valuation data. For more information on MESP or to subscribe to the newsletter, go to www.marineecosystemservices.org.