

# ***Workshop Proceedings for A Private Sector Approach – Conservation Agreements in support of Marine Protection***

September 2008

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***Workshop Proceedings for A Private Sector Approach – Conservation Agreements in support of Marine Protection***  
**September 2008**

The workshop, *A Private Sector Approach – Conservation Agreements in support of Marine Protection*, was held in June 2008 at Bainbridge Island, Washington State, U.S.A. The workshop was hosted by The Nature Conservancy (TNC), the Conservation and Community Investment Forum (CCIF), and Conservation International (CI). Funding was provided by the Lyda Hill Foundation and the Walton Family Foundation. Additional financial assistance was provided by The Ocean Foundation, The Nature Conservancy and Conservation International.

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## Table of Contents

Strategic Overview .....	1
Agenda .....	4
A Vision of Success .....	5
Perspectives from Sibylle Riedmiller, Chumbe Island Coral Park, Ltd .....	5
Perspectives from Kevin McAleese, Sand County Foundation .....	6
Perspectives from John Adams, UBS Financial Services .....	7
A View from the Field: Participant Survey .....	8
Asia-Pacific Case Studies	
<i>Reverse Fishing in the Phoenix Islands, Kiribati</i> .....	13
<i>Private Tools for Mangrove Conservation in the Philippines</i> .....	20
<i>Bioprospecting and Live Rock Harvesting for Coral Conservation in Fiji</i> .....	26
<i>Conserving in Papua, Indonesia through Ecotourism</i> .....	30
<i>A Private Marine Concession for Pearl Cultivation in Raja Ampat, Papua, Indonesia:</i> .....	40
Americas Case Studies	
<i>Private Conservation of Puget Sound in Washington State</i> .....	44
<i>Private Incentives to Conserve Ecuador's Coast</i> .....	53
<i>Marine Conservation in Chile: private actions can speed up the process</i> .....	59
<i>Buy-outs and buy-in: Saving the vaquita in the Gulf of California, Mexico</i> .....	64
<i>Central Coast Groundfish Project - Use of Private Agreements In California</i> .....	69
Africa Case Study	
<i>Chumbe Island Coral Park: Helping save the coral reefs of Tanzania</i> .....	75
Critical Issues for Marine Conservation Agreements .....	90
What ecosystem services can MCAs deliver? .....	91
Which threats can MCAs abate? .....	93
Are the legal circumstances amenable? .....	97
Do socio-economic factors matter? .....	100
Is funding available? .....	106
Are organizations and stakeholders ready? .....	109
Next Steps: Communication .....	112
Next Steps: World Conservation Congress .....	118
Participant List .....	120
Participant Biographies .....	122
Participant Organizations .....	138

## Strategic Overview

The Nature Conservancy (TNC), Conservation and Community Investment Forum (CCIF), and Conservation International (CI) convened an invitational three-day workshop of U.S. and international experts to assess how conservation agreements can contribute to protecting the world's oceans and coasts. For centuries, private, for-profit entities have entered into agreements and acquired rights to marine areas and resources for a wide range of purposes such as marinas, utility lines, gravel mining, aquaculture, and oil extraction. Also, in many parts of the world, marine tenure systems are such that communities and entities like fishing cooperatives have rights to marine places and resources. Conservation organizations have now demonstrated that it is possible for non-profit entities to acquire or direct similar rights to marine areas for purposes that improve and protect the environment. While this strategy is underutilized, the potential for its application is broad and significant.

Over the past several years, non-profit organizations, both big and small, have assessed and taken advantage of opportunities to acquire or direct rights and management responsibilities to lands and resources lying within ocean and coastal waters through fee-title acquisitions and less-than fee-title leases, licenses, easements, management agreements, concessions, and contracts. Through these activities conservation organizations have directly or indirectly acquired or directed rights and responsibilities over specific geographic areas (such as under water land, the water column, and water surface), resource harvesting (such as fish and kelp), and the ability to access resources (such as equipment and boats). These efforts have protected important marine biodiversity and ecosystems while positioning conservation organizations as vested stakeholders with governments and communities responsible for decision-making. Becoming “vested stakeholders” better positions conservationists to advance broader ocean management strategies such as marine spatial planning and ecosystem-based management. In addition, local communities often support and benefit from these efforts due to on-going engagement, alternative employment opportunities, and improved living standards.

### Goals and Outcomes


The workshop initiated the development of a long-term vision of strategy success; identified relevant opportunities, organizations, and stakeholders; determined needed actions, support, and funding; and initiated global recognition and acceptance of marine conservation agreements. The workshop also created an informal network of entities involved with and interested in marine conservation agreements. A publication regarding the role of conservation agreements in marine protection and management at local and regional scales is forthcoming. All of the workshop-related information (including the program guide, case study white papers and presentations, posters, tools, and discussion issues) can be found at: [http://www.leaseown.org/Resources/PMCA\\_Workshop.html](http://www.leaseown.org/Resources/PMCA_Workshop.html).

