



## Member's Report on Activities to ICRI

Presented by Wildlife Conservation Society

Reporting period April – December 2009

*Please note that the purpose of this report is to help you share information about your activities within the ICRI community to allow discussion at the next ICRI General Meeting. The reports will be made available on the ICRIForum prior to the meeting. The ICRI secretariat is well aware of your busy schedule, thus don't hesitate to submit an incomplete report.*

### 1. General Information

Are you an ICRI Member?	Yes
Representation to ICRI (Country / Organization):	
<b>Focal Point 1:</b>	
<i>Name:</i>	Amie Bräutigam
<i>Organization:</i>	Wildlife Conservation Society
<i>Email:</i>	abrautigam@wcs.org
<b>Focal point 2:</b>	
<i>Name:</i>	Caleb McClennen
<i>Organization:</i>	Wildlife Conservation Society
<i>Email:</i>	cmccclennen@wcs.org
Last meeting attended:	GM 23, Phuket, Thailand, April 2009
How do you circulate ICRI information within your country and/or organization?	via email
Budget allocated for coral reef related activities (please mention for year/period):	Ca. \$4.2 million per annum

For countries only:

<b>National Action Plan / Initiative</b>	
Do you have a National Coral Reef action plan?	
Is this plan publicly available? If so please provide location:	
Do you have a National Coral Reef Initiative or Task Force?	
Are you engaged in any regional programs / initiatives relating to coral reefs:	
If yes, please indicate which programmes/initiatives:	<p>WCS is involved in several regional efforts on behalf of coral reefs, including:</p> <ul style="list-style-type: none"> <li>• Locally Managed Marine Area (LMMA) Network</li> <li>• Pacific Roundtable for Nature Conservation</li> <li>• East Africa Coral Reef Task Force</li> <li>• Coral Triangle Initiative</li> </ul>

## 2. Updates on Activities

The Wildlife Conservation Society (WCS) is currently working to conserve marine biodiversity in 15 countries (see map), seven of them – Belize, Nicaragua, Kenya, Madagascar, Indonesia, Papua New Guinea, and Fiji – harboring significant tropical coral reef ecosystems. WCS orients much of our site-based work around a seascape, defined as “an area sufficient in size, composition, and configuration to support at least one ecologically functional population of all conservation features for the long term.” In focusing on a functional unit, WCS defines ecologically meaningful seascape boundaries and ecosystem services to support seascape species and uses a surrogate approach in identifying seascape species to maintain ecological functions; we also identify and protect important seascape elements, their arrangement and connectivity. On this basis, WCS develops biologically meaningful targets, using abundance instead of just presence-absence and long-term persistence of biodiversity rather than just representation, which then serve as explicit and effective measures of conservation success. MPAs and fisheries are integral components of all our site-based/seascape activities.

Within and beyond priority seascapes, WCS implements targeted research and conservation for highly mobile and iconic marine species including several species of cetaceans, marine turtles, and sharks at local and national (in some instances linking to regional and global) levels.



### a. Global Coral Reef Conservation Research

WCS continues to conduct research on a global scale to understand the variety of predicted impacts of climate change on coral reefs, including the ability of people to adapt to these impacts. Given that the impacts of climate change are not and will not be felt equally around the tropical reefs of the world, heterogeneity in ecosystem health, background environmental susceptibility and social adaptive capacity means there are broad ranges of impact and thus, no “one size fits all” solution to adaptation. WCS has developed an effective model that can be used to predict this diversity in impact and identify priorities for conservation action depending on a society’s capacity to act. We are currently replicating this analysis in critical sites in the Caribbean, Western Indian Ocean and Coral Triangle areas in order to help inform and establish a useful model for conservation managers, governments, and communities in targeting and investing in the most appropriate strategies for climate change adaptation in a given site.

