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Getting business on board: Engaging the business community in ocean planning ^[2]

According to figures from the World Ocean Council, an ocean industry alliance focused on sustainable development, maritime industry accounts for a remarkable amount of global economic activity. More than 50 thousand merchant vessels deliver 90% of international trade. Offshore energy sources supply 30% of oil and natural gas. More than one million kilometers of submarine cables carry 98% of international communications. Roughly 1.3 million vessels work the worlds' fisheries.

Yet despite this vast industrial use of the oceans, ocean planning processes are often dominated by government agencies, NGOs, and academics with relatively little involvement by industry. In some cases this is by industry default, such as due to a lack of understanding of the MSP movement or its utility; in others it is because planners have not engaged industry effectively (see the box "[Barriers to industry involvement in MSP](#)" at the end of this article).

The potential benefits of ocean planning for industry can be substantial. This was shown, for example, by a study that assessed potential conflicts among offshore wind energy, commercial fishing, and whale-watching sectors in the US state of Massachusetts. The researchers estimated that using marine spatial planning rather than conventional sectoral planning could prevent more than US \$1 million in losses to the fishery and whale-watching sectors while generating more than \$10 million in extra value to the energy sector. (These figures would accrue over 27 years - see MEAM 5:5, "[Analyzing tradeoffs of ecosystem services in Massachusetts Bay](#)"^[3]). Constructive engagement of industry in marine planning processes - and the support of ocean businesses for the end results of those processes - increases the likelihood of marine spatial plans being implemented and achieving widespread compliance.

In this issue of MEAM, we learned from a variety of experts what ocean planning practitioners should (and should not) do to get the ocean business community actively and productively engaged in ocean planning processes.

A. Convey the costs of conflict and degradation in business-related terms

Editor's note: Jorge Jiménez is director general of the MarViva Foundation, a regional, non-profit organization that promotes the conservation and sustainable use of coastal and marine ecosystems in the Eastern Tropical Pacific (www.marviva.net)^[4]. MarViva's work focuses on sustainable markets as well as marine spatial planning.

MEAM: What advice do you have for ocean planning practitioners who are getting started on engaging the ocean business community?

Jorge Jiménez: Every business sector is different and operates in specific contexts. Despite the differences, no business sector can grow indefinitely in a degraded environment. At the same time, in the face of economic activity, no healthy environment can be maintained without the commitment of a responsible business community.

Engagement of ocean businesses in multi-sectoral marine planning needs to derive from a previous analysis of the stakeholders as a whole, including their relative interests and their preliminary positions with regards to potential management of traditional private and economic activities. A powerful opposing sector might represent a disruptive force in an incipient planning process. On the other hand, a powerful corporate sector, convinced of the advantages of such processes, might be a pivotal catalyst and advisor to enable its advancement.

Early development of information and awareness of the magnitude of the conflicts faced by the ocean businesses given the lack of planning is key to building the required confidence and persuading the sector to get involved. Joint development of preliminary alternatives to reduce or eliminate conflict is also critical. The implementation of planning measures (use regulations, zoning schemes, among others) might be considered an interference by the business sector. Nonetheless, if designed as a result of a collaborative process in the context of conflict resolution and with the corresponding cost-benefit analysis, it can convince the business sector and gain from its inputs and know-how.

Planning and managing the marine space means maximizing the benefits to all stakeholders while minimizing the impact to the environment. One position that needs to be established at the onset is that the ocean belongs to all and therefore we need to agree on how to use it sustainably. If business sectors realize that other users have legitimate interests in some areas or resources, and potentially crossing those stakeholders might represent a lengthy and expensive process, it will be easier to reach agreements.

MEAM: Are there some mistakes to avoid?

Jiménez: The business community talks about efficiency and profit. We need to talk to them in the same language. Approaching the corporate sectors with ecological arguments is a mistake. We need to talk about costs and benefits. Ocean planning benefits businesses and their sustainability. Ocean planning must encompass comprehensive cost-benefit analysis of the activities, including the proper selection of sites and methods by which the business sector can secure long term operations. For many sectors, maximizing short-term benefits is ecologically unsustainable, although some elements in the private sector might favor that approach. To inform those doing this, it is necessary to convey, in business-related terms, the implications of an escalating high-level conflict (among human uses or among uses and the environment) and the impact of that conflict/degradation on their future performance and results.

Approaching business sectors without community and government stakeholders is also a mistake. Business people need to understand from the start of the process that there is increasing need and interest in the ocean planning process and that we are calling their attention as essential participants in it.

MEAM: Do you have examples of ocean planning processes that have done a particularly good job of engaging ocean businesses?

Jiménez: One noteworthy experience has been the zoning of the Stellwagen Bank National Marine Sanctuary <http://bit.ly/Stellwagenzoning> ⁽⁵⁾. The navigation sector collaborated in the process and abides by the resulting regulations. Several factors were fundamental to this achievement: 1) the existence of detailed information, not only of navigation routes, ship velocities, and use intensity, but also whale aggregations and distribution; 2) extensive public engagement in the process, with strong public support from awareness campaigns; 3) the existence of a strong governance structure for the area that commanded respect and had the influence to change the existing scenario. So far, the effective cases have involved only one to three sectors. Truly multi-sectoral planning is still very limited.

