

How the Global Financial Crisis Could Affect MPAs, and What Practitioners Are Doing to Prepare for It

The economic meltdown that began last year in the U.S. financial industry has now spread nearly everywhere, affecting industry, governments, and households around the world. This global financial crisis will likely impact marine protected area planning and management as well, through cuts in private and public funding, decreased global tourism, and other impacts.

This month *MPA News* asks MPA practitioners how they foresee the crisis affecting their sites or institutions, and what steps they are taking to prepare for it. Their answers are below.

Chumbe Island Coral Park, Zanzibar (Tanzania)

- **Background:** Chumbe Island Coral Park is a privately operated, no-take MPA. Its goal is to create a model of sustainable park management where ecotourism supports conservation and environmental education.
- **Expectation for financial crisis:** Decline in international tourism to the site.
- **Strategies in response:** Control operating costs; market park to locals.

By Sibylle Riedmiller (sibylle@chumbeisland.com), Project Director, and Frida Lanshammar (chumbe@zitec.org), Project Manager

“Due to the crisis, we expect lower occupancy of our Eco-lodge, which generates all income for the Chumbe Island Coral Park MPA and Forest Reserve (www.chumbeisland.com). International arrivals in Zanzibar have declined since August 2008. Over the last couple of months we had about 15% fewer bookings than a year ago. The coming season will certainly be tough, although we seem to be doing better than other hotels in Zanzibar, in particular the larger mid-range beach hotels that have experienced, or expect, a downturn of 30-50%.

“As the Government tax authorities also suffer from lower income, there is now the added risk that they will try to buffer this by ‘squeezing’ more out of smaller companies, particularly foreign-owned ones that have all their operations within the country and are thus considered ‘soft targets’. This includes Chumbe Island Coral Park Ltd., a private company that is registered in

Zanzibar but owned by a German national. The Tanzanian Revenue Authority has already told us that they will perform another tax audit of our operations, for the second time in two years.

“To prepare for these financial challenges, we will not employ new staff, avoid non-core expenses, and try to limit our costs in any possible way. To address the decline in international tourism, we have created a long-weekend special offer with another hotel in Zanzibar to attract residents of the capital (Dar es Salaam) to Chumbe. We are considering other ways to market ourselves more to the local market, which does not need expensive international flights to get to Zanzibar.

“Our company has weathered some financial challenges before, such as when riots in Zanzibar in 2001 reduced travel to the region. When comparing the present crisis with earlier ones, this one appears to be deeper and wider, and possibly longer-term. It affects travelers themselves and not so much Zanzibar as a destination: recovery [from past crises] usually started as soon as Zanzibar dropped out of the headlines. We hope that the average Chumbe guest, who is well-educated and higher-income, is not among the worst-hit by the economic crisis. That said, even with a 15% drop in occupancy so far, we still have twice the occupancy we had before 2001, when we struggled to get into the markets we wanted. Fortunately, Chumbe could still be managed as an MPA — our core mission — with half our present occupancy, although we would need sponsors for our education and other programs.”

Edmonds Underwater Park, Washington State, U.S.

- **Background:** Edmonds Underwater Park is a no-take MPA with extensive underwater trails for recreational diving. It is maintained and enhanced on weekends by a team of volunteers, the Edmonds Underwater Park Stewards, who provide thousands of volunteer hours annually.
- **Expectations for financial crisis:** Fewer volunteers; increased poaching; more users.
- **Strategies in response:** Change volunteer recruitment efforts; improve user access to account for increased visitation.

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By Bruce Higgins (BHiggins@psc.gov), Coordinator of Edmonds Underwater Park Stewards

“Maintenance of our park is a volunteer-based effort, and the expectation is that we will have fewer volunteer hours donated. I’m expecting about a 30% drop based on late 2008. One of our regular volunteers, for example, lost his job, so he is spending his time looking for work and doesn’t have the luxury of volunteering as much as a year ago. In our volunteer-recruitment, we used to try to stretch each individual to volunteer as much as possible. Our goal now is to have more individuals investing their time at a more reasonable level. This translates into more training time, but it is viewed as a long-term investment to develop a more-sustainable team of volunteers.