To test management solutions in a variety of contexts, WCS has also developed a coral reef ecosystem fisheries simulation modeling tool that examines the consequences of management actions. The tool will be used to run potential scenarios of coral reef management options, including various restrictions on levels of effort, types of gear, and species selection that will have the greatest benefits to people while minimizing detrimental or irreversible impacts to the coral reef ecosystem and fisheries. Based on these results, the study will map the most effective

management responses for the study locations and will overlay this map with maps of coral reef vulnerability. These factors then can be combined and used to develop a set of priorities for management across the tropical coral reefs of the world. These outputs will be released in a working toolkit to assist in the development of site-based adaptation strategies at WCS and partner sites around the world.

## **b. Site Based Conservation/Seascapes**

### ***Latin America and Caribbean***

#### **Belize**

WCS continues to be very active in assisting the Belize Fisheries Department in managing Glover's Reef and South Water Caye Marine Reserves; undertaking and facilitating research and monitoring fisheries, species, and coral reefs and associated habitats; and providing technical and other support to policy measures aimed at improved fisheries and MPA management at the national level. In addition to the fisheries-related developments outlined in Section 3 of this report, several other items of particular relevance to the ICRI agenda are presented below.

Invasive Species - Spread of lionfish in Belize. In December 2008, the lionfish was first sighted in Belize at Calabash Caye, Turneffe Atoll, and by July 2009, there had been 34 confirmed sightings and 29 lionfish captures, ranging from the northern to the southern areas of the country, including Glover's Reef Atoll. In an effort to reduce the number of lionfish in Belizean waters, the Belize Fisheries Department, in collaboration with ECOMAR, conducted a "Lionfish: Wanted Dead or Alive" campaign that offered a reward of 25 USD for each captured lionfish. The campaign ran from December 2008 to August 2009. The Belize National Coral Reef Monitoring Network, of which WCS is a member, also formed a subcommittee to develop a National Lionfish Response Plan that will be presented to stakeholders throughout Belize.

MPAs – Revision of management plan for South Water Caye Marine Reserve. The South Water Caye Marine Reserve is the largest marine reserve in Belize and one of seven MPAs that comprise the Belize Barrier Reef World Heritage Site. Zoning regulations were passed in mid-2009 for this MPA, and it now has the largest fully protected or 'no take' area of the country's marine reserves. Importantly, part of the 'no take' area encompasses one of the most biodiverse sites in the Belize Barrier Reef system, the Pelican Cayes. WCS worked with the South Water Caye Advisory Committee to update this plan. It was developed in a participatory manner, with meetings and discussions held with stakeholders, including fishermen, tourism operators, landowners and researchers.

MPAs – Belize Barrier Reef Reserve System World Heritage Site Placed on Danger List. In 2009, the Belize Barrier Reef Reserve System World Heritage Site was placed on the Danger List. Although the World Heritage Committee listed several reasons for this downlisting, the primary reason for this decision was the damage being caused to the Pelican Cayes area by mangrove clearance and dredge-and-fill operations. The Government of Belize moved quickly to better protect this hotspot of marine biodiversity by supporting the designation of South Water Caye Marine Reserve as a no-take area. Several other actions are being planned, such as the strengthening of the mangrove protection regulations.

Economic Valuation. In 2008, WRI carried out an assessment of the value of coral reefs and mangroves in Belize in relation to tourism, fisheries, and shoreline protection. The annual conservative estimated values were impressive: US\$150m to \$196m to tourism, \$14m to \$16m to fisheries, and a very large \$231m to \$347m to shoreline protection. As part of this study, WCS collaborated with WRI to determine the value of the Glover's Reef Marine Reserve. The reserve was estimated to contribute from US\$4.9m to \$7.4m to tourism and fisheries on an annual basis.

## **Nicaragua**

WCS has been conducting marine turtle research and conservation on the Caribbean coast of Nicaragua since 1997.