### Marine Conservation Agreements Defined

As a result of the workshop and subsequent discussions, a refined definition of Marine Conservation Agreements (MCAs) was developed:

*Marine Conservation Agreements are any formal or informal understanding between two or more parties in which the parties obligate themselves, for an exchange of benefits, to take certain actions, refrain from certain actions, or transfer certain rights and responsibilities to achieve agreed upon ocean or coastal conservation goals. Marine conservation agreements can be entered into by governments, communities, private entities, and private individuals.*

The matrix below illustrates the elements and variables that apply to Marine Conservation Agreements.

<h1>Marine Conservation Agreements</h1>						
Agreements		Parties		Benefits		Examples
Formal	Informal	Grantor	Grantee	Protection	Incentive	
Purchase & Sale Lease Easement License Permit Covenant Concession Contract	Verbal Handshake	Priv. Ind. Priv. Co. Community Local Govt. State Govt. Fed'l Govt.	NGO Community Ecotourism Aquaculture	Access Harvest Ownership	Money Social Services Infra- structure Jobs Culture Pride	U.S. U.K. Chile Ecuador Mexico Tropical Is. Tanzania Costa Rica
Permanent or Temporary				Behavior changes Laws/regulations Private MPA Community MPA State/Fed'l MPA		

**The Role of Marine Conservation Agreements**

We identified the role of MCAs as being three-fold:

1. Protection - Protect important places where other strategies may not be applicable.
2. Networks – Serve as one protection element within integrated networks of marine protection which also include government-established MPAs and area-wide laws and regulations.
3. Stakeholder Interests – Establish non-governmental organizations as stakeholders with defensible interests which provide NGOs seats at negotiation tables when decision-makers are considering actions that impact ocean and coastal areas.

**MCAs and MPAs**

The workshop also helped identify important distinctions between MCAs and its closely related Marine Protected Area (MPA) cousin. MCAs:

- Are centered on agreed terms and conditions as opposed to conflicting interests;
- Are bottom-up (local community participation in planning, decision-making and implementation are integral) as opposed to top-down; and
- Include quid-pro-quo incentives (all parties receive benefits) as opposed to sacrifices.

### **Major Lessons Learned**

1. Fish Protection - Most existing MCA projects directly or indirectly protect fish or fish habitat.
2. Protected Areas - Many existing MCA projects explicitly or functionally lead to the establishment and management of some form of marine protected area.
3. Diversity - MCAs are currently being used by diverse organizations, under diverse circumstances, and in diverse geographies.
4. Communication Needs - MCA strategy itself is not widely understood, accepted or applied by the global marine conservation community. In addition, MCA practitioners do not generally communicate among each other for support, information exchange, or collaboration.
5. Local Integration - Many existing MCA projects that show significant signs of success are integrated into local communities and provide opportunities for local employment.
6. Varying Scales - MCAs can be applied at small scales (less than five hectares) and extremely large scales (up to 400,000 sq kms).
7. Super-charismatic Mega-leader – Many existing MCA projects came to fruition due to the perseverance, persuasive abilities, and personal relationships of a forward-thinking, bold, and charismatic project leader.

### **Actions taken immediately following the workshop**

1. Model Alignment – TNC and CI collaborated to determine how CI's conservation agreement model ([http://www.leaseown.org/pdf/Incentive\\_Agreements\\_Intro\\_Lessons\\_Learned\\_Guidelines.pdf](http://www.leaseown.org/pdf/Incentive_Agreements_Intro_Lessons_Learned_Guidelines.pdf)) can be better aligned with TNC's leasing and ownership toolkit ([www.leaseown.org](http://www.leaseown.org)).
2. Model Integration – TNC and CCIF collaborated to determine how CCIF's cost model for protected areas can be incorporated into TNC's leasing and ownership toolkit.
3. Joint WCC Session Development – TNC, CI, CCIF, and WWF collaborated to develop a joint MCA session at the World Conservation Congress.
4. Workshop Information Posting - All workshop-related information has been posted on the leasing and ownership toolkit site ([http://www.leaseown.org/Resources/PMCA\\_Workshop.html](http://www.leaseown.org/Resources/PMCA_Workshop.html)).

### **Strategic Next Steps**

1. Capture Information: New information and lessons learned from the workshop must be organized, consolidated, and disseminated.
2. Reach Out – Partners must communicate through global forums to get greater recognition, acceptance and inclusion of MCAs in planning and funding processes.
3. Take Action – TNC will work with CI, CCIF, and WWF to identify national and international collaborative demonstration projects that will be used to catalyze strategic identification of opportunities for MCAs to contribute to protecting the world's oceans and coasts. These will have particular applicability to fisheries issues.

