

Critical Issue: Ecosystem Services

What ecosystem services can MCAs deliver?

The Millennium Ecosystem Assessment¹ (MA) and other efforts have articulated the need to speak in terms of “Ecosystem Services” when describing and arguing for conservation of the earth and its various components. The MA identified four major ecosystem services:

1. **Supporting Services:** Services necessary for the production of all other ecosystem services (i.e., soil formation, *nutrient cycling*, and *primary production*).
2. **Provisioning Services:** Products obtained from ecosystems (i.e., *food*, fresh water, fuel wood, fiber, *biochemicals*, and *genetic resources*).
3. **Regulating Services:** Benefits obtained from regulation of ecosystem processes (i.e., *climate regulation*, disease regulation, water regulation, and *water purification*).
4. **Cultural Services:** Nonmaterial benefits obtained from ecosystems (i.e., *spiritual and religious, recreation and ecotourism, aesthetic, inspirational, educational, sense of place, and cultural heritage*).

While many projects involving Marine Conservation Agreements (MCAs) help protect a variety of ecosystem services related to ocean and coastal environments, few are using this terminology and rationale to support and promote their efforts. We need to understand the role of MCAs in protecting ecosystem services. We also need to understand the relationship between the “lands and resources lying within ocean and coastal waters” that we commonly think of in association with MCAs and the “ecosystem services” promoted by the MA and others.

Discussion Questions:

Primary questions -

1. Which ecosystem services can be directly or indirectly acquired or managed via MCAs? Why and how?
2. Which ecosystem services are unlikely to be directly or indirectly acquired or managed via MCAs? Why? What issues need to be resolved to do so?
3. How do we articulate the protection of ecosystem services as a “productive use” that is a legitimate use of marine areas?

Follow-on questions if time/desire permit -

4. What are the ecosystem services we’re (most) concerned about in ocean and coastal environments?
5. How do we prioritize these ecosystem services for conservation (such as through ecoregional assessments and biodiversity hotspots)?
6. How do we locate them on the seascape (in the water)?
7. What needs do we have to prioritize and locate ecosystem services (such as spatial data, models, and planning expertise)?
8. How do we determine if ecosystem services can be protected directly or indirectly with MCAs?
9. How do we measure whether the ecosystem services are being protected?
10. What are other issues related to conserving ecosystem services with MCAs that we should be aware of and work to resolve?

¹ Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC. Available on-line, May 14, 2008, at: <http://www.millenniumassessment.org/documents/document.356.aspx.pdf>

A Private Sector Approach – Conservation Agreements in support of Marine Protection

June 16 – 19, 2008

11. What types of marine environments would make the best models to demonstrate the effectiveness of MCAs?

Discussion Leaders	Discussion Participants
Mike Beck (TNC)	Tom Bigford (NOAA-OHC)
John Myers (TNC)	Steve Cox (WWF)
	Chris Darnell (USFWS)
	Christopher Stone (CI)

Summary Findings

Valuing ecosystem services helps in the development of MCAs, but is not essential. Management objectives (such as environmental protection and biodiversity conservation) matter and should be articulated as a justifiable end for MCAs.

Project-level Considerations

MCAs are most likely to deliver ecosystem services (and get payments) for:

- Tourism/recreation
- Possibly fish production- need clarity in what production will be delivered/captured

Program/Strategy Considerations

To best take advantage of other ecosystem services, we need to understand the “willingness to pay” and actual markets for:

- Fish production
- Hazard mitigation
- Recreation and coastal development
- Nutrient reduction

Who benefits/loses?

Who will pay?

When will they benefit?