

## Turning science into policy: What scientists should (and should not) do when talking to policy-makers

Science and policy-making would seem to be a natural mix:

- Scientists want their research findings to inform public policy.
- Resource managers and conservationists want to see science-based policy implemented.
- Many - and perhaps most - policy-makers want to develop policies that are consistent with science.

However, science is just one of many considerations (public sentiment, political feasibility, impacts on communities, impacts on businesses, available funding, existing legislation and treaties, etc.) that policy-makers need to juggle in their decision-making. So how do scientists and other proponents of science make sure it gets its due?

In this issue of MEAM, we speak with four experts who have extensive experience making and/or influencing public policy for coastal and marine ecosystems in different contexts and settings. These experts share their experiences and insights into what scientists and other proponents of science tend to do wrong, do right, and can improve in communicating science to policy-makers.

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### A) Build trust with policy-makers instead of just focusing on short-term wins

**Editor's note:** Noah Idechong is an environmental activist from Palau. He served as chief of Palau's Division of Marine Resources where he promoted regional marine conservation that combined traditional and modern knowledge. He left that position to become the first director of the Palau Conservation Society. He later served as a member of the House of Delegates of Palau. As a legislator he helped enact progressive conservation programs such as the Protected Areas Network, the Micronesia Challenge, and the Palau Shark Sanctuary. He was named a "Hero for the Planet" by Time.com in 2000.

**MEAM:** What are the biggest challenges for translating science into effective policy-making for ocean planning and management?

**Noah Idechong:** My experience is within the context of a small island developing state where governance is weak and not fully developed, cultural knowledge is still strong, and technical capacity and expertise are low.

What I have found is that the lack of deep understanding of issues by legislators limits their effectiveness in the public policy-making process. Often the information needed to make critical policy decisions is not readily available and they have to resort to perceptions or secondhand information. Executive branches have direct access to information from local and international sources through meetings, workshops, and other means, but legislatures lack targeted programs that provide full and unbiased information on ocean issues needed for public debates.

Consequently, I think we should devote more time to asking policy-makers how we can support their decision-making rather than barraging them with what we think they need. Building connections and gaining their trust and respect would be useful for opening doors to information exchange.

**MEAM:** What have you seen scientists/advocates/resource managers do wrong when communicating with policy-makers?

**Idechong:** Increased understanding and collaboration between policy-makers and scientists, advocates, and resource managers would help expedite decision-making on critical ocean issues. Even when there is agreement on the issues and need for action, scientists, advocates, and resource managers often let various agendas (organizational or personal) get in the way of presenting complementary sets of information and recommendations that supportive policymakers need to gain buy-in from colleagues.

In addition, too few scientists get involved in policy discussions and informal conversations that lead to greater awareness of issues by policy-makers and their constituents. Condescending statements or attitudes by scientists toward lawmakers also do not help. Campaigns should invest in building long-lasting trust and respectful relationships with policy-makers rather than just on short-term wins.

**MEAM:** Do you have any examples of effective marine science communication to policy-makers?

**Idechong:** Palauan policy-makers have enjoyed support for conservation policy-making due to a long tradition of using a bottom-up approach that usually begins with traditional edicts then moves to local government then the national government. Scientists work hand-in-hand with fishermen, community leaders, and NGO partners to identify issues and research needs that contribute to enhancing local knowledge and the science needed for decision-making. At every step of the policy-making process, ownership of issues, efforts, and perceived benefits remains with the communities and local stakeholders so that any findings, information, and needed actions are shared among them. The weakness of this consensus-building approach is that it takes time to build. But in Palau's case, it has been effective in marine conservation and had some success in watershed management.

In our part of the world, there are also examples of issues such as restrictions on fishing gears and protection of iconic species where research has been conducted and the science facts are there, but the lack of participation by communities has led to rejection of findings and suggested policy.

For more information:

## B) When describing your science, lead with the "why" not the "what"

**Editor's note:** Chad English is director of science policy outreach for COMPASS (Communications Partnership for Science and the Sea). In this role, he helps build constructive dialogue between scientists and policymakers to drive new thinking and new approaches to both science and policy. He previously served as a policy fellow for the US Senate Committee on Commerce, Science and Transportation and the Chairman's Designee for the US House of Representatives Committee on Science.

**MEAM:** What are the biggest challenges for translating science into effective policy-making for ocean planning and management?