**Agenda**

<b>Monday, June 16<sup>th</sup>, 2008</b>	
<b>Morning</b>	<b>Afternoon</b>
Participant travel	3:30 – 5:30 Participant Check-in at IslandWood 5:30 – 6:30 Welcome Reception – Posters from the Field 6:30 – 7:30 Dinner
<b>Tuesday, June 17<sup>th</sup>, 2008</b>	
<b>Morning</b>	<b>Afternoon</b>
7:00 – 8:00 Early Riser Coffee 8:00 – 9:00 Breakfast 9:00 – 9:45 Working Towards Strategy Success – Introduction 9:45 – 10:15 Progress, Issues & Lessons Learned - Overview 10:15 – 11:00 A Vision of Success – Panel Response 11:00 – 11:10 Break 11:10 – 12:00 A View from the Field – Participant Perspectives	12:00 – 1:00 Lunch 1:00 – 4:30 Conserving the Asia-Pacific <ul style="list-style-type: none"> <li>▪ Case Study 1: Reverse Fishing in the Phoenix Islands</li> <li>▪ Case Study 2: Mangrove Conservation in the Philippines</li> <li>▪ Case Study 3: Bioprospecting/Live Rock Harvesting in Fiji</li> <li>▪ Case Study 4: Conserving in Indonesia through Ecotourism</li> <li>▪ Case Study 5: Aquaculture's Lessons in Indonesia</li> </ul> (3:10 – 3:20 Break) 4:30 – 4:45 What we've Learned - Closing 6:00 – 7:00 Cocktails & The IslandWood Experience 7:00 – 8:00 Dinner
<b>Wednesday, June 18<sup>th</sup>, 2008</b>	
<b>Morning</b>	<b>Afternoon</b>
7:00 – 8:00 Early Riser Coffee 8:00 – 8:50 Breakfast 8:50 – 9:00 Revisiting the Asia-Pacific – Day 1 Recap 9:00 – 12:30 Conserving the Americas <ul style="list-style-type: none"> <li>▪ Case Study 1: Private Conservation in Washington State</li> <li>▪ Case Study 2: Incentives to Conserve Ecuador's Coast</li> <li>▪ Case Study 3: Private Actions Speed Conservation in Chile</li> <li>▪ Case Study 4: Saving the Vaquita in Baja California</li> <li>▪ Case Study 5: Buy-outs and fishing agreements in California</li> </ul> (10:40 – 10:50 Break)	12:30 – 1:30 Lunch 1:30 – 3:20 Finding the Way Forward – Discussion Groups Critical Issues for Private Marine Conservation – Overview Break-outs: <ul style="list-style-type: none"> <li>▪ What ecosystem services can PMCAs deliver?</li> <li>▪ Which threats can PMCAs abate?</li> <li>▪ Are the legal circumstances amenable?</li> <li>▪ Do socio-economic factors matter?</li> <li>▪ Is funding available?</li> <li>▪ Which organizations &amp; partners are ready?</li> </ul> (3:20 – 3:50 Break) 3:50 – 5:30 Overcoming the Obstacles – Panel Discussion 5:30 – 5:50 The Path to Collaborative Success - Closing 6:30 – 7:30 Closing Reception – Practitioner Tools 7:30 – 8:30 Dinner
<b>Thursday, June 19<sup>th</sup>, 2008</b>	
<b>Morning</b>	<b>Afternoon</b>
7:00 – 8:00 Early Riser Coffee 8:00 – 9:00 Breakfast 9:00 <ul style="list-style-type: none"> <li>▪ Non-subgroup participants depart</li> <li>▪ Subgroup participants remain</li> </ul> 9:00 – 10:30 Communicating the Strategy: Work Session 10:30 – 10:40 Break 10:40 – 12:00 Planning for the World Conservation Congress: Work Session	12:10 – 1:00 Lunch on own; Subgroup participants depart

## **A Vision of Success**

### **Perspectives from Sibylle Riedmiller, Chumbe Island Coral Park, Ltd**

Tanzania's most important tourism attractions are the world-famous terrestrial wildlife parks, and the government has decades of experiences in establishing and managing them, though with very limited community and private sector involvement. Just think of the world-famous Serengeti, Ngorongoro crater, Kilimanjaro parks among several more!<sup>1</sup>

In contrast, marine conservation is a fairly recent addition to the development agenda here, and policies and the legal and institutional framework were only created from the mid nineties. The privately established Chumbe Reef Sanctuary was actually the first managed Marine park in Tanzania, and also officially recognised by the Zanzibar government in 1994 and the international conservation community (UNEP-WCMC, IUCN) from 1995.

Being a front-runner at local, national (and even international) levels has its costs. People don't understand what you are talking about, don't believe you, or suspect a hidden agenda. In the early nineties, few people in Tanzania knew anything about coral reefs, they are not taught about it in schools and the national language has no word for them (even fishers refer to them as rocks and stones). So officials wondered why this foreign investor cared so much about those underwater rocks. It took many years of awareness creation and actually proving on the ground that all the conservation and education work is real, until some of this was understood and acknowledged. International recognition is of utmost importance here as well, and we worked hard for that. The many prestigious international awards won by Chumbe, both for conservation and ecotourism, helped convince officials and the public that the Chumbe Project is indeed something Zanzibar can be proud about.

Also, where private land tenure is well accepted, as in many countries even in Africa, private reserves can be developed with relative ease by the owners. In contrast, water bodies, in particular the oceans, are commonly seen as public property or no-man's land, and badly suffer from the tragedy of the commons around the world because of that. It is the Wild West (or East) out there, where massive overexploitation and destruction of marine resources threaten the productivity of fishing grounds. In Tanzania, rampant dynamite fishing all along the coast is the biggest challenge.