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B. Avoid going to battle with businesses

Editor's note: Linda Sams is the head of sustainability and fish health at Tassal Group Limited, Australia's largest producer of aquaculture salmon and one of the largest employers in Tasmania, Australia (www.tassal.com.au) ⁽⁶⁾. Tassal has been actively involved in marine and coastal planning processes, including spatial zoning, at both the Australian state and federal levels.

MEAM: What advice do you have for ocean planning practitioners getting started on engaging the ocean business community?

Linda Sams: First of all, planners should learn about the businesses they want to engage. Planners should meet with businesses individually and ask them to discuss their strategic direction, risk profile, and planning tools. Planners should also develop an understanding of the main drivers for these businesses and how ocean planning may impact their development decisions and opportunities and constraints for growth.

Second, planners should provide businesses with the background information they need such as relevant legislation, agency and department dynamics, organizational charts, and ocean usage information - e.g., shipping lanes, recreational and commercial fishing areas, high value habitat. Planners should also come to the table with clarity of purpose and direction, a strategic plan, action items, targets, and clear deadlines and responsibilities. The sweet spot for businesses (and everyone else) is a process that neither fast tracks predetermined outcomes nor drags on forever.

Third, planners should carefully consider who they engage and when. They should bring moderate environmental NGOs and businesses to the table first to model outcomes and benefits. More radical/polarized participants should also have a voice and be able to bring their position to the table in the process. But the process should be steered with participants that bring a collaborative mindset to the table.

Other strategies/things to keep in mind:

- Try pairing a business with a conservationist or scientist to allow them to learn each other's perspective and language before they enter into the planning process. They can co-mentor each other so the different perspectives are understood.
- Bring economic development departments into the conversation with business. Align the process with economic goals and be creative about how business can benefit from being at the table.
- Always give businesses public credit for the compromises they make. Businesses risk their reputation when making compromises, and they should benefit (socially and reputationally) for the positive steps they take.
- Be very transparent about motives and politics throughout the process. This will invite criticism, but in the end it will be worth it.

MEAM: Any mistakes to avoid?

Sams: Yes, definitely some of those, too. First, avoid consulting with business as an afterthought. Businesses should be brought in the formative stages of planning and should be part of determining outcomes. When businesses aren't backed into a corner, collaborative solutions can be achieved.

Second, planners should avoid a negative mindset about businesses and assuming they will have to do "battle" with them. Large and small business holdings are an important and legitimate part of the cultural framework of the coastal and marine environment. Planners should first assume that businesses will want to minimize their impact and protect their image and that they do want to be engaged in conservation programs.

Third, planners should understand commercial sensitivities. Do not ask competitors for a marine space to sit in a room together and show all their cards in relation to development - it is not going to happen.

And, last, a common mistake is not building in enough time to change commercial situations to allow for a different use of the marine space. Business will need years, not months, to adapt to major changes.

MEAM: Any challenges and benefits of participating in ocean planning processes that are unique to businesses?

Sams: For businesses, successful ocean planning processes can reduce risk of changing regulatory environments and help "future proof" the business by increasing certainty of development and/or operations in areas that are recognized as suited to the business. This supports long-term planning.

Conversely, planned, ongoing, stalled, or failed ocean planning processes are a challenge for business because they can be perceived as blockages for growth and development, thereby impacting shareholder value and commerce.

Another benefit of working in these processes is furthering the corporate social responsibility evolution of a business. By participating in these processes, businesses gain a better understanding how they can contribute to a healthy future for the ocean and grow as a business in a new economy that values responsible development.

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C. Engage the ocean business community in designing the planning process itself

Editor's note: Paul Holthus is founding CEO and president of the World Ocean Council, an industry leadership alliance for corporate ocean responsibility (www.oceancouncil.org) ⁽⁷⁾. A key area of effort for the World Ocean Council is encouraging and facilitating proactive, constructive industry involvement in MSP. It is working with the business community to develop understanding of MSP and the associated issues, stakeholders, and process.

MEAM: Any advice for ocean planning practitioners getting started on engaging the ocean business community?

Paul Holthus: Build relationships with the ocean business community by developing common ground around the need and opportunity to improve the relevant data and science. Create a process to identify data needs and build a cooperative process for stakeholders to gather and share data and support independent science in agreed-upon priority areas. If ocean planning is to move forward, ensure that there is a solid rationale for the planning. It should be based on good data and science that have informed good risk assessment and an evaluation of the costs and benefits of the planning.

MEAM: What mistakes should be avoided?

Holthus: Much of the ocean planning to date has been through a process wholly, or largely, developed without input from the business community. Industries are then approached to provide input to a system and process that they often had not heard about previously and had no input in developing. Rather than coming to the business community to seek involvement in planning through a process that has not considered all stakeholders when it was developed, a better approach is to engage the ocean business community in designing the planning process itself. This is more likely to create a sense of co-ownership of the process, lead to constructive industry input into the planning, and result in participation in implementing the outputs of the planning.

MEAM: Any examples of ocean planning processes that have done a particularly good job engaging ocean businesses?

Holthus: At the World Ocean Council we are in the process of reviewing and evaluating marine planning efforts, their interaction with the business community, and what benefits, if any, for the business community resulted from previous marine planning efforts. We will be able to provide much more information on this later this year.