**Chad English:** My experience is primarily with high-level policy (e.g., legislation, rulemaking) rather than local management and decision-making about management in a particular place. The two biggest challenges in either setting, though, are timing and context. Policy-makers and managers work in a world of decision-points. If you show up after the decision (e.g., after the boundaries of a managed area have been set or after the catch levels have been decided) or try to share technical details before the conversation has really gotten started (e.g., if you'd tried talking to fisheries managers 10 years ago about ocean acidification), you're not going to find a receptive audience.

**MEAM:** What have you seen scientists/advocates/resource managers do wrong when communicating with policy-makers?

**English:** Forgetting to lead with the "why". Many researchers start with the "what" - what they've studied, what they did to study it, what they learned. This is all critical, but policy-makers and managers need to understand why it matters to them before they can really engage with and make sense of the science.

**MEAM:** Do you have any examples of effective marine science communication to policy-makers?

**English:** Ocean acidification is a great example. Scott Doney [of the Woods Hole Oceanographic Institute], Joan Kleypas [of the National Center for Atmospheric Research], and many others have done an outstanding job. Scott's well-written piece in *Scientific American* got the attention of Members of Congress in the United States. Along with Joanie and Ken Caldeira [of the Carnegie Institution] and Dick Feeley [of the NOAA Pacific Marine Environmental Lab] and others, Scott helped explain the risks and potential implications of ocean acidification and the limits of our knowledge and understanding of the topic. They all put it in the context of the decisions those Members of Congress could make (i.e., they directly addressed the decision-making context relevant to their audience), and the result was the very bipartisan Federal Ocean Acidification Research and Monitoring (FOARAM) Act. The rate at which that issue first showed up on the public agenda and then moved to an enacted policy was quite impressive and a testament to the effective communication of the many scientists involved.

For more information:

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## C) Policy-makers and their constituents don't often read scientific journals

**Editor's note:** Maria Damanaki is global managing director for oceans at The Nature Conservancy. She recently finished a four-year tenure as European Union (EU) Commissioner for Maritime Affairs and Fisheries. As Commissioner, she introduced and implemented the Blue Growth agenda for Seas and Oceans in Europe, which aims to create 1.6 million new jobs in sectors such as coastal tourism, ocean energy, and marine biotechnology by 2020. In addition, she established legislation to create a common framework for Marine Spatial Planning across EU countries. She is also a prominent Greek politician who was consistently elected to the Hellenic Parliament from 1977 to 1993 and served as Vice President of the Parliament.

**MEAM:** What are the biggest challenges for translating science into effective policy-making for ocean planning and management?

**Damanaki:** Translating science into useful policy is a challenge in most fields and for all involved. From an environmental perspective the challenge is to understand the needs of nature and biodiversity as a whole, including people, communities, and their needs. The disruption of balanced ecosystems that occurred during the recent past of the planet history creates the problem, and our biggest challenge when translating science into action is to find ways to approach that balance again.

For ocean planning, to facilitate effective policy-making, marine science has to expand to solutions that address economic, social and other needs of the community. And additional consideration must be given to enforcement and implementation. Scientific information that is most useful provides options for the use of the information in tangible and practical ways.

**MEAM:** What have you seen scientists/advocates/resource managers do wrong when communicating with policy-makers, and have you seen effective examples?

**Damanaki:** The environmental community can be most effective at changing policy with focused, realistic, science-based recommendations that are targeted to the language that policy-makers understand and show a broad level of support from constituents. Publishing in scientific journals is important but not the only or most effective way to change things. Scientists and policy-makers have to work together to focus on practical solutions and implementation.

A common error scientists make is relying on publishing in scientific journals that are not often read by policy-makers or their constituents. Taking the scientific journal information and translating the results into practical recommendations for policy implementation is much more effective. For example, as the EU Commissioner of Fisheries, I welcomed the broad support the Commission received from over one million constituents in support of reforming the Common Fisheries Policy to address by-catch and manage fisheries in a responsible, science-based way. This led to a new EU fisheries policy, a decisive step for the viability of fish stocks, coastal communities, and key marine species ([www.theguardian.com/environment/2011/feb/03/fishing-food](http://www.theguardian.com/environment/2011/feb/03/fishing-food)).

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## D) Understand policy-makers' concerns and how the science relates to those concerns

**Editor's note:** Lida Pet-Soede is strategic development leader for the Marine Program at WWF Indonesia, and former head of program for the WWF Coral Triangle Initiative. She has extensive experience designing and implementing strategic initiatives that put ocean conservation on the agenda of key decision-makers, globally and regionally.