Nevertheless, turning the whole of the uninhabited Chumbe Island and the adjacent reef into a park, was an accepted investment proposition in the early nineties, and we are grateful for that. As you can only lease land in Tanzania, the idea of leases and contracts for both the western reef of Chumbe and the virgin coral-reef forest on the island seemed fairly logical. The creation and official recognition of the Reef Sanctuary and Management Agreement with the Government of Zanzibar have worked well so far, together with the development of the Chumbe Forest Reserve. In fact, we run an island reserve, thus doing what is demanded in the conservation world today, that is integrated eco-system based management rather than protection of particular species only.

The downside is of course that leases and contracts have a limited duration and extension is not guaranteed, and may be subject to political pressures and thus insecurity. Ideally, nature conservation should be for perpetuity. Thus policies and instruments need to be developed that increase security of tenure for the conservation-minded investor. Investment into conservation is by definition long-term, foregoing short-term profits from resource exploitation, and there need to be incentives for that!

Altogether, the challenges have more to do with the fact that Chumbe is a privately established and managed park based on leases and contracts, and we share these challenges with other private nature reserves around the world.

For more information on the Chumbe Island Coral Park, see the Chumbe Case Study in the Africa Section of this document.

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<sup>1</sup> Taken largely from an unpublished interview with Sibylle Riedmiller by a South African magazine, May 2008.

### **Perspectives from Kevin McAleese, Sand County Foundation**

The Sand County Foundation's mission is to advance the use of ethical and scientifically sound management practices and partnerships for the benefit of people and the ecological landscape. The roots of the Sand County Foundation are private action inspired by the Leopold Land Ethic, using responsible voluntary means to improve habitat. Today, the role of the Sand County Foundation has expanded from caretaker of the Leopold Memorial Reserve in Wisconsin to advising the managers of hundreds of thousands of acres of land in several countries. The Foundation works with private landholders to improve the quality of their lands through science, ethics, and incentives.

There is a long tradition of designating oceans, lakes, and rivers as common pool resources. This is partly due to historical political expediencies, and partly due to a lack of reliable systems for demarcating and enforcing rights to fugitive resources. There are however models from around the world of customary rights for aquatic resource harvesting that have worked quite well and increasing numbers of rights-based fishing in modern times functioning in regionally or nationally controlled coastal areas. This new context, and the concurrent policy environment, open the way for more experimentation with "dedicated access," and call for the application of ethics, science, and incentives to get the mix of rights and responsibilities right.

It is the Sand County Foundation's view that even the most well intentioned government-directed resource management will ultimately fail if it does not account for the motivations, aspirations, and socio-economic realities of the resource harvesters. We have, therefore, created opportunities that encourage commercial fishermen to engage in cooperative research and learning. We have witnessed the power of innovation that arises when motivated leaders from industry, together with a limited set of donors, researchers, and government managers assemble in a low stress and well organized venue. And we have documented their stories to be shared more broadly. We've hosted a couple of sessions ourselves, and have supported or participated in a number of other such events.

It is our hope that the workshop on Private Marine Conservation Agreements will (1) expand the set of available tools for coastal and fisheries peoples to have a more direct role in management of natural resources; (2) recognize that need for functional and accountable governance institutions where resource management boundaries include multiple rights holders; (3) consider applicability of such agreements to those who by tradition or desire share communal rights to local resources; (4) operate on a free and fair market basis; and (5) generate sufficient revenues to support on-going monitoring and research necessary for resilient management.

Links to the SCF report on fisheries can be found at: <http://www.sandcounty.net/programs/cbcn/fisheries/>.

### **Perspectives from John Adams, UBS Financial Services <sup>2</sup>**

There are multiple sources of financing for MPAs, including domestic government budgets, international assistance, visitor fees, and more. While each source plays a vital role for sites worldwide, it can also be subject to fluctuation. Domestic budgets can be cut. International donors can change their area of interest. Tourism rates can rise and fall. These variations create instability for MPA management. An ideal component of sustainable finance strategies would be a tool that ensures a steady, or even rising, stream of funds over the long term. The tool that perhaps comes closest to this ideal is an endowment. In an endowment, funds are invested and the earnings on those invested funds are spent on program activities. Meanwhile the capital in the investment remains fully invested, thus generating additional income year after year. While not risk-free (they involve investments, after all), endowments can provide a level of financial sustainability for MPAs that is hard to match. In May 2008, MPA News examined this tool, including how to establish endowments, cases where they exist for MPAs, and what their main challenges are.

“Endowments are useful for several reasons,” says John Adams, senior vice president for investments at UBS Financial Services, a global finance firm. Adams heads a group within UBS that manages the long-term investment of conservation endowments for income and growth. “First, endowments create financial reserves that can help meet budgets during unexpected hard times,” he says. “This allows an organization that has worked hard to hire a good staff to retain talented people during a lean period of funding.” “Second,” says Adams, “an endowment will normally provide, from investment income, part or all of the funding needed to meet the budget of the organization. The larger the endowment is, the less an MPA manager has to search for other sources of funding.” “Finally,” he says, “the endowment creates a real psychology of permanence that extends throughout the MPA, including staff, the community, and donors. If everyone knows that there is funding in perpetuity for the organization, the future of the protected area is in far better shape,” says Adams.



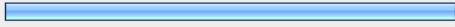
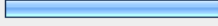
For the entire article in MPA News, see: <http://depts.washington.edu/mpanews/MPA96.pdf>.