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BOX: Barriers to industry involvement in MSP

In an essay published in the June-July 2010 issue of MEAM, Paul Holthus of the World Ocean Council described three main barriers to industry involvement in MSP:

- Lack of understanding of the MSP "movement" and momentum;
- Limited engagement in the multi-stakeholder processes characteristic of MSP because industry is engaged in sectoral processes; and
- Lack of structure and processes engaging the diverse ocean business community in MSP in a systematic manner that identifies each kind of industry relevant to the planning area and specifically engages individual companies.

For more, see "[Marine spatial planning and ocean industries](#)"^[8], MEAM 3:6.

BOX: More resources on maritime industries and their roles in ocean planning

- "The Shipping Industry and Marine Spatial Planning: A professional approach": <http://bit.ly/MSPshipping>^[9]
 - "Offshore Energy Development: How Marine Spatial Planning Could Improve the Leasing/Permitting Processes for Offshore Wind and Offshore Oil/Natural Gas Development": <http://bit.ly/offshoreenergyMSPguide>^[10]
 - Multiple resources from the World Ocean Council (www.oceancouncil.org/site/resources.php^[11]), including the outcomes of the 2014 Business Forum on Ocean Policy and Planning (<http://bit.ly/WOCbusinessforum>^[12]) and an analysis of industry comments on the US National Ocean Policy <http://bit.ly/NOPcomments>^[13]
 - IUCN Business and Biodiversity Programme: www.iucn.org/about/work/programmes/business^[14]
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BOX: Who are you going to call?: The role of boundary organizations in engaging business

"Boundary organizations" are institutions that facilitate collaboration and information exchange among diverse sectors. An example is the World Ocean Council (see article above), whose programs help bridge the divide between for-profit businesses and the entities that traditionally coordinate ocean planning processes (government, NGOs, and academia). The council combines knowledge of the current status of ocean planning processes with knowledge of the interests, constraints, operations, and leadership of businesses and industries relevant to ocean planning.

Boundary organizations can also operate as joint public-private mechanisms. An example of this is the NOAA National Marine Sanctuary System Business Advisory Council in the US (<http://sanctuaries.noaa.gov/management/bac/welcome.html>^[15]). This council was established in 2013-14 to provide advice and recommendations to the National Marine Sanctuary System about its relationship with the ocean business community. Members of the council represent diverse interests such as travel and tourism, recreation, fishing, transportation, communication and marketing, and energy, among others. According to council coordinator Rebecca Holyoke of NOAA and an initiating staff member Elizabeth Moore of NOAA:

"Businesses often are not seen as stewards of the ocean, and government agencies - especially those protecting the ocean - aren't always viewed as proponents of ocean use. We hope the Business Advisory Council will help change these entrenched viewpoints and lead to more cooperative relationships and, ultimately, enhanced ocean protection."

Another model for an ocean boundary organization is The Maritime Alliance (www.TheMaritimeAlliance.org^[16]), a San Diego, California-based organization focused on promoting sustainable, science-based ocean industries. The Maritime Alliance and its Foundation are currently working to mobilize support and financing for an MSP plan for San Diego County that would serve as a test bed and model for the State of California. Michael Jones, the President of The Maritime Alliance and The Maritime Alliance Foundation, told MEAM:

"Over the last couple of years we have spoken at length with interested parties - economic development officials, elected officials, NGOs, Port of San Diego, private companies across a series of ocean industry sectors (including commercial and recreational fishing), State and Federal agencies and others - to position MSP as a process that can be a win-win scenario where a balance of conservation and economic development is possible.... Ocean planners need to work with industry to create this near-term win-win situation that allows industry to see why it makes sense to participate in MSP."

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*** BOX: Is integrated use, as opposed to ecosystem-based planning, becoming the overarching focus of European MSP?**

In a recent blog published on OpenChannels.org ("European marine spatial planning policies towards the good environmental status of our seas are veering off course?"), Peter Jones, Reader in the Department of Geography of University College London, described what he sees as a worrying trend in international MSP. In his view, MSP that is focused on integrated use is starting to compete with - or even supersede - ecosystem-based MSP, particularly in the EU:

"This is certainly a worry in Europe, as it would seem European maritime policy is veering off course towards an integrated-use model of maritime spatial planning in which ecosystem protection/restoration through measures such as MPAs to achieve good environmental status is demoted to just another sectoral priority, with trade-offs consistently steered towards economic development. It could also be reflective of a wider worrying trend whereby integrated-use maritime spatial planning becomes the focus rather than ecosystem-based marine spatial planning.

"We need to ensure that marine spatial planning co-evolves and converges with MPAs and wider environmental protection measures to achieve a balance

between marine ecosystem protection and maritime blue growth, and that integrated-use maritime spatial planning does not become a competitor to and diverge from an ecosystem-based marine spatial planning approach. EB-MSP approaches could include both sustainable blue growth and effectively governed MPAs. We need both, but the worry is that MSP is veering off course and that MPAs are sinking down the agenda, along with the health of the marine ecosystems that they help protect."

Read the full blog at www.openchannels.org/node/10076 ^[17]

Tundi's Take: Ocean planners, want to engage business? Start walking the walk and talking the talk ^[18]

By Tundi Agardy, MEAM Contributing Editor (tundiagardy@earthlink.net)

We often say that all three sectors of society - government, civil society, and business - are necessary for effective ecosystem-based management. And while governments and civil societies around the world have been actively engaged in marine management, attempts to get business on board have largely failed, and private sector participation has been sorely lacking. So what's behind the trepidation, or even antipathy, of the business community to participating in marine management?