“Financially we operate from donations [used to acquire materials to enhance the trail system] and we were wise enough to have set aside a ‘rainy day fund’ to deal with shortfalls. Donation levels can fluctuate in these difficult financial times. Some potential donors become less willing to donate. Other donors recognize we can help them save the cost of throwing away their old supplies — such as concrete, which we can use to provide foundations for our underwater features, or 55-gallon drums to use as buoys.

“The threat of poaching rises as societal value systems shift and as government has less money for enforcement. [The park’s regulations are enforced by Washington State wildlife officials.] In the last four months we have found evidence that indicates poaching pressure is increasing. Our volunteer stewards do not have enforcement authority but are being as vigilant as possible to engage enforcement efforts as needed.

“I anticipate an increase in park visits as local divers choose to stay near home for recreation rather than travel to distant locations, due to personal budgetary issues. To account for increased use, we have been working on improving the entry system of diver trails that allow access to the underwater park.”

Indonesian MPAs

- **Background:** Indonesia has hundreds of community-managed no-take marine reserves and a few (significantly larger) MPAs managed by the Ministry of Marine Affairs and Fisheries and the Ministry of Forestry. The Coral Reef Management and Rehabilitation Program (COREMAP) was an initiative by the Government of Indonesia, The World Bank, and the Asian Development Bank toward better management of Indonesian coral reefs, including via MPAs.
- **Expectations for the crisis:** Decline in funds for MPA management; lowered fishing pressure on high-value species, but more fishing activity overall due to unemployment in other sectors.

- **Strategies in response:** Diversify funding sources; emphasize economic benefits of MPAs; seize opportunities posed by temporary declines in destructive industries (e.g., mining).

By Peter Mous (pjmous@gmail.com), former MPA Advisor for COREMAP and now Senior Advisor for the marine program of WWF-Indonesia

“The global financial crisis will affect both the availability of funds for MPA management and the threats that MPAs seek to abate.

“In respect to funding availability, NGOs that depend on private foundations will find it more difficult to meet their fundraising targets, and MPAs that depend on those NGOs for funding will receive less as a result. However, since there is a time lag of 6-12 months between an idea for a project and a funded proposal, it will still take some time before the pressure from this will be felt in the field.

“In Indonesia there has been a steep increase in NGO funding related to the Coral Triangle over the past year, and most of the larger NGOs are still scaling up their programs to meet secure financial commitments [made before the crisis hit]. Government officials from Indonesia’s Ministry of Forestry whom I asked said that they did not expect any cuts in their budgets for MPA management, but bi-lateral and multi-lateral aid may decrease as priorities shift toward alleviating the crisis. Because most community-managed reserves in Indonesia still depend on some source of project funding for support, at this stage I do not think that the effect of the global financial crisis differs between community-managed, NGO-supported, and government-managed MPAs. In conclusion, I think that funding availability for MPAs will decrease and that the effect will start to be felt half a year from now.

“Nongovernmental organizations that support MPAs must develop more diversified sources of funding, thereby building in some resilience to sudden shortfalls caused by the crisis. Furthermore, it will become more important than ever to emphasize the economic benefits of MPAs in terms of sustained ecosystem services.

“In Indonesia, most MPAs seek to abate the threats of over-fishing and destructive fishing to nearshore marine ecosystems, so it is important to consider effects of the crisis on fisheries. The export market for high-value fish such as groupers and snappers is contracting, with cheaper tilapia and pangasius fillets taking their place. As groupers and snappers are vulnerable to over-fishing it is likely that this threat will lessen somewhat. On the other hand, more people may seek a livelihood in Indonesia’s open-access fisheries as employment in other sectors decreases. And fishing to satisfy local demand may remain an attractive option as costs for fuel and other inputs decrease or remain stable.

“There are lessons from the global financial crisis that we need to apply to global oceans management and governance. Specifically, tipping points exist but are hard to predict. And bailouts are very expensive.”