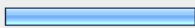

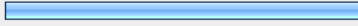

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<sup>2</sup> Taken from: MPA News, Volume 9, Number 10. May 2008.

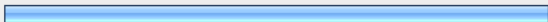
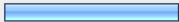

## A View from the Field: Participant Survey

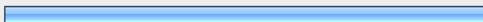
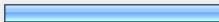

Prior to the workshop, a survey was conducted to gain the perspectives of workshop participants regarding marine conservation agreements (MCAs). The graphs below summarize the survey results. Most significant in the findings is that while most participants have only occasionally worked on projects that involved marine conservation agreements (Question #2), the overwhelming majority believed there are opportunities to broadly apply (Question #8) new or additional MCAs where they work or elsewhere (Question #5).

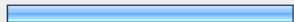
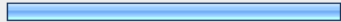
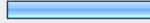
2. How often have you worked on projects that involved Private Marine Conservation Agreements (PMCAs)?			Response Percent	Response Count
Always			3.1%	1
Frequently			9.4%	3
Occasionally			59.4%	19
Never			28.1%	9
<i>answered question</i>				32
<i>skipped question</i>				0

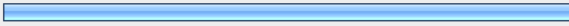
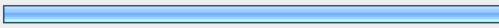
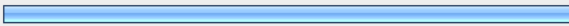
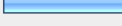
3. In areas you've worked, are all lands and resources lying with ocean and coastal waters publicly owned and managed?			Response Percent	Response Count
Yes			25.0%	8
Only in limited circumstances			21.9%	7
No			46.9%	15
Not sure			6.3%	2
<i>answered question</i>				32
<i>skipped question</i>				0

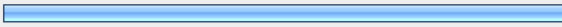
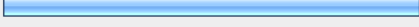
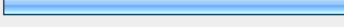
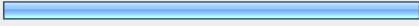
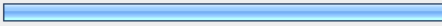
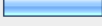
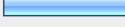
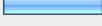
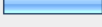
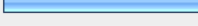
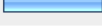
4. In areas you've worked, can private entities acquire ownership or rights to lands and resources lying within ocean or coastal waters?			Response Percent	Response Count
Yes			37.5%	12
Only in limited circumstances			40.6%	13
No			12.5%	4
Not sure			9.4%	3
<i>answered question</i>				32
<i>skipped question</i>				0

5. Are there opportunities to use new or additional PMCA strategies in areas where you currently work or otherwise?			Response Percent	Response Count
Yes			71.0%	22
Only in limited circumstances			22.6%	7
No			0.0%	0
Not sure			6.5%	2
<i>answered question</i>				<b>31</b>
<i>skipped question</i>				<b>1</b>

6. Based on your experiences, do you think conservation organizations should pay to enter into PMCA's (such as through direct payments, in-kind payments, quid pro quo, lease payments, etc.)?			Response Percent	Response Count
Yes			62.5%	20
Only in limited circumstances			28.1%	9
No			0.0%	0
Not sure			9.4%	3
<i>answered question</i>				<b>32</b>
<i>skipped question</i>				<b>0</b>

7. Based on your experiences, do you think PMCA's set a bad precedent?			Response Percent	Response Count
Yes			0.0%	0
Sometimes			37.5%	12
No			43.8%	14
Not sure			18.8%	6
<i>answered question</i>				<b>32</b>
<i>skipped question</i>				<b>0</b>

8. Based on your experiences, PMCAs should only be undertaken in areas that are (check all that apply):			
		Response Percent	Response Count
Threatened by immediate degradation		75.0%	24
Already degraded and in need of restoration		65.6%	21
Not degraded and not immediately threatened by degradation		75.0%	24
Not sure		15.6%	5
PMCAs should never be undertaken		0.0%	0
<i>answered question</i>			32
<i>skipped question</i>			0

9. Based on your experiences, what are the key issues affecting the success of PMCAs (check all that apply)?			
		Response Percent	Response Count
Difficulty monitoring and enforcing terms		74.2%	23
Inequitable distribution of benefits		54.8%	17
Insufficient funding		45.2%	14
Lack of community or political support		54.8%	17
No legal basis or legal basis not clear		58.1%	18
Rarity of opportunity		12.9%	4
Too expensive		16.1%	5
Too isolated		12.9%	4
Too small		12.9%	4
Short-term (impermanent) nature		25.8%	8
Other		12.9%	4
<i>answered question</i>			31
<i>skipped question</i>			1