Speaking the language of business

One factor is language. Business and management interests lack a shared vocabulary, straining communications between them. As ecologists we think it's a no-brainer that the private sector should be interested in protecting the services that marine ecosystems provide them and thereby reducing the risk of losing future profitability. But to the private sector, the narrative is neither clear nor compelling.

To convince business that investing in ocean management makes good business sense, ecologists, planners, social scientists, and managers need to speak the language of business. We need to be able to deftly describe value propositions. We need to understand and explain what drives capital, where there is value added, how to capture and sustain benefit flows, and how to get to scale following successful incubation of projects. We need to understand finance, private equity, markets, public-private partnerships, bonds, and incentives and know when to promote which mechanism. We need to highlight existing and emerging commodities that are ripe for investment, follow their supply chains, and provide new metrics for performance and actionability. We should identify bona fide investment opportunities and signal these to the private sector. And most importantly, we need to be better at providing proof, not just theoretical rationales, for why investing in EBM is a good thing.

Profits matter

But the problem isn't all semantic, or even in the way we market (or fail to market) EBM. Because while it is true that cost savings and risk reduction are the inevitable outcomes of better and more efficient management, these things may just not resonate enough. Recently I was pulled aside by an investor who attended a meeting on environmental markets. He pointed out that while efficiencies do figure into investors' calculations about whether or not to engage, what really gets investors' attention is one simple thing: profitability. That reminded me of a meeting on innovative financing in the marine realm (a Marine Katoomba event hosted by Forest Trends some years ago) where speculative investors circled hungrily at the start of the meeting. By the end of the meeting, after we had discussed the nuances of property and access rights, the state of ecological knowledge about ecosystem services, and the challenges businesses faced when operating in the marine space, we had identified a hundred reasons why private sector engagement was so darn difficult. And the investors were long gone.

We in the conservation community ought to work more purposefully to engage the business community in EBM by doing three things:

1. Learning and using the language of business;
2. Using case studies to demonstrate how private sector engagement can be achieved; and
3. Showing how EBM increases not only management efficiency but also potential profitability.

Only then will business be truly on board and partner with government and civil society to secure the future of our valuable seas.

"If the fishers are having coffee, you drink coffee with them": MSP in St. Kitts and Nevis — a Discussion ^[19]

In 2013, MEAM met with marine spatial planners from throughout the Americas to discuss their experiences and lessons learned, and to hear stories. Among these planners were three individuals who were centrally involved in a MSP process in the Eastern Caribbean nation of St. Kitts and Nevis. At that time, their project had developed a draft marine zoning plan to address the nation's resource management challenges (for full background on the process, including the draft zoning plan: <http://bit.ly/StKittsNevisMSP> ^[20]).

A transcript of the discussion on St. Kitts and Nevis is below. The planners were

- Marc Williams (MW), Director, Department of Marine Resources, St. Kitts and Nevis;
- Ruth Blyther (RB), Director, Eastern Caribbean, Caribbean Program, The Nature Conservancy; and
- Steve Schill (SS), Senior Scientist, Caribbean Program, The Nature Conservancy

MEAM: Can you provide a little background on the St. Kitts and Nevis MSP process to this point?

MW: I've been Director of Marine Resources for the past two years. It's somewhat of a difficult process when you're talking about marking protected areas in the Caribbean region because most of the region is accustomed to having open waters for fishing and other activities. The idea of protection was not at the forefront until recently – late 90's, 2000's - when we saw fluctuations in our fish stocks. However, it has been a difficult process to convince fishers to protect certain aspects of the marine sphere.

One of the major reasons is that St. Kitts and Nevis has the smallest marine space of all the countries within the region. So what we found when we tried to advance the process of creating a Marine Management Area [an area that would eventually be closed to fishing but open to other activities, including aquaculture] from a purely bureaucratic standpoint, we had resistance from the fishers. So we conducted a small scope process to see what the future of fisheries in St. Kitts and Nevis would look like in the next ten years. What we found was that most of the fishers said that they want marine protected areas.

So what we did - we went around to the various landing sites and held meetings with the fisher folk to see what they would want using the zoning and products that were produced by TNC [The Nature Conservancy] in 2010. Out of these consultations for the past two years we came up with the idea of choosing a path of least resistance first. So what we're going to do, we're going to put in a marine management area without protection for the moment, and then we'll phase in aspects of protection within the next year or two.

This idea seemed to work with the fishers because they realize that we are taking into account their concerns in relation to the management of the marine sphere. So within the next few months we should have a marine management area in place. There is no legal backing yet, but we should have the area demarcated within the next few months.

MEAM: Has there been a particularly memorable moment in the process so far that stands out to you?

MW: During the scoping meetings there were some fishers who were still not in favor of this process, so we went to these fishers - we identified them - and we had individual encounters with them to ask, "You have a problem. How can we solve it?" So we had to go more in depth into aspects of the management of the marine sphere, but most of those fishers are now on board with the idea of the marine management area.

RB: There have been many moments. I would say that one time was at the end of the process that we were doing, at a meeting that we had organized. St. Kitts and Nevis are two islands: there's the island of St. Kitts and there's the island of Nevis, and they're separated by five miles of water. There are ferries that go back and forth between them.