MPAs – Facilitating Protected Area Development for the Pearl Cays. WCS is continuing efforts initiated in 2000 to recover the nesting population of the Critically Endangered hawksbill turtle in this area of 22 offshore cays covering 700km<sup>2</sup> along the central Caribbean coast of Nicaragua. This regionally significant population is threatened by illegal egg collection and direct take, as well as fisheries bycatch and destruction and alteration of nesting habitat by cay development. WCS has been consulting with communities and facilitating stakeholder meetings in the Pearl Cays aimed at protected area designation that will both conserve marine turtles and turtle habitat and provide benefits to local communities.

## **Africa**

### **Kenya/East Africa**

Fisheries management and local livelihoods. Artisanal fishing is one of the main activities carried out by communities on the Kenyan coast, particularly in coral reefs. WCS has been conducting research on fishing and impacts on reefs with a view to developing management interventions that reduce fishing impacts while protecting livelihoods. Researchers identify issues with fishers during an annual Fishers Forum; conduct the research; discuss the findings; and suggest management interventions. An example of such an intervention provided the impetus for the banning of beach seines on the south coast with the consequent reduction of destructive fishing pressure and recovery of fish catches and increased fisher earnings.

A new concept that involves the establishment of community-managed closed areas (Tengefu) within the framework of the new Beach Management Unit (BMU) regulations has been introduced on the Kenyan coast. WCS has supported such a Tengefu intervention at a long-term monitoring site in Kuruwitu. Here, closed area management has shown benefits through recovery of the reef and increased fish biomass. Research has also shown that where closed areas exist, fish are larger and fetch higher prices.

The Kenya Fisheries Department coast division has already endorsed the concept of community-based fisheries managed areas within the framework of the BMU regulations at the annual Fishers Forum organized by WCS in July 2009. The Kenya Wildlife Service coast office also endorsed the enhancement of community participation in management of marine resources. Since the enactment of the BMU regulations, there have been four community closures in Kenya, the latest in Mtangata on the south coast. WCS is working to see these closures generate the benefits expected, while perpetuating the model throughout the nearshore marine system.

### **Madagascar**

WCS works in three priority seascapes in Madagascar: Antongil Bay, the Toliar Barrier Reef and the Northwest.

In the past year, in Antongil Bay, WCS has worked with community and government leaders to develop a “schéma d’aménagement,” which has become a guide for the 32 communes in the Bay’s watershed for sustainable coastal and marine resource management and planning. A new participatory fisheries monitoring manual has been developed that will engage the participation of local fishing communities and marine reserve managers.

The west coast of Madagascar has, and is predicted to experience, vastly different impacts from climate change due to significant variability in ecological, social, and environmental characteristics. In the southwest, the combined stressors of improperly managed fisheries and

intense bleaching events have severely threatened the long-term viability of coral reefs and the livelihoods of the fishermen dependent upon the productivity of these reefs. Meanwhile, there are areas of healthy coral ecosystems that appear to be resilient to climate change along the northwest coast. WCS is exploring ways of using fisheries and protected area management along with other tools in order to develop the best approaches to protecting and enhancing climate resiliency throughout Madagascar.

## ***Southeast Asia/Oceania***

### **Indonesia**

WCS has until recently been focusing on two marine areas in Indonesia: Karimunjawa Marine National Park, a group of islands north of Java that is one of only 7 marine national parks in Indonesia, and the Aceh-Weh Seascape of northern Sumatra. WCS will soon begin working to enhance a network of community-based MPAs in a third area, northern Sulawesi.

Karimunjawa Marine National Park represents some of the country's most biodiverse marine ecosystems. At the request of the Indonesian government in 2003, WCS developed and successfully implemented a novel approach to MPA management by integrating participatory biological and socioeconomic research to redesign the management framework and rezone Karimunjawa Marine National Park. The zoning plan incorporates different types of coral reef management including permanent no-take reserves, gear-restricted areas, and areas for tourism, infrastructure development, and aquaculture all within the one national park and community framework. With the passage of national legislation in August 2005, WCS enabled the first community-based rezoning of a marine national park in Indonesia. This year, WCS has been working to help the National Park realize the benefits of the redesign, including a targeted loan for assistance of sustainable mariculture projects that remove pressure of the live reef food fish trade. WCS is also working with local partners to build a fisheries spatial plan for the waters surrounding the Karimunjawa Islands. WCS continues to train park rangers and students in a variety of resource monitoring methods, including participation in socioeconomic, spawning aggregation and ecological monitoring programs.

