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## Incorporating the Social Sciences in Ocean Planning: Trends and Possibilities

Successful management and conservation of marine ecosystems depends as much on understanding humans as it does on understanding marine organisms and their environment. Human impacts on marine ecosystem health are extensive and often detrimental (e.g., [www.nceas.ucsb.edu/globalmarine](http://www.nceas.ucsb.edu/globalmarine)). At the same time, humans benefit significantly from healthy marine ecosystems and, thus, from successful management and conservation efforts (e.g., [www.oceanhealthindex.org/Goals](http://www.oceanhealthindex.org/Goals)). And although successful management and conservation efforts sometimes get less attention than failures, humans can sustainably manage marine resources (e.g., <http://ocean.si.edu/slideshow/success-stories-ocean-conservation>).

The social sciences — economics, political science, sociology, anthropology, history, psychology, law, and more — are the formal examination of human society. They study how societies function, how individuals in a society relate to one another, and the institutions societies form. Insights and data from these disciplines in ocean planning are essential to understanding how people use the marine environment, and how they create and may react to new and different forms of ocean governance.

A recent assessment of the incorporation of social data in coastal and ocean planning (see <http://micheli.stanford.edu/pdf/currentpractice.pdf>) found that ocean planning practitioners are indeed engaging a wide range of social data — including data on governance, economic, and cultural attributes of planning regions and human impacts. The authors also found that much more could be done to incorporate ecosystem services and social-ecological linkages in planning and move from “people as impacts to people as beneficiaries” of coastal and ocean planning.

In this edition of MEAM, we asked four social scientists from a range of disciplines about some of the most exciting ways they see — or would like to see — the social sciences being incorporated into ocean planning.

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### Patrick Christie: Social-learning networks and social movements critical for ocean planning

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The adoption of social sciences in ocean planning is absolutely essential for really identifying causes and, more importantly, possible solutions for the degradation of the oceans. One example is the increasing appreciation for the role of social-learning networks and social movements in planning processes. Social science supports the creation of more potent learning networks such as the Locally-Managed Marine Area Network ([www.lmmanetwork.org/whoware/vision](http://www.lmmanetwork.org/whoware/vision)) and Big Ocean peer-learning network ([www.bigoceanmanagers.org](http://www.bigoceanmanagers.org)) that generate context-appropriate solutions. Social scientists have also made it clear why transparent planning processes that respectfully include and resonate with the majority of coastal inhabitants are really the only tenable path forward. These are now proven means to ensure balanced and sustained progress toward ecological and social goals.

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### Patrick McConney: Social sciences can connect ordinary citizens to the open ocean

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Ocean planning beyond territorial waters (usually 12 nautical miles from the coast) is a critical area of concern. The Deepwater Horizon oil spill, endangered charismatic marine megafauna, the disappearance of airliner Flight MH370, and similar events create images in the minds of the public that the open ocean is problematic and hostile. Social science input would benefit this planning by connecting ordinary citizens who are not seafarers to marine space to champion its sustainable use. By linking to political science, ocean planners can empower citizens to urge and contribute to more informed and sustainable decisions. Sociologists can determine the networks of actors and the distribution of power to be leveraged. Anthropologists can elucidate the cultural context through which people make connections to the open ocean. Cumulatively, a deeper appreciation for the ocean can result. This appreciation needs to be bone deep so that society recognizes that the ocean beyond the horizon is essential to the future of human well-being.

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### Natalie Ban: Make integrated perspectives part of the planning processes

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The most exciting trend I see in ocean planning is fully integrating social and ecological considerations in marine planning rather than viewing them as separate realms of expertise and knowledge. Integrated social-ecological perspectives can be incorporated into ocean planning in different ways — by seeking relevant information from subject-area and local experts and/or by making people with integrated perspectives and knowledge full partners in the ocean planning process. For example, the Marine Planning Partnership (MaPP; [www.mappocean.org](http://www.mappocean.org)), an ocean planning endeavor in British Columbia, Canada, included First Nations — as indigenous people are referred to in Canada — as co-planners. In this way, First Nations traditional knowledge — which encompasses knowledge, practices, and beliefs that do not see people as separate from nature — was included in the planning process in ways that were appropriate to the cultural and planning context.

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## Luc van Hoof: Social sciences can help integrate planning across sectors and countries

*Editor's note: Luc van Hoof is the manager of European research development for the Institute for Marine Resources and Ecosystem Studies (IMARES) in the Netherlands. He also coordinated the MESMA (Monitoring and Evaluation of Spatially Managed Areas) project, which developed tools for evaluating marine spatial plans. E-mail: luc.vanhoof@wur.nl*

Integration in marine spatial planning — across sectors and activities as well as across national jurisdictions — is in its infancy. In the Netherlands, implementing the environmental Natura 2000 policy is basically a fisheries process since most of the other uses of the North Sea — windfarms, oil and gas extraction, sand and gravel extraction, and shipping — are declared to be of national interest and therefore planned on a sectoral basis. And despite efforts such as the European Marine Spatial Planning Framework Directive which establishes a framework for maritime spatial planning, European Union member states still tend to apply a sectoral approach, and cooperation in planning between riparian states is not really taking off. The social sciences can contribute to integrating planning across sectors and countries by helping to build shared knowledge. Involving stakeholders is crucial for arriving at a shared definition of the problems to be addressed and selecting factors on which to base decisions. Joint fact finding between actors helps address conflicts and devise solutions.

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## Resources for Incorporating Social Sciences into Ocean Planning

- **Embedding social considerations in conservation planning:** Many conservation plans fail to be implemented because they do not consider the social context in which implementation would occur (e.g., interactions between individuals and institutions, cultural norms, socioeconomic constraints, outside agendas, conflicting incentives). This paper suggests linking conservation planning to a social-ecological systems framework to better understand human-environmental interactions and more effectively integrate social considerations.
  - See Ban, N.C., et al. 2013. Towards a social-ecological approach for conservation planning: embedding social considerations. *Frontiers in Ecology and the Environment* 11: 194-202. Available for free download at [www.researchgate.net/publication/235007071\\_A\\_social-ecological\\_approach\\_to\\_conservation\\_planning\\_Embedding\\_social\\_considerations](http://www.researchgate.net/publication/235007071_A_social-ecological_approach_to_conservation_planning_Embedding_social_considerations).
- **An approach for incorporating human use data into ocean planning:** This paper presents a three-step approach for the often-difficult process of incorporating human use data into ocean planning.
  - See Kittinger, J.N., et al. 2014. A practical approach for putting people in ecosystem-based ocean planning. *Frontiers in Ecology and the Environment* 12: 128-144. Available for a fee at [www.esajournals.org/doi/abs/10.1890/130267](http://www.esajournals.org/doi/abs/10.1890/130267) or for free by contacting the corresponding author at [jkittinger@gmail.com](mailto:jkittinger@gmail.com).

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