So we did meetings on St. Kitts where we invited people from Nevis to come over and then we did meetings in Nevis. We had to set up this final meeting. It was very important for us - TNC - because we had the final draft options for the design of the marine zoning that we had all been working very hard on for two years. And we had the venue and everybody had been invited, the caterers and all of this. Then we got a really big storm. As you know, this is a hurricane region, and from June until October/November there can be a hurricane or a number of hurricanes. This is what the small island states in the Caribbean live with every year, and it affects whatever you're doing - you really have to be thinking about the significant high-intensity trauma that happens. The saying there is, "Shit happens every year."

So anyway, there we were in Nevis and all of the ferries and flights and everything had stopped, and nobody could get to the meeting from St. Kitts. And there was pounding down rain, and all the roads in Nevis were flooded. And there we were in our venue - with all of our science people and our maps and everything. And you think, "Well okay. Great. So we've just put all these resources into getting here which was not easy. And now we're going to have to postpone to some future date."

But what happened was the Nevisian folks came. They came through the flooded streets to the venue, and all showed up in the rain - which was very inspiring for us because we felt like, "Okay this process does mean something to these people and they are very interested." And so we had a very good meeting in the end and looked over the zoning designs and came up with the options, so that we could go back to St. Kitts later on.

SS: In my mind, I think one of the groundbreaking things about this project was the science part of it. There are a lot of tools out there. There are a lot of brilliant thinkers that have put their minds together and developed these innovative methods. But it's not just science about ecosystems; it's also science about people and understanding people. And so talking about the science part of it, I get really excited about some of the things that my team was able to produce.

We created a very high resolution benthic or underwater habitat map - showing where the corals were, showing where the seagrass was, sandy bottoms, all these different formations under the water. And that information was a critical piece in the whole process. Being able to identify where the important nursery areas are, where important areas for tourism are, and for the fishers.

Another amazing piece of this project, I think, was the development of these fishing intensity maps. And that's one of the most difficult things to obtain for a marine spatial plan - understanding where the important areas for the fishers are. We worked with Ecotrust and used a mapping method that was simple enough for the fishers to be able to provide the information we needed in a scientific way. Very valuable information. It's all built on these data sets that then bring these multiple groups together in a workshop setting.

I kind of like to think of it as a family meeting because I come from a big family. We had nine kids, and we used to have family meetings and there were conflicts that we had to resolve together. We couldn't resolve them unless we were all sitting around the table talking about it. And Dad was our facilitator, and we had to work these things out. It's just like that with marine spatial planning. You're having a big family meeting. You all have interests. You all value the marine space differently. And you have to work through these conflicts and come up with compromises. And I think that the process - the tools, the data - being transparent is very important so that they could have ownership and we could make decisions together.

MEAM: What would you say may be unique or remarkable about the St. Kitts and Nevis process so far?

RB: I think one thing is that given that it is a small green space and it's a small island state - it's marine spatial planning for a whole country. So it's not just one space in the country or one marine area. It's the entire nearshore area around the island. And so that makes it potentially a great model for how to do this on a national scale for small island states. However we are not there yet. You know we're still in process. And that's the other thing I would just like to say to anyone who's doing this or thinking about doing this work is that - it's not a short process.

This is a long process because it involves all the way from the very ground level of fishermen all the way up to the highest level in politics. And really in order for it to work and actually be able to implement a marine spatial plan that actually makes a difference to the resources and the livelihoods and reducing conflicts - to get to that point of implementation is a long process. You really have to think about that before even starting it up. It's how you envision making it through to the end goal and what your milestones are.

MEAM: Any other comments on that point?

MW: Looking at what Ruth said I'd like to support some of her comments. Also you look at the species that are involved with this area - basically there are the same species of fish around both St. Kitts and Nevis. This made it relatively easy: the fishermen target the same types of fish, they have the same concerns, and they have a similar standard of living. So when you sit down in a meeting with them and you ask them about a particular issue - you can get a consensus view on most any topic that you ask them. So putting a single marine management area in place for the entire country came about much more easily than if the fisheries were fragmented as in other countries.

SS: I really like the approach that Marc is leading his group with in terms identifying a common area. Marine spatial planning is all about boundaries. You've got ecological boundaries, you've got political boundaries, you've got socioeconomic boundaries - where do you draw those lines? And it can be difficult in the ocean. Another thing that's unique about it is we started with a clean slate. There were no boundaries in the water already. There was very limited data so we had to think of ways to create consistent data. And so we were starting with first data that people could see and accept at varying levels and then use to design the plan.

It was refreshing that we were doing this plan for two islands but one country. There were some differences there that we had to adapt to, but overall I think it's a great model for other small island nations to follow.

RB: I think the other part was that - as we know with any kind of planning, land use planning, marine planning, family planning - it really comes down to how individuals interact with each other, communicate with each other. And so I like to call it ego-system management. So when we manage ecosystems that's one thing, but it's really about the ego-system and how you interrelate and what kind of network of people and how they're facilitated to communicate with each other.

And I think some of the things that we could have done a lot better job of is really identifying with those key people in government, in the political level of government, and had a more specific strategy on how to really get them engaged to be the champions for the process. And I think we had very good support from the middle level technical people who really get it and they know why it's important. But at the political level it's always a difficulty.