- Kristina Gjerde, Alistair Graham, and Jeff Ardron, High Seas MPA Task Force

“There are some positive effects of the crisis, such as a decrease — or less-steep increase — in CO₂ output vis-à-vis global warming and coral reefs. Another local but very tangible positive effect for the environment is the complete stop in nickel mining in Raja Ampat (East Indonesia) due to a steep drop in demand and price of nickel. Uncontrolled strip mining was causing widespread sedimentation of reefs in Raja Ampat, but now all mining companies have ceased operations. This presents MPA organizations with an opportunity for pre-emptive action, such as working with local government officials and community stakeholders to raise their awareness of the risks of nickel mining, as well as working to control the future issuance of mining licenses.”

High Seas MPA Task Force

- **Background:** The High Seas MPA Task Force of IUCN's World Commission on Protected Areas works to build support among scientists and policy-makers for high-seas protection.
- **Expectations for financial crisis:** Decreased funding for task force's work; lowered willingness of countries to adopt new measures.
- **Strategies in response:** Work more closely with fishing regulators and industry; promote a cooperative approach to marine spatial planning and enforcement; expand education efforts; apply financial lessons to ocean management.

By Kristina Gjerde (kristina.gjerde@eip.com.pl), Coordinator of the WCPA High Seas MPA Task Force; Alistair Graham, Task Force Deputy Director; and Jeff Ardron, Task Force Science Advisor

“The High Seas MPA Task Force will be strategic in how we proceed with our work, as funding may be curtailed and States' willingness to adopt new measures outside of their EEZs may decline. We will need to become more pragmatic, more results-focused. This will probably entail making new and unconventional partnerships and encouraging governments to apply the lessons learned from the global financial crisis to global oceans management.

“As Graeme Kelleher has long recommended, we will need to work more closely with the fishing industry and fisheries regulators to identify win/win solutions for MPA sites on the high seas. These could include protecting areas of high bycatch of vulnerable species, or rough terrain that may snag nets and damage catch.


“At the same time, we will work together with fishers and other ocean users to find better ways of siting protected areas while assuring user access to high seas resources by using spatial management tools. We will also focus our efforts on eliminating illegal, unreported and unregulated (IUU) fishing that can undermine protected areas. This will be done, for example, through

continuation of the above partnerships as well as incorporating more cost-effective technology for surveillance and enforcement. Mandatory use of such technology should reward the responsible fishers while providing a stronger disincentive to those who prefer to roam the seas breaking the rules.

“It will also be necessary to spend more time on education and awareness-raising, both of policy-makers and the general public, so those policy-makers do not give in to the temptation to renege, or turn a blind eye, on their prior commitments to improve oceans governance and management.

“Unfortunately for us, the global financial crisis, while it may check growth in emissions here and there, will neither slow the pace nor lessen the impacts of global climate change. Previous CO₂ emissions have already altered the chemistry of the oceans in ways that may undermine the ability of corals, some phytoplankton, sea snails, and other organisms to survive.

Thus the need remains to inform policy-makers and the public that we cannot afford to let up in our efforts to maintain and restore the resilience of the global ocean. An impaired ocean is less able to provide us with vital necessities such as food, nutrient recycling, CO₂ absorption, and even oxygen itself.

“Finally, there are interesting lessons learned from the global financial crisis that we need to call on governments to apply to global oceans management and governance. Specifically, tipping points exist but are hard to predict; bailouts are very expensive. Transparency, accountability, and oversight are essential components of effective management. High-risk strategies, while delivering high returns for the few in the short term, eventually end in tears for the many. Thus low-risk strategies, like establishing comprehensive networks of MPAs and precautionary management of ocean uses, provide the best long-term value to help us weather the economic and environmental storms to come.” 

Micronesia Challenge Trust

- **Background:** The Micronesia Challenge Trust (MCT) is raising funds for a US \$18-million endowment to support conservation activities in the Micronesia region of the Pacific Ocean. The endowment will help implement the Micronesia Challenge, a pledge by the governments of Palau, the Federated States of Micronesia (FSM), Marshall Islands, Guam, and the Commonwealth of Northern Mariana Islands to conserve 30% of their nearshore waters in marine managed areas by 2020.
- **Expectation for financial crisis:** Funding will be harder to acquire.
- **Strategies in response:** Avoid supporting work at new sites; assure funding for existing programs.