In Aceh, WCS is working with partners to create a network of marine protected areas designed with community support to protect the outstanding coral reefs and marine wildlife of the Aceh-Weh Seascape. Two proposed MPAs (that include some of the healthiest coral reefs in northern Aceh, turtle nesting beaches and populations of whale sharks, manta rays, dolphins and sharks), coupled with the local and national governments' commitment to sustainable development in the wake of the tsunami, provide the foundation upon which WCS will extend its success from Karimunjawa to the devastated Aceh region. Ongoing monitoring by WCS and partners continue to show strong signs of resilience and stunning recovery of coral reefs in Aceh 5 years after the tsunami due to strong community-based management of its marine resources. In 2009, surveys conducted on the reefs of Bali and Karimunjawa have shown strong resilience to thermal stress.

A soon-to-be released publication documents the importance of seagrasses in Indonesia as nursery grounds of reef fish. This is the first study on this topic in Indonesia. Seaweed farming is showing signs of impacts on seagrass habitats throughout Indonesia. The management of threat has received little funding throughout Indonesia despite the importance of seagrass to "blue carbon" stores.

### **Papua New Guinea**

WCS has been working with communities and partners to protect coral reefs and marine resources in New Ireland Province in the northern Bismark Archipelago region in Papua New Guinea since 2004. WCS combines scientific methods and planning with traditional resource tenure and management to build conservation initiatives in villages to create effective coastal reserves. Activities have included: a coral growing project that enhances local livelihoods by

producing lime that is bought locally in connection with the betelnut trade; assistance in developing legislation for local level governments to aid in reef conservation activities; and conducting research into the effects and impacts of marine management areas and climate change on coral reef ecosystems. In addition, WCS will initiate a socioeconomic monitoring program focusing on our four partner communities in New Ireland Province.

## **Fiji**

WCS has been working with local partners in Fiji to protect the Vatu-i-Ra Land/Seascape, a 7,500 square mile mosaic of forests, mangroves, seagrass beds, coral reefs, deep channels and seamounts that stretches across the channel between Fiji's two largest islands. Through activities focused on science, management and communication, WCS has helped the communities of the districts of Kubulau and Macuata in Vanua Levu and the Government of Fiji to: (1) increase the amount of terrestrial, freshwater and coral reef area under protection; (2) learn about the effectiveness of their management measures; and (3) scale-up scientific findings to national-scale planning efforts.

Scientific studies have focused on: defining priority connectivity regions for Fiji; assessing land-based threats to nearshore reef systems; evaluating the effectiveness of marine protected areas based on size, longevity of protection and perceived compliance; determining the extent to which intensive harvesting within a traditionally managed MPA has influenced reef fish communities; testing new tools to assess whether a depth refugia exists for targeted food fish on coral reefs; applying novel habitat mapping and spatial modeling tools to predict fish assemblage patterns on Kubulau's reefs; optimizing placement of protected areas to minimize costs to fishers; and evaluating long-term changes in mangrove distributions in Kubulau.

In 2009, WCS strengthened community-based natural resource management by assisting the Kubulau Resource Management Committee to develop Fiji's first ridge-to-reef management plan; hosting workshops to build capacity for local resource managers; and reviewing national legal and institutional frameworks to determine where law and custom can be integrated for successful management. In August, WCS-Fiji co-hosted the inaugural Fiji Islands Conservation Science Forum, which was unanimously heralded for the opportunity for students, researchers and government to come together to share the latest research and other findings to improve biodiversity conservation and resource management across Fiji.