So we really think that's looking at how to explain this in a different way, rather than just the heavy science or economics that of course plays a part in political decision-making. Jobs play a big part. But it's also about how you tell the story, and so that's something we're learning. And what I'm quite excited about is making it more of a personal connection to why the marine space is so important to the culture of small island states.

MW: To add to what Ruth said, in our meetings with the fishers, we look at who the alpha male/female is in the room and see if we can reach this person. By reaching this person we will be able to reach those persons who support this person. And we find this strategy as something that has been working from when I started within the Department of Marine Resources. So that's part of the reason we have a high buy-in rate right now in the Marine Management Area.

SS: When we first started the project for our first workshop, we had a lot of people gathered there, and one of the issues that came up was - "Here we are sitting around, we're going to make another plan. Is this plan a means to an end, or is it just going to sit there?" And that's what Ruth and Marc were talking about - you can't forget the policy side and just focus on the science. And you have to do this in phases. You know, the Great Barrier Reef took about thirteen years to develop its first zoning plan. So this takes time. You do it in phases.

You can't neglect the policy. You need those leaders and policies to be able to push it through and actually get these areas declared. It's a different beast that you've got to

keep your eyes on. Scientists and policymakers are the geeks and the wonks. We're getting better at building those bridges and communicating and keeping our eyes on both of those parts of the pie.

MEAM: How do you do that?

SS: First you have to recognize that you need to do it. And then I think for the first phase of this project, we laid out a plan with really good science. We brought multiple stakeholders together. Now this next phase will probably be focusing more on the policy side. Working at the legal framework, looking at the political landscape. Identifying those people for alpha males, alpha females that are going to really be the champions and make it happen. You know, "Let's draw some lines in the ocean."

RB: And I think the other part is you have to look for incentives. As we all know, human beings don't like to change. You know, if I've been doing something a certain way all my life, I'm not going to change that. I have to have a reason to change, and I have to have a good incentive to change. So that's part of it all – looking at, okay, what would be the incentive for someone to change?

Some of the things that we've been looking at in other places where we've been working with marine zoning is - could we work with the fishers to do the monitoring, to do the evaluation? So the fishers know how to use fish pots, and they usually use them to catch fish or to eat. But if you set up a marine reserve and you have the funding, you can then pay them to use the fish pots to do monitoring. They pull the pot up, they measure, they weigh, and they release.

And they're getting paid to do it. They're out there doing what they love doing, but they're adding to the science and they are also part of it... If they start seeing changes in the size of the fish that they are pulling up in these protected areas, then they become a much bigger part, saying, "Oh, this is how we want to manage."

And I think the other way is - and I think St. Kitts is looking at this, too - throughout the Caribbean there's quite a movement towards co-management. We don't have many government resources. The fisheries officers have how many boats, Marc?

MW: One.

RB: One boat. So you don't have the resources to go out there and effectively patrol even if you had everything in place. But the fishers once they realize it's really important to their livelihood, then they're going to self-regulate, and so that's another part of what we're looking at.

MW: I keep urging this co-management process as breaking down barriers between the fishers and the layers of government. What we try to do at the Department of Marine Resources is to meet the fishers in their own element. You may not drink coffee, but if the fishers are having coffee - you drink coffee with them. You drink a beer with them. And we see this has eased the process in getting information from the fishers, so that we could have more effective management of the marine sphere. And they have been volunteering information to us even in times when we don't ask.

So after doing this on an experimental level, we are trying to institutionalize that within the Department. We have fisheries officers assigned to certain landing sites so that they could have a personal relationship with all of the fishers on that landing site. So they do not have to wait until the Department is saying, "We're having a meeting with them." They could interact with the fisheries officer, and that fisheries officer will feed the information back so we could change policies on the fly.

MEAM: If you were approached by somebody who's just getting started with marine planning, what kind of advice would you give them, based on your experience to this point?

SS: We've been talking a lot about green spatial planning this week and I can think of three things. You've got to understand values - people's values. A fisherman will value the ocean differently than someone who's a tourist operator, or someone who's working in industry or resource extraction. There's a lot of uses for the ocean, and so we have to recognize that there are a lot of different values out there.

The second thing would be voice. So everyone needs a voice at the table. They need to be heard. We need to listen.

And the third thing would be vision. So value, voice, and vision. Vision for long term sustainability, and sustainability is different for different people. But sometimes we feel like we're in an environment that's working against us. It's not facilitating our efforts because the political system is always short-term. Marine spatial planning requires long-term commitment. And so developing ways to try to nurture a long-term vision process is a challenging, one of the most challenging, aspects, I think.

MEAM: Any more to add?

MW: You have to talk before you start to walk. You speak with all the stakeholders before you start any marine spatial planning process to see what makes them tick and how the process of establishing marine spatial planning could assist them with their daily lives. So once they can see a win-win in it for everybody, I don't think you would have that much resistance to the process. But if you push it from the top down, then you will have a lot of difficulties, a lot of bottlenecks in the marine spatial planning process.

RB: I think that's the thing, yes. There has to be a reason to do it, and there has to be some motivation coming from the users of the marine space in order to really make this work. What we found with St. Kitts and Nevis is that there were the fishers, the tourism, the transportation, and conservation. There were a number of different conflicts like yacht moorings being put in where the fishers traditionally fished for bait. And so all of a sudden the fishers go there and there's all of these moorings in place and these yachts, and they can't fish for bait.