Comment Text
1. The State of Texas claims ownership to any land below mean high tide, even if held by private owner under a deed. This means we are required to get a lease from the State for nearly all our restoration work on the coast.
2. I don't have specific PMCA experience but I have worked in a commercial model in mariculture that is similar. The major issue I see is the ongoing and permanent maintenance of key relationships. Without the continual engagement of traditional stakeholders, disenfranchisement with the core aims is almost inevitable. This goes beyond "income" issues. Relationship building at the grass roots is essential to success in these types of projects
3. I have been involved in projects that were de facto conservation agreements in that employment was offered to community members in exchange for threatened species protection. Such agreement may not have been formal or labeled conservation agreements but were nevertheless successful in ensuring protection and also generated economic benefits for participating communities.
4. Have worked extensively with PMCAs throughout the U.S. and found that obstacles are primarily based on long-held perceptions and historical practices as opposed to legal and financial barriers.
5. In one project we are supporting, a Marine Conservation Agreement (conservation Contract) will be developed. The negotiation phase has been positive and made easier by the fact that the Government is the only stakeholder (the islands are remote and no communities live there). PMCAs are generally far more difficult to negotiate and uphold when local communities are the primary stakeholders.
6. None
7. I have only had indirect experience of PMCAs, and in general they have tended to cause splits within communities due to disputes over ownership of the areas in question, usually prompted by the perception of financial gain. One recent example is the Helen Reef CA in Palau. A key concern is where communities have been encouraged to establish and manage their own MPA(s) with limited (or very focused) financial inputs to ensure long term sustainability. Considerable care and social/cultural sensitivity are required when then introducing the idea of PMCAs, as they seem to be more short to medium term initiatives.
8. Not yet, NAZCA is on the feasibility analysis phase.
9. In my experience, PMCA's tend to align well with the needs of the immediate stakeholders (local peoples and parties interested in protecting the areas). They move quickly and rely less on what can be painfully long and politically driven processes.
10. - Collective decision making within the community on priorities to be paid under CAs (Good) - Variety of individual needs within community should be carefully addressed (bad) - Good potential for local (community based) institutional building exercise with targeted capacity building to enhance accountability, transparency and credibility to enter and commit to the agreement. (good)
11. The terms and names are often different, but my experiences have been with groundfish permit purchases off the US west coast, various mitigation banking arrangements nationwide (probably not a PMCA but there are some similarities), and recent talk in habitat restoration and protection circles to use easements as a complement to regulatory processes.
12. my experiences have been "borderline PMCAs" where communities generally allow access for snorkeling in protected areas or planting live rock, with proper discussion beforehand this can add income
13. A lot of them with Chumbe. Internet connection too weak for lengthy answers. Please refer to presentations of Chumbe Island Coral Park Ltd at World Parks Congress Durban 2003 available online, can also forward on request.
14. A positive experience is resorts and communities make agreements to establish MPAs and also have an agreement of how they will finance management and resorts pay to access the MPAs for tourism scuba diving.
15. I read about but didn't take part in the Kenya Sea Turtle nest protection and turtle release program. It seemed to have all the characteristics (positive and negative) mentioned above: public use of the sea but with traditional fishing rights, some inequity occurring from allocating permits, difficulty monitoring (fishermen could purposely catch turtles to gain the reward from their tag and release), and ultimately insufficient funding. However the community support seemed good and the whole project looked well-structured from an economic incentive point of view. I was impressed with the project because of the independent, small-scale nature of the program (although this was related to eventual absence of funding).
16. I will be making a presentation on a PCMA in Kiribati with the Phoenix Islands. I have also explored the use of a lease under Maine law to establish a research site for conservation.
17. I believe that while some experience problems, the concept is generally sound, implementation and lack of real preparation cause most of the problems.

Comment Text
1. My concern with PMCA's concepts I have seen is a lack of resources into management personnel. There always appears to be money to secure areas and to purchase equipment but operational budgets do not seem adequate to the needs of ensuring long term success.
2. Phoenix Islands Protected Area in Kiribati is the first effort to bring PMCAs to scale and as such has the potential of taking PMCAs from the margin to become a central approach for successful marine conservation.
3. Strategy is grossly under-recognized and under-utilized.
4. I am particularly curious about the legal basis, public trust question. There is a lot of discussion about marine zoning. It seems to me that PMCAs might be part of that.
5. Sorry - not an area in which I have great knowledge. Wanting to learn
6. The above responses are based on indirect experiences with PMCAs, so may not fully reflect the actual circumstances. I'm keen to find out more details on the various options and approaches available. While they are an option, it seems that there could be just as many challenges as opportunities with their application.
7. Given the critical state of most of the planet's marine environments, we must move quickly to protect what is left. By the time governments determine a place is worth protecting, most of the valuable marine resources have already been exhausted. Only when the economic value of continued exploitation is diminished to a point that extractive industries no longer profit, do most governments have the will to impose protective measures. There is far more immediate money in exploitation of resources than conservation of them. The economic equation must be shifted immediately to provide a balance to this issue. When there are immediate gains to conserving resources, the will exists to do it. Private and NGO groups can move quickly to provide such funds and address the economic imbalance. If action is not taken quickly, most scientists agree our marine environments will collapse. In this case, it no longer matters whether a public or PMCA is determined to be more desirable....there is nothing left to "manage". We must shore up vulnerable and important marine areas now.
8. I am concerned about design that: (1) does not transfer property rights without compensation to the public as owners of the common area; (2) does not create a monopoly; and (3) includes stewardship obligations (not just assumptions).
9. Intensive Community organizing is a prerequisite to start with PMCAs to ensure deep understanding on the purpose of the agreement, build or strengthen local institutions to be able to implement the agreement, including effective monitoring and enforcement systems and facilitate variety of needs within the communities.
10. Traditional habitat conservation efforts, including protection and restoration, will probably never reduce environmental concerns to the point of insignificance. Hence, other tools are needed. PMCAs deserve closer consideration. I'm also intrigued by the economic facets of using PMCAs and other such tools since oftentimes economic value or importance (as related to ecological services) is not given appropriate consideration in environmental decisions.
11. Not enough answer options for question 8. Why should PMCA be undertaken 'only' in certain circumstances? I have a much more positive opinion of them: they should be considered an option in ALL circumstances, why not?
12. I think the competition to access the resources in the critical biodiversity areas that needs protection will require PMCAs
13. #9 - as I do not have direct experience with PMCAs (but a lot of experience with land conservation projects), I am only guessing.
14. We have been working with conservation agreements in 18 countries around the world but mainly on terrestrial settings. We are starting to work in marine environments and the main issue we are facing is ensuring local communities can get management rights over resources that have been traditionally open access. Once those rights are granted the key challenge is to ensure that patrolling and enforcing mechanisms are in place and in marine settings those tend to be more expensive due to the big areas to cover than in terrestrial areas. We will be presenting a case in which conservation agreements are setting up the basis for the management system of a new protected area in Ecuador, the first mainland marine area of the country, with a management system that entirely depends on the local communities.
15. My experiences involve evaluating conservation projects in a variety of areas where PMCAs are used (Asia Pacific). I have never been responsible for the implementation of a PMCA.