- 3. Contribution to the ICRI GM:** Your responses to the following questions will assist the Secretariat in assessing contributions towards the major themes of the current ICRI action plan and objectives of the general meeting. Due to the heavy schedules of ICRI members, we have tried to keep the questions to a minimum and value any response you can provide.

***NOTE:** The Secretariat will compile Members' responses to the below questions into a general presentation to be given during the GM. The Secretariat will also request specific Members to highlight certain initiatives, should additional information be of interest to the full ICRI membership.*

- a. **Fisheries session:** Please provide any lessons you have learned from your experiences in managing fisheries and any projects/programs you are involved in.
- What was The Problem or the Challenge? – including information on the location, the perceived problem and the effects on the coastal resources
  - What was done? Both ecological and sociological interventions
  - How successful was it? E.g. has fisheries improved; positive effects on coral reefs; better reef resources exploitation ?

- Lessons learned and recommendations; Key messages to convey to other people
- References
- Author/s Contact

### **WCS Global Coral Reef Conservation Research**

Contact: Tim McClanahan (tmcclanahan@wcs.org)

WCS's Coral Reef Conservation Research program has for a number of years been conducting research on progressive coral reef fisheries. Research has focused on the effectiveness of gear restrictions, fisheries reserves, and governance regimes on fisheries yield using long-term datasets for the Western Indian Ocean. Results have been published in a number of academic journals, as well as a book entitled *Fisheries Management: Progress towards Sustainability.* In 2009, WCS co-authored a number of papers published in the peer-reviewed literature on fisheries management in coral reef ecosystems (see list of publications).

### **Regional Caribbean**

Contact: Janet Gibson (jgibson@btl.net)

Inclusion of Nassau grouper on SPAW's Annexes. As a member of the Board of the Society for the Conservation of Reef Fish Aggregations (SCRFA), WCS attended the 4<sup>th</sup> Meeting of the Scientific and Technical Advisory Committee (STAC) to the Protocol Concerning Specially Protected Areas and Wildlife (SPAW) of the Cartagena Convention (covering the Wider Caribbean) in 2008. We gave a presentation on the need for considering the listing of the Nassau grouper on SPAW's annexes in light of its IUCN-Endangered status, which is based on a decline rate estimated at 60% over the past 30 years, the species' being considered commercially extinct over its range, and the fact that a large number of its spawning aggregations have disappeared. We stressed that regional management of this species is essential for its recovery. We also pointed out that no marine fin fish species are currently included on SPAW's annexes. As a result of our intervention, the STAC made a formal recommendation to the SPAW Secretariat and the Contracting Parties to "collaborate with the Society for the Conservation of Reef Fish Aggregations (SCRFA), on the conservation and management of reef fish species and their spawning aggregation sites, with a view to possibly consider the Nassau grouper as one of the species to be included in the SPAW Annexes in the future".

### **WCS-Belize**

Contacts: Janet Gibson (jgibson@btl.net) / Robin Coleman (rcoleman@wcs.org)

New fisheries regulations protecting individual species. Early in 2009, the Belize Government, through the Minister of Agriculture and Fisheries, signed a sweeping set of new laws to protect the country's extensive coral reefs, considered to be the most pristine in the Western Hemisphere. One new law will protect all species of parrotfish and other grazers, such as doctor and surgeonfish. WCS's independent surveys showed extremely low densities of all species of parrotfish present on Glover's Reef. These data revealed the extent of fishing of these fish, which was not recognized before, and helped to encourage the passage of this legislation. The second law will protect the Endangered (IUCN Red List) Nassau grouper. The new rule sets both minimum and maximum size limits, and requires that all Nassau groupers be brought back to the dock whole. Other fish species may still be brought in as fillets but must retain a patch of skin so authorities can confirm that they aren't Nassau grouper. The third regulation bans spearfishing within marine reserves.

Revision of the Belize National Fisheries Act. In 2010, WCS will further assist the Belize Fisheries Department in the review and revision of the national Fisheries Act. The Act has not been overhauled for several decades and was last amended in 1989.