By Willy Kostka (mctdirector@mail.fm), Executive Director of the Micronesia Challenge Trust

“MCT is not feeling the financial crisis yet. I suspect, though, that funding from private foundations and individuals will become harder to acquire in the near future until the global financial situation improves. This is certainly going to make our goal of increasing private support for Micronesia Challenge activities and programs much more difficult.

“We currently have the financial resources to continue funding our programs in the next two years. However, I think we are going to refrain from working at new sites/programs, unless we have some initiatives that are sure to get donor support. We are also going to continue to work with our existing donors to ensure the programs we currently have will be funded, even if it is just for core activities so we do not lose any momentum on them.”

New Web-Based Tool Allows Planners to Design MPAs, View Potential Impacts Instantly

A new Web-based tool for planning MPAs has debuted as part of the ongoing initiative to create a network of MPAs off the coast of the U.S. state of California (the Marine Life Protection Act Initiative – see *MPA News* 8:11 and 9:1). The tool, called MarineMap, is allowing stakeholders and resource managers to experiment with different MPA designs on their own computers, at their own pace. The interface is relatively simple: the user clicks-and-drags to draw the outline of an MPA, and MarineMap immediately indicates the ecological and socioeconomic impacts of the proposed MPA design.

MarineMap is far from being the first computerized MPA design tool. Marxan, for example, is a widely used computer program for planning MPAs, including in conjunction with stakeholders (www.uq.edu.au/marxan). But MarineMap is different from past tools in that it does not rely on complex mathematical equations to generate a final answer, and gives users complete control of where they put their MPAs. In addition, because MarineMap is Web-based, it frees the process of MPA planning from the sometimes-stressful environment of stakeholder meetings, says designer Will McClintock of the University of California, Santa Barbara.

“As one might expect, stakeholder meetings are high-pressure venues where heated discussions often occur between parties with radically different viewpoints,” says McClintock. “For those who need a more laid-back atmosphere to develop their ideas, MarineMap can be used in the privacy of one’s own home.” He points out the tool is available to anyone with an Internet connection, and requires no expertise in Geographic Information Systems (GIS). “MPA-planning processes in the past, including with Marxan, have been slowed by having to rely on GIS professionals with expertise in ArcGIS Desktop for all analytical work,” says McClintock. “With MarineMap, users are provided immediate feedback on MPA size, habitat representation, economic impacts, etc. Therefore, they can work quickly to design MPAs that maximize ecological benefits while minimizing economic impacts.”


When a user draws the outline of an MPA in MarineMap, the program prompts the user to enter:

- A name for the MPA;
- The specific goals and objectives the MPA will meet (e.g., protecting species diversity, providing research opportunities, etc.);

- The type of designation (e.g., state marine reserve, state marine conservation area, etc.); and
- What extractive uses (e.g., commercial halibut fishing by hook-and-line) may be permitted within the MPA.

Because MarineMap was developed to meet the specific needs of the Marine Life Protection Act Initiative, the program provides feedback to users on how well their MPAs meet guidelines provided by the initiative’s Science Advisory Team. (The team, for example, has specified the minimum and preferred sizes for MPAs and the maximum distance by which MPAs may be separated.) In this way, MarineMap provides transparency, says Charles Steinback of Ecotrust, a collaborator in developing the program. “All of the data and methods that are used by scientists to evaluate MPA proposals are provided by MarineMap,” says Steinback. “Stakeholders find out exactly why their MPA proposals succeed or fail in meeting the science guidelines.” Using simple editing tools, users can edit their MPA shapes in response to MarineMap’s feedback.

The consortium that developed MarineMap — consisting of scientists and technologists from the University of California, The Nature Conservancy, Ecotrust, and Farallon Geographics — is interested in adapting it for use in other marine spatial planning efforts. McClintock says the consortium’s use of open-source technologies in developing the program will make its adaptation to other efforts relatively easy, since it will not involve proprietary technologies with complicated licensing issues.