## Asia-Pacific: Phoenix Islands

### *Reverse Fishing in the Phoenix Islands, Kiribati*

Dr. Greg Stone, Vice President for Global Marine Programs, New England Aquarium  
Peter Shelley, Esq., Vice President, Conservation Law Foundation  
Dr. Eduard Niesten, Conservation Economics Program Director, Conservation International  
Tukabu Teroroko, Director, Phoenix Islands Protected Area Office

#### Abstract

The Phoenix Islands Protected Area (PIPA) is a unique conservation partnership between the Republic of Kiribati and two non-governmental organizations, the New England Aquarium (NEAq) and Conservation International (CI). Initially, the New England Aquarium led the scientific surveys of the Phoenix Islands and formed the conservation relationship with key Kiribati officials. NEAq is now helping coordinate the implementation team, fundraising, and the future research agenda for the project. Conservation International, directly through regional staff and indirectly through an implementation grant from CI's Global Conservation Fund, has been instrumental in coordinating and staffing the implementation stages of the project and supporting World Heritage recognition of the site. The core mechanism underlying the PIPA is a unique "reverse fishing license" financing program by which Kiribati will be reimbursed for the amount that they would have otherwise received from selling fishing licenses to foreign fishing operations in the PIPA. A statutory trust will be created under Kiribati law to hold the trust funds and to distribute funds from the trust to pay for the "reverse fishing license," the terms of which will be established under a conservation contract between Kiribati and the PIPA Trust. The trust will be administered to ensure the long-term sustainability of this remarkable place.<sup>3</sup>

#### Project Overview

##### Agreement Mechanism

The Phoenix Islands and the surrounding 200-mile Kiribati Exclusive Economic Zone (EEZ) are sovereign territory of the Republic of Kiribati. The Phoenix Islands Protected Area (PIPA), which comprises most of this area in the central Pacific Ocean, will be managed pursuant to the terms of a conservation contract executed between Kiribati and a new statutory trust organization, the PIPA Trust, created under Kiribati law as a non-for-profit corporation. The "conservation contract" with the government will define the management obligations and performance metrics to ensure the long-term protection of the terrestrial, coral, and oceanic natural resources as well as any cultural resources within the PIPA. The conservation contract has been referred to as a "reverse fishing license" by the Kiribati officials, because the government will be reimbursed by a third party for foregoing fishing in the PIPA instead of the usual arrangement of being reimbursed for authorizing fishing access. In return for satisfactory performance under the contract, the Trust will make periodic payments to the government from income earned on the Rawaki Trust, a fund that will be established with private and public contributions. The term of the conservation contract has not been set yet but the conservation partners expect that in the early years a 5-10 year term may be reasonable.

In order of priority, the Rawaki Trust will be capitalized at a level sufficient to produce an income stream to cover the operating and management costs of the trust, the operating and management costs of the PIPA, and the foregone revenues from fishing associated with the closure or restriction of activities within

<sup>3</sup> The Phoenix Islands Protected Area. Accessed online, April 3, 2008, at:  
<http://www.phoenixislands.org/index.php>.

the PIPA, i.e. the conservation license fee. Kiribati will have representation on PIPA Trust Board but will not have a controlling interest. The New England Aquarium and Conservation International will hold other mandatory Board seats. The Rawaki Trust will be professionally managed by a private third party.

The goal of the trust mechanism and conservation payments to Kiribati is to allow Kiribati to create the PIPA for the benefit of future generations of Kiribati citizens and the world without producing negative impacts on current national expenditures for health, education, and social welfare. The long term goal is to use the PIPA as a platform for appropriate ecotourism and research that will produce additional revenues and employment opportunities in Kiribati.

A resource valuation has been conducted that is being used as a basis for discussions with the government on an appropriate level of compensation for closing the current fisheries in the PIPA, which are primarily distant water fishing nation (DWFN) pelagic tuna fisheries. Challenges faced in conducting the valuation included current license fee structures and confidentiality issues due to Kiribati's concerns about undercutting their negotiating strategies for fees from distant water fleet nation tuna fleets seeking access elsewhere in Kiribati's extensive EEZ. There are also a number of inconsistencies in the data sets that have required extended analysis.