Rights-based Fisheries Management. WCS is working with the Glover's Reef Advisory Committee, Environmental Defense Fund and other partners to address the problems of an open access fishery at Glover's Reef, and the resulting 'tragedy of the commons'. We are working to develop criteria for a system of special fishing licenses to be issued to fishers who have traditionally used the area. Based on data generated through WCS's fisheries landings monitoring program, sustainable levels of catch for the two primary species, lobster and conch, are currently being determined. This will provide the basis for allocating a total allowable catch for Glover's Reef and subsequently allocating individual catch quotas for the fishermen licensed to use the atoll.

National Plan of Action for Sharks. WCS's research and monitoring of sharks, which have been shown to be critical to sustaining healthy fish communities and fostering reef resilience, have demonstrated that overfishing has decimated shark populations in Belize. WCS is working with the Fisheries Department to prepare a National Action Plan for Sharks as recommended by the UN FAO. This document will provide a basis for the management and conservation of sharks in Belize.

#### **WCS-Nicaragua**

Contact: Dr. Cynthia Lagueux (clagueux@wcs.org)

Management of the Green Turtle Fishery in Nicaragua. WCS has been working since 1997 to conserve marine turtles on the Caribbean coast of Nicaragua, which is of both regional and global significance for sea turtle conservation with the Western Hemisphere's most important foraging ground for green turtles (Miskito Cayes) and an important nesting and foraging area for three other marine turtle species, including hawksbills. In addition, the legal green turtle fishery operating on this coast impacts the world's largest green turtle nesting population at Tortuguero, Costa Rica. WCS's efforts to promote management and sustainable use of the green turtle population have focused on four key areas: research and monitoring, primarily of green turtle fisheries landings; impact assessment, i.e., scientific analysis aimed at establishing what might be a sustainable level of fishery take from the population; wide stakeholder engagement, including of fishing communities, and national, regional, and municipal government agencies; and facilitation of conservation and management planning. Despite many successes, including initial steps to develop an action plan for the green turtle fishery, concrete steps to bring the fishery under management are hampered by the lack of economic alternatives for the indigenous and marginalized communities who depend on this fishery for their livelihoods.

#### **WCS-Fiji**

Contact: Stacy Jupiter (sjupiter@wcs.org)

Lessons Learned in Management of the Namena Marine Reserve. The establishment and management of the Namena Marine Reserve (65.6 km<sup>2</sup>) in Fiji, located in the southeastern part of the *qoliqoli* (nearshore customary resource management zone), present an instructive example of the interaction of community-based resource management (CBNRM) with the national legal system. The reserve is home to exceptional marine biodiversity and attracts international dive tourism. Since 1998, divers have paid a goodwill fee to use the marine reserve, now \$25 per person per year. Fees are paid into a community-managed fund that is then divided between scholarships and resource management activities.

Because Namena Marine Reserve is not legally gazetted, its success as a district MPA in which fishing activities are restricted has relied on several factors, including: a misconception that the

reserve is protected under national legislation; enforcement assistance by the vigilant owners of a nearby resort; respect for the traditional authority of the local chief who has placed limits on fishing in this and other reserves in the district; and the fact that the conditions in fishing permits directly reflect community management decisions.

Despite these opportunities for successful CBNRM, there have been persistent breaches of the permit conditions and community rules by some of the traditional resource users of the area. These breaches may stem from discord between national legislative framework (which grants open access to marine areas) and community management decisions (which close off Namena as a no-take zone). Additional reasons include: a belief that communities have not received adequate compensation for loss of access to their traditional fishing grounds; a loss of respect for traditional authority due to increasing access to markets; and constraint under the Fijian legal system for the imposition of effective sanctions for breaching community rules.

- b. The ICRI secretariat is planning on revisiting/updating the ICRI “call to action” ([http://www.icriforum.org/library/call\\_action.pdf](http://www.icriforum.org/library/call_action.pdf)) and ICRI “framework to action” ([http://www.icriforum.org/library/framework\\_action.pdf](http://www.icriforum.org/library/framework_action.pdf)). Please provide any guidelines you think would be useful.