For more information on MarineMap — including introductory guidelines and movie tutorials on logging in, navigating maps, and viewing data layers — go to the project website at <http://marinemap.org/marinemap>. 

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www.mpanews.org
searchable back issues,
MPA-related conference calendar,
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Notes & News

Namibia designates first MPA

The African nation of Namibia has designated its first MPA — the Namibian Islands' Marine Protected Area. It covers nearly 9600 km² of sea area off the country's southern coastline and includes all of Namibia's islands. Planning of the MPA began in 2005 and included consultations with stakeholders on zoning and other issues.

The site has four zone types, ranging from multi-use to no-take. More detailed regulations, as well as training for site staff and a public awareness campaign on the MPA, are in development. The Namibian Cabinet said of the MPA, "It will improve vigilance with regard to risks posed by shipping-related threats, such as oil spills, and enhance Namibia's international relations by illustrating steadfast commitment to international environmental treaties, regional and national needs and requirements, and international law."

Aaniyah Omaidien of conservation group WWF, which helped lead the planning process, said the new protected area is "crucial for the biodiversity of marine resources and, as a result, important for sustainable commercial, subsistence and recreational fishing."

A report on the Namibian Islands' Marine Protected Area, supported by the NACOMA project and co-authored by personnel from WWF and the Ministry of Fisheries and Marine Resources, is available at www.nacoma.org.na/FindOutMore/ReportsPublications.htm. (Scroll down that page to find the weblink to the report, under the subhead "Marine Protected Areas".)

South Australia releases boundaries for new network of MPAs

In January, the government of the Australian state of South Australia released provisional boundaries for 19 new marine parks in the state's forthcoming network of MPAs. The multi-use marine parks would cover a total area of 27,526 km² — approximately 46% of South Australia's (state) waters. The provisional boundaries are undergoing public comment through 27 March 2009, and final boundaries will be released later this year.

After the boundaries are finalized, management plans for the new MPAs will be developed in consultation with industry and other community stakeholders. "The multi-use parks will conserve our marine environments but still allow sustainable aquaculture, commercial and recreational fishing, tourism, water sports, transport, and development," said Environment and Conservation Minister Jay Weatherill in a press release. More information on the marine parks, including a map of the provisional boundaries, is available at www.environment.sa.gov.au/marineparks.

U.S. invites public comment on list of existing MPAs nominated to National System

The U.S. National Marine Protected Areas Center has received the first round of nominations for existing MPAs to join the National System of Marine Protected Areas. The list of 225 nominated sites is undergoing a 30-day public review period to ensure that each one meets the eligibility criteria for inclusion in the national system. The review period ends 6 April 2009. For instructions on providing comments, or for details on each nominated site, go to www.mpa.gov.

Following review of public comments, the final nominations will be formally accepted as charter members of the national system in April. The national system is being built from existing MPAs across all levels of government to enhance collective efforts to protect the nation's natural and cultural marine heritage. More details on the national system of MPAs can be found in the *Framework for the National System of Marine Protected Areas of the United States of America*, available at www.mpa.gov/national_system/final_framework_sup.html.

India: Workshop on social dimensions of MPAs releases consensus statement

A January workshop in India on the social dimensions of MPAs, including how MPA planning could be made more sensitive to the needs of fishing communities, has released a consensus statement agreed upon by participants. The statement recommends the integration of fundamental principles of participation, environmental justice, social justice, and human rights into the implementation of marine and coastal protected areas. It calls for an integrated and participatory framework for the conservation, use, and management of marine and coastal living resources, and the securing of preferential access rights of fishing communities to coastal and fishery resources.

The workshop brought together national and state-level government officials, fishing community representatives, NGOs, environmental groups, and scientists working on the issue of MPAs. It was sponsored by the International Collective in Support of Fishworkers (ICSF). More information on the workshop — including the prospectus, presentations, case studies of each of India's MPAs, and the consensus statement (available in English and six Indian languages) — is all available at <http://mpa.icsf.net/icsf2006/jspFiles/mpa/indiaWorkshop.jsp>.