And that's where you start looking. We have a small space. It's just like in a house. You have to have a place to sleep, a place to cook, a place to wash. And you can't do everything all in one space, otherwise it gets really messy. And in the Caribbean our marine space is very crowded, so more and more there is definitely understanding for the need for that. And there are other projects moving forward, and I have actually been asked by other organizations to help them with doing the same thing.

After they hear what's been done in St. Kitts and Nevis they say, "Wow. We like that. We want to learn from that. We want to start it." So in St. Vincent and the Grenadines, we went and assisted. It was definitely a different experience, but we were able to use a lot of the lessons learned from St. Kitts and Nevis.

SS: That's a good point. It's going to be different wherever you go. So it's no 'one-size-fits-all' and 'you have to do such-and-such'. That's a big piece of advice for anyone doing this: be prepared to understand and adapt because it's different wherever you go.

MW: The key point is to understand the culture before you move into an area. And identify the key person who you need to speak to in order to get your process and facts.

MEAM: In hindsight, if you were getting ready to start over again, is there anything that you might do a little bit differently the second time?

RB: Would I do it a second time?

SS: I would pray for fewer hurricanes.

RB: Oh dear. I think that obviously there are always things that you learn when you do things the first time. When I went into it I thought it was much more simple than it turned out to be. I think that what I would do differently would be to be more careful about the expectations that were generated from this process. Because we were able to get to a certain point, but then due to resource restrictions, capacity, timing - all of those things - the whole process for the past two years has kind of sat on the back burner. Not completely getting cold but just kind of bubbling there.

And we're fortunate that the new Director of Marine Resources in St. Kitts and Nevis who just came on two years ago - Marc Williams here - was able to understand, was able to see what we had already accomplished and take it forward. And now we have a little more resources to go back in and provide more assistance. But I think it really is about everyone understanding what can be done with marine spatial planning and what can't be done or the length of time it's going to take to make this happen.

MW: One thing I would like to change if I could have done it before was the stakeholder involvement. When I got into the job I thought it was I alone that had to do everything. Then I realized that certain things I was trying to do - in terms of the management of the marine sphere - were met with a lot of resistance. So I threw my hands up in the air and said, "Tell me what you want." It was then that I found out what they were willing to offer, and then we started the process of dialogue again with each other.

SS: I think just to add to those great words of advice - you have to be realistic. You can't oversell. And so maybe emphasizing that a little bit more would have been good. These are complex situations. And also you have to let the creative juices flow to be able to solve these conflicts. And really listen, because there is no one that understands what's going on in the water more than the locals living there and fishers who go out there day after day. And they know what's going on. Give them the opportunity to provide those creative solutions because they have a lot to offer.

RB: Yeah. The humility. It's like you really have to go into this with a lot of humility. A lot of willingness to really learn and listen, and be transparent about what it is you're doing. And really understand that you're not the one with the answers.

The EBM Toolbox: Marxan, Present and Future ^[21]

[Editor's note: The goal of The EBM Toolbox is to promote awareness of tools for facilitating EBM and MSP processes. It is brought to you by the EBM Tools Network, a voluntary alliance of tool users, developers, and training providers.]

Marxan is the most widely used conservation planning tool worldwide. With more than 5600 users in over 180 countries, Marxan helps planners make informed decisions on where to make conservation investments, such as siting marine protected areas. In recent months, the Marxan development team has introduced several updates to the tool. We caught up with Matt Watts and Hugh Possingham of the University of Queensland to learn more. Watts is the lead technical developer for Marxan, while Possingham co-developed Marxan and serves as custodian of Marxan development and research.

MEAM: Can you give us an overview of the new developments with Marxan?

Matt Watts and Hugh Possingham: We're constantly working to make Marxan easier to use, and improving it so it can solve more problems that encompass the "triple bottom line": society, the environment, and economics. Some recent developments include:

- **It's now open source.** Computer software wants to be free for everyone to use and modify. We've released all the source code for Marxan, Marxan with Zones, Zonae Cogito, C-Plan, and Marxan.net into the wild under the AGPLv3 open source software license. This will stimulate innovation and lead to improved sustainability and improved management of threatened species worldwide.
- **Users can explore optimal tradeoffs between different objectives.** We're making it easy for users to apply Pareto front analysis to conservation planning problems. These techniques allow planners to explore optimal tradeoffs between different objectives, such as between conservation and fisheries.
- **R language is supported.** R is the programming language most widely used by scientists worldwide. We've implemented virtually every part of the Marxan workflow with R. Users can construct and automate conservation planning workflows very easily with these tools. This includes powerful and simple graphical interfaces for Marxan.
- **Users can store, analyze, and share scenarios in the cloud.** We've created an online infrastructure for cloud computing - Marxan.net - with easy-to-use graphical interfaces as well as a flexible command line interface.

MEAM: Clearly Marxan is adapting to user needs. What's your vision for where the tool is headed?

Watts and Possingham: There are a number of possibilities for directions we'll take the software in the future:

- **Support for more programming languages and environments.** We'd like to provide programming interfaces for other languages such as Matlab. This would allow users to integrate Marxan into systems and workflows in these languages.
- **New algorithms.** Different problems require different algorithms. We want to visualize the solution space for problems so users can decide which algorithm is best, then provide a range of algorithms that will work best for solution space of a problem. This will allow users to provide more optimal solutions to difficult problems.
- **Supercomputing.** We're developing techniques to improve the scalability of Marxan analysis. Users will be able to utilize massively scalable computer networks in easy-to-use interfaces to solve big problems more quickly.
- **Global spatial prioritization system.** We want to integrate a scalable real-time optimization system with a number of online repositories of environmental, social, and economic data. Users will be able to construct and analyze complex planning problems on the fly in a cloud environment.