**MEAM:** What are the biggest challenges for translating science into effective policy-making for ocean planning and management?

**Lida Pet-Soede:** A big challenge is the difference in the level of information scientists and political leaders have available for perceiving spatial and temporal trends in the marine environment and their ability to accept that human behavior is causing those trends.

For example, scientists can find significant trends over time and space with the analytical tools available to them, but the information that reaches political leaders is often simplified or combined with other information. This can make it impossible to detect cause and effect. Additionally, the scientific information may conflict with the personal experiences and observations of the casually observing political leader and his or her policy-making staff. He or she may then be easily led to believe that lower fish catches are just the result of weather patterns or that a sandy substrate has never sustained expansive mangrove forests.

When perceptions of the state of the ocean differ - and particularly when perceptions about the cause of that state of the ocean are not clearly and easily linked to human behavior - policy-makers find it difficult to support management interventions that reduce options for voters to use the ocean as they like and need, or require other changes in their behavior.

The other big challenge relates to the difficulty that comes with predicting how fast a management intervention will show clear evidence of the intended improvement. Political leaders are required to balance many different and often competing needs of their country. If a management intervention does not show quick and undebatable evidence that it was the right decision, or when an actual improved situation does not bring benefits to the people most impacted by the changes, a political leader may not choose to support the change.

**MEAM:** What have you seen scientists/advocates/resource managers do wrong when communicating with policy-makers?

**Pet-Soede:** When we [scientists from environmental NGOs] go to meet a policy-maker, we often have our message all prepared and our suggestions for action all lined up. We are often focused on a singular issue, something that we have found from our research after working on it for some time. We are now ready to bring it to the decision-maker assuming he or she has nothing else to do other than serve the quite obvious need for a healthy ocean. And we often forget the daily context in which a policymaker does his or her job. A policy-making job does not involve a clear set of workable actions that start on Monday morning and are done by Friday afternoon.

I would advise practitioners to first listen to and understand what the policy-maker is currently concerned with and work hard to find ways to communicate how their recommendations are linked to those immediate concerns. For example, a government official tasked with sustaining food security by promoting expansion of aquaculture is probably very concerned with sourcing good-quality and affordable feed and disease-free fish fry. He or she may not immediately consider how the issuing of licenses to exploit oil and gas in a coastal area may affect the potential production levels of the fish farms in the long term.

Also, practitioners would really help themselves by pragmatically considering the small steps a policy-maker could reasonably take to start the shift required. For example, in Indonesia 10 years ago, there was rather immediate interest in adopting an ecosystem approach to fisheries management (EAFM), and the government of Indonesia wholeheartedly supported it. However, at those early days, we failed to provide a clear set of EAFM actions that we could all start with.

**MEAM:** Do you have any examples of effective marine science communication to policy-makers?

**Pet-Soede:** Two examples come to mind of groundbreaking studies that provided really eye-opening arguments for policy-makers to start considering their actions. In Indonesia, a calculation of the value of a healthy coral reef was made by translating some coral reef services (reef fisheries, coastal protection, future reef-related tourism) into monetary terms. That study has been instrumental in stimulating several large-scale coral reef conservation investments by the national government and international donors.

And in the Coral Triangle, a scenario analysis of the impacts of climate change on services that regional marine and coastal ecosystems provide (including marine biodiversity, food security and livelihoods) has been instrumental in stimulating large-scale regional collaboration for managing these ecosystems by national governments, international donors, and technical expert organizations.

In both cases, causal links between the environment and people's needs were underlying the analyses but were not the core of the advice to the policy-makers.

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## **BOX: More guidance on how scientists can communicate with policy-makers**

There is a growing number of resources to help scientists learn to communicate more effectively with policy-makers, the media, and the general public.

- Individualized and group trainings are available from the Communications Partnership for Science and the Sea ([www.compassonline.org](http://www.compassonline.org)).
- Two engaging books include Randy Olson's *Don't Be Such a Scientist* ([www.dontbesuchascientist.com](http://www.dontbesuchascientist.com)) and Nancy Barron's *Escape from the Ivory Tower* ([www.escapefromtheivorytower.com](http://www.escapefromtheivorytower.com)).
- For a short, free, and entertaining primer on telling a good story using the And-But-Therefore template, there is Randy Olson's 2013 presentation at <http://youtu.be/ERB7ITvabA4>

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