Study finds rapid, positive effects on fisheries from a new network of marine reserves

New research published in the free-access science journal *PLoS ONE* tested predictions of larval transport of mollusks from a no-take marine reserve network in

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the Gulf of California (Mexico) to adjacent fished areas. Within two years after designation of the no-take areas, the researchers found relatively rapid recruitment at the downstream edge of the reserve network, with up to a three-fold increase in the density of settled juveniles found. "Our findings underscore the potential benefits of protecting larval sources and show that enhancement in recruitment can be manifested rapidly," write the authors. They acknowledge, however, that the benefits varied markedly within the seascape, with some areas not enjoying the same increases in recruitment. They call for future research to address this variability. The article "Rapid Effects of Marine Reserves via Larval Dispersal" is available free of charge at www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0004140.

Mediterranean MPA projects begin

A new UNEP-led project, "Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem", has been launched to reduce pollution impacts, develop sustainable fisheries, and protect coastal and marine biodiversity in the Mediterranean. To achieve the biodiversity-protection component, the project aims to create a coherent network of MPAs in the region. It will do this by (a) promoting the designation and

networking of new MPAs (the MedMPANet project) and (b) strengthening MPA management effectiveness in countries of the southern and eastern Mediterranean (the MedPAN South project).

The Regional Activity Centre for Specially Protected Areas (www.rac-spa.org) will manage MedMPANet, while the WWF Mediterranean Programme Office will manage MedPAN South (www.medpan.org). Funding for these efforts has come from the European Commission (EuropeAid), AECID, the Fonds Français pour l'Environnement Mondial, MAVA Foundation, and the Mediterranean Trust Fund.

This 21-23 April, a group of environmental officials from the 12 countries of the MedPAN South project will attend a training workshop on "MPA Capacity Building Program Planning" in Barcelona. The training is part of a mentor program aimed at providing the selected officials with skills and knowledge to train MPA staff in the Mediterranean. The trained mentors will also serve as liaisons between MedPAN South and the relevant authorities in their country. For more information, e-mail Alessandra Pomè, MedPAN South Project Manager, at apome@wwfmedpo.org.

Research spotlight: Balancing human health and marine ecosystem health

It is rare for marine protected areas to be mentioned in the *International Journal of Epidemiology*, which covers issues affecting human health and illness. But an article in a recent issue of the journal examines the relationship between increasing human demand for fish and the declining health of our ocean ecosystems. The article suggests that recommendations from health advocates that people eat more fish are on a collision course with recommendations from biologists that we conserve fish stocks.

Article co-author Peter Jones, a marine biologist at University College London, says there will not be enough fish to meet demand unless more effective conservation measures are implemented. "The collision the paper refers to is based on continuation of the 'business as usual' scenario of very few no-take marine reserves as well as broader fisheries management measures that often lead to over-exploited stocks," says Jones. "If 20-30% of our seas were designated as marine reserves — and if they delivered spillover/export benefits to wider fisheries that more than compensated for the loss of grounds (in terms of fish yield) — then we could

have marine reserves *and* eat more fish." He says this would particularly be the case if there were also continued improvements in broader fisheries management, beyond just reserves.

Jones says marine reserves have a direct impact on human health by delivering a range of ecosystem services, including improved ecosystem regulatory functions and resilience. These benefits are not included often enough in fisheries management decision-making, he says. "While fisheries management is becoming more ecosystem-oriented, the benefit assessments remain primarily focused on the costs/benefits of different management options in terms of the fish stocks themselves," says Jones. "A key aspect of the collision-avoidance strategy discussed in the article will be to include wider ecosystem services when considering the costs and benefits of fisheries management options. Given the challenges of assessing the value of such services, we should just accept that they will be generated and designate marine reserves on a precautionary basis." For a PDF copy of the article "Fish, human health and marine ecosystem health: policies in collision?", e-mail Peter Jones at P.J.Jones@ucl.ac.uk. 