

## Research Spotlight: Managing the Costs and Benefits of Multinational Conservation

Conservation programs are often carried out at national or sub-national scales, despite the fact that many ecosystems and species cross international boundaries. One reason is that developing conservation plans at the multinational scale can present additional challenges: more meetings, more stakeholders with input, and more cultures to consider in negotiations.

A study in the September 8, 2009, issue of the journal *Proceedings of the National Academy of Sciences* concluded that the overall cost of conservation could be reduced if there were greater cooperation at the multinational level, with transboundary species conservation as the target. Using the Mediterranean Basin as a case, the research team compared three scenarios for conserving vertebrate species in terrestrial and freshwater environments:

1. Have each of the basin's 20 countries adopt its own conservation strategy for those species, namely through designation of protected areas;
2. Have all 20 countries coordinate their conservation efforts to achieve a target level of conservation for the lowest cost, as measured by the cost of acquiring space for protected areas; or
3. Have only the EU member nations within the Basin coordinate their plans, and leave the remaining countries to adopt their own strategies.

In the scenarios that featured coordination, countries where it was cheaper to designate protected areas would have more of them. The research team, led by Salit Kark of the Hebrew University of Jerusalem, concluded that the cost of fully coordinated conservation (scenario B) would be 45% lower than an uncoordinated plan (scenario A).

But is it that simple? In a separate commentary in the same journal issue, Rob McDonald of The Nature Conservancy wrote that although cooperative conservation was a worthy goal, there were still many challenges associated with it. Kark and her colleagues acknowledged these challenges as well. Below, MEAM talks with Kark and McDonald about the costs and benefits of multinational conservation.

**MEAM:** Dr. Kark, your study examined protection for amphibians, reptiles, and freshwater fish endemic to the Mediterranean. Do you suspect your findings would apply as much to marine and coastal conservation planning as they did to the terrestrial and freshwater planning in your study?

**Kark:** Definitely. We are now working on a similar analysis for the marine environment in the Mediterranean Sea. Because marine systems are naturally connected among countries, I assume the effect of collaboration will be even stronger there.

**MEAM:** Your study focuses primarily on the efficiencies gained by coordinated conservation, namely in terms of money saved and less area having to be set aside for protection. But you also mentioned there are limits to this cooperation.

**Kark:** There are indeed several limitations, and the disadvantages need to be traded off against the increased efficiency in area and cost. Because less area is required per country to reach the same conservation targets for a given cost, the coordinated strategy may actually encourage countries to spend fewer conservation dollars locally or to devote less area for conservation. In addition, large-scale, top-down, and centralized decisions generate, in some cases, antagonism and apathy in local groups and individuals. International plans and treaties also take time and resources and have additional transaction costs related to large-scale planning and communication that are difficult to quantify.

**MEAM:** Dr. McDonald, you pointed out some of the same challenges associated with coordinated conservation. Would you say those challenges apply equally to the marine environment?

**McDonald:** Yes. Anytime you increase the number of interest groups involved in a negotiation, it gets harder. And certainly most marine and coastal spatial planning is a negotiation among different interest groups. This is not an argument against broad-scale collaboration, per se. It is just something to be aware of before embarking on a large-scale planning effort.

**MEAM:** Is your definition of collaborative or systematic planning synonymous with ecosystem-based management?

**McDonald:** It is not synonymous, although some of the issues I was talking about might also apply to ecosystem-based management. Systematic conservation planning is usually the first step in designing a conservation system, whereas EBM is the set of decisions that have to be made over time to maintain the biological integrity and ecological functioning of a site. That said, I think some of the things that make large-scale conservation planning difficult also make large-scale EBM difficult. Again, this does not mean it should not be done.

**MEAM:** Your organization, The Nature Conservancy, has programs worldwide. Would you say that its conservation planning efforts are centralized or decentralized?

**McDonald:** We do think often about the right scale at which to be doing conservation planning. We usually end up trying to find the right balance between completeness (the allure of doing large plans) and ease of completion (the allure of doing smaller plans that have fewer interest groups involved).

**MEAM:** Dr. Kark, would you call for a similar balance in conservation planning in general?

**Kark:** Our research team suggests that a strategy that brings together the advantages of coordinated conservation planning across a region with the advantages resulting from local planning, involvement, and leadership may be useful, cost-efficient, and successful. From a biological perspective, for example, separate (rather than coordinated) decision-making can actually be useful in some cases. Given uncertainty about the importance of biodiversity conservation in many countries in the future, spreading the "political" risk for a species across different countries may be an objective in itself. Finding the right balance and scale of action will be important.

For more information:

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