We would recommend:

1. Greater specificity regarding the impacts of fisheries and climate change;
  2. More stress on the urgency of specific management measures, including protection of vulnerable marine species, expansion of MPAs, and fisheries management measures that align with international standards; and
  3. Greater recognition of the importance of developing and implementing ecosystem-based management frameworks beyond protected areas and across seascapes.
- c. During the meeting, a full day will focus on the Caribbean region. If you have any question about the region, ongoing projects in the region,... please let us know.

See activities above.

- d. During the meeting, we are planning on having a presentation on the “Man and the Biosphere Programme (MAB)”. Could you please list your coral reef sites listed under the MAB programme.
- e. What other new initiatives/programs/projects/progress, in particular since April 2009, has been made by your government/organization relative to Marine Protected Areas, Ramsar site designations containing coral reefs, policy changes, economic valuation of coral reef ecosystem services, etc., which you believe would be of general interest to other ICRI Members?

See activities above and publications below.

- f. Please list publications, reports you have been released since April 2009

### **WCS Program Publications**

Adams, V.M., M. Mills, S.D. Jupiter, R.L. Pressey. 2010. *Marine opportunity costs: a method for calculating opportunity costs to multiple stakeholder groups*. Wildlife Conservation Society-Fiji Technical Report No. 01/10. WCS, Suva, Fiji. 34pp.

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- WCS-Belize. 2009. *Glover's Reef Marine Reserve Long-term Atoll Monitoring Program: Report for the period July 2004-August 2009*. Available at: [http://www.gloversreef.org/grc/pdf/lamp\\_report\\_09.pdf](http://www.gloversreef.org/grc/pdf/lamp_report_09.pdf)
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### Other Scientific Papers

- Cinner, J. E., T.R. McClanahan, and A. Wamukota. 2010. Differences in livelihoods, socioeconomic characteristics, and knowledge about the sea between fishers and non-fishers living near and far from marine parks on the Kenyan coast. *Marine Policy* 34:22-28.
- Cinner, J., T. Daw, and T. R. McClanahan. 2009. Socioeconomic factors that affect artisanal fishers' readiness to exit a declining fishery. *Conservation Biology* 23:124-130.
- Cinner, J., T.R. McClanahan, C. Abunge, and G. Wamkuta. 2009. A baseline socioeconomic assessment of fishing communities along the north coast of Kenya. In: J. Hoorweg and N.A. Muthiga, editors. *Coastal Ecology*. African Studies Centre, Leiden, Netherlands.
- Cinner, J.E., T.R. McClanahan, N.A.J. Graham, M.S. Pratchett, S.K. Wilson, and J.B. Raina. 2009. Gear-based fisheries management as a potential adaptive response to climate change and coral mortality. *Journal of Applied Ecology* 46:724-732.
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- Hicks, C.C., T.R. McClanahan, J.E. Cinner, and J.M. Hills. 2009. Trade-offs in values assigned to ecological goods and services associated with different coral reef management strategies. *Ecology and Society* 14:10 Available at: <http://www.ecologyandsociety.org/vol14/iss11/art10/>.

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***For any of the above questions, please provide links to further information. As appropriate, the Secretariat will compile such information to make it accessible to all Members on the ICRI Forum.***

**ICRI and Other Meetings** - Are you considering attending any of the following meetings in 2009?

- 15th meeting of the Conference of the Parties (CoP15) to the Convention on International Trade in Endangered Species of Wild Fauna and Flora  
Doha, Qatar, from 13 to 25 March 2010
- 5th Global Oceans Conference: Ensuring Survival, Preserving Life, and Improving Governance:
  - Policy, Science, and Technical Symposium (May 3-4, 2010)
  - Policy Conference (May 6-7, 2010)
- 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 10), October 18-29, 2010, Nagoya, Japan
- Other (please specify):