[Learn more about Marxan at www.uq.edu.au/marxan ^[22]. Sarah Carr is coordinator for the EBM Tools Network. Learn more about EBM tools and the EBM Tools Network at www.ebmtools.org ^[23].]

Notes & News: Ocean prosperity - Ireland - Pope and marine EBM - Letter to editor ^[24]

Reports offer roadmap for sustainable ocean prosperity

A new coalition has produced a series of reports to inform decision-makers on effective ocean and coastal resource management strategies. The research describes best practices for how reforms in governance and management can reduce poverty while achieving economic gains, increasing food production, replenishing fish, and conserving ocean health for future generations.

Called the Ocean Prosperity Roadmap, the collection of reports is a result of work from The Economist Intelligence Unit, Environmental Defense Fund, the Gordon and Betty Moore Foundation, the David and Lucile Packard Foundation, California Environmental Associates, the University of California at Santa Barbara, and the University of Washington. The reports are at www.oceanprosperityroadmap.org ^[25]

Reports outline opportunities for Ireland from "blue economy" and MSP

A set of new reports from the Government of Ireland identifies economic opportunities to come from developing a "blue economy" based on sustainable growth of maritime industry and the institution of a national MSP process. Produced by the Government's Inter-Departmental Marine Coordination Group, the reports provide support for an integrated marine plan for Ireland (*Harnessing Our Ocean Wealth*) that was published by the Government in 2012. The reports also outline and recommend a MSP framework for Ireland. The new reports are at www.ouroceanwealth.ie/publications ^[26]

Pope gives nod to marine EBM concepts in environmental encyclical

In June 2015, Pope Francis released an encyclical - a letter sent to all bishops of the Roman Catholic Church - that expressed his views on an array of environmental issues, including ocean health. The Roman Catholic Church has more than 1.2 billion members worldwide. The encyclical's ocean sections are below, representing passages 40-42 in the document. These passages touch on several aspects of marine EBM, including the interconnectedness of upstream and downstream ecosystems:

"Oceans not only contain the bulk of our planet's water supply, but also most of the immense variety of living creatures, many of them still unknown to us and threatened for various reasons. What is more, marine life in rivers, lakes, seas and oceans, which feeds a great part of the world's population, is affected by uncontrolled fishing, leading to a drastic depletion of certain species. Selective forms of fishing which discard much of what they collect continue unabated.

Particularly threatened are marine organisms which we tend to overlook, like some forms of plankton; they represent a significant element in the ocean food chain, and species used for our food ultimately depend on them.

"In tropical and subtropical seas, we find coral reefs comparable to the great forests on dry land, for they shelter approximately a million species, including fish, crabs, molluscs, sponges and algae. Many of the world's coral reefs are already barren or in a state of constant decline. 'Who turned the wonderworld of the seas into underwater cemeteries bereft of colour and life?' This phenomenon is due largely to pollution which reaches the sea as the result of deforestation, agricultural monocultures, industrial waste and destructive fishing methods, especially those using cyanide and dynamite. It is aggravated by the rise in temperature of the oceans. All of this helps us to see that every intervention in nature can have consequences which are not immediately evident, and that certain ways of exploiting resources prove costly in terms of degradation which ultimately reaches the ocean bed itself.

"Greater investment needs to be made in research aimed at understanding more fully the functioning of ecosystems and adequately analyzing the different variables associated with any significant modification of the environment. Because all creatures are connected, each must be cherished with love and respect, for all of us as living creatures are dependent on one another. Each area is responsible for the care of this family. This will require undertaking a careful inventory of the species which it hosts, with a view to developing programmes and strategies of protection with particular care for safeguarding species heading towards extinction."

For the full encyclical, go to <http://bit.ly/EnvironmentEncyclical> ^[27]

Letter to the Editor: For marine EBM to work, we must recognize major political and economic changes

Dear MEAM:

As always the MEAM newsletter is good reading. But I have a deep concern regarding your recent retrospective on progress in marine EBM [MEAM 8:4](#) ^[28]. The discussion seems to take no account of the major political and economic changes going on in the world. A main feature of these, beginning in the days of Reagan and Thatcher and progressing through the collapse of the USSR, is essentially the wholesale privatisation of the Commons, nationally and globally. Giant corporations now control the use of most natural resources, and the possibility of national, international and local authorities having much say - especially to coordinate, innovate, conserve, restore, and advance - is very much diminished, and this process continues. Thus so much of the discussion here about integration, coordination, rationalisation is pie in the sky.

Those who wish to see EBM advance in reality really need to revise their thinking about method and look at the ongoing transformation of the world economy and actual authority. Personally, as a socialist, I would prefer to see this transformation not happening but, still, I think people of goodwill have to look reality in the face and act according to what they see.

Sidney Holt

Sidney Holt is a biologist and consultant in Italy.

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- [21] <https://meam.openchannels.org/news/meam/ebm-toolbox-marxan-present-and-future>
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