### **Context**

The direct effect of the PIPA conservation initiative is to restrict significant fishing activity in a "least developed" nation state that relies on fishery access fees from the DWFN fleets for 30% to 45% of its annual operating budget. Foreign fishing revenues are the single most significant source of national revenues. DWFN fishery access is also linked indirectly but implicitly—if not explicitly—to foreign aid and in-kind construction services provided by various nations that have improved port facilities, roadways, health services and other national benefits in an otherwise resource-constrained coral atoll nation.

This project was born from a personal connection made between Dr. Greg Stone of NEAq, who was one of the first people in recent times to conduct a comprehensive scientific survey of the Phoenix Islands, and the then-new President of Kiribati, Anote Tong, who is a visionary leader. President Tong's interests in creating PIPA are complex and multifaceted. They include a sincere personal belief in the importance of conservation and the protection of some of Kiribati's atoll nature for nature's sake alone; a desire to put Kiribati, which is at high risk from sea level rise associated with climate change, on the world stage; and an interest in exploring new development models for Kiribati's natural resources that are less dependent on resource exploitation and consumption.

The goal of the conservation contract and the trust fund is to make the transition economically and thus politically neutral to the government. The viability of this discussion with the government for the conservation partners is aided by Kiribati's positive experience with the benefits of trust funds, arising from settlements for historic phosphate mining on several Kiribati atolls before independence in 1979. Kiribati has grown these "phosphate funds" through careful investments and funds management into a sizable endowment that produces significant income every year to help support the national budget.

The viability of this project has also been aided by the fact that the Phoenix Islands are essentially unpopulated and have never had significant settlements, although there are several archeological sites that bear exploring. Furthermore, the unsuccessful fate of several recent efforts to re-settle I-Kiribati people onto two of the Phoenix atolls, even with substantial subsidies from the central government, has reinforced the government's recognition of the limited conventional opportunities for development of the Phoenix group.

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## **Process & Issues**

### **Decision-making and Implementation Process**

The PIPA started from ground zero. The legal framework for marine area conservation did not exist in Kiribati and little was known about the Phoenix Islands, even by the government. The Phoenix Islands were not well known, if known at all, by either government officials or the I-Kiribati people. Early discussions by Dr. Stone exploring the possibility for some form of conservation protection led to the coining of the term “reverse fishing license” by the Fisheries Minister at the time, the Hon. Tetabo Nakara, which has remained the shorthand for the conservation concept.

The early stages of this project consisted of four elements:

1. Public education in Kiribati about the Phoenix group through the production and wide distribution of a high quality DVD, translated into the Kiribati language;
2. Relationship development with key officials and bureaucrats within the government of Kiribati;
3. External networking, including particularly the early partnership with Conservation International, who provided both expertise in working in the Pacific and implementation funding; and
4. Development of a Phoenix Islands database that collated all that was known about the eight atolls.

Other key relationships were established during this time with the Australian and New Zealand governments.

Implementation funding allowed the project team to launch a PIPA Office within the environmental ministry on Tarawa (the capital atoll in Kiribati), which provided official status for the effort, and to hire a resource economist to develop the science, cultural, and natural resource database for the Phoenix Islands. The presence of significant early funding also allowed the project team to hire the senior bureaucrat from the environment ministry when he reached mandatory retirement at 50, thus creating a powerful link between the external conservation groups and the government and a Kiribati “champion” for the project. The project team also recommended creation of the Phoenix Islands Conservation Steering Committee, a senior government and NGO management committee that is used both as a sounding board for implementation strategies and as a mechanism to enhance buy-in across the various involved agencies on PIPA.

The next stage of the project was to secure the political commitment to the project by drafting legislation that would authorize the protection of both the land and marine resources of the Phoenix Islands. This was a fairly complicated and somewhat unpredictable exercise with multiple legislative packages being prepared for Cabinet approval and action by the Parliament. Early bills contained explicit recognition of the PIPA but the final legislation created a generic mechanism for creating protected areas anywhere in the country with approval authority on specific sites delegated to the Cabinet. Elimination or modification of protected areas created by this Cabinet process, however, requires supermajority action by the Parliament.

The project team then developed and moved a regulation through the Cabinet, recognizing the PIPA and declaring it to be a legal protected area. Under the terms of the declaration, no development activity could take place on the land or reef systems without a permit from the environmental agency. Current offshore tuna fishing was not disturbed until the PIPA trust fund is in a position to cover any lost fishing revenues. The declaration also required the development of a PIPA management plan, which is now underway.

To continue building momentum for the project, the project team was alert to opportunities to publicize the effort through various formal announcements by the government at international meetings, such as the Eighth Conference of the Parties to the Convention on Biological Diversity (Brazil 2006). A web site--<http://phoenixislands.org>--was created to expand public exposure. Finally, funding was secured to help

the Kiribati government develop the necessary documentation to include the PIPA in Kiribati's World Heritage nomination dossier.

Work has now begun on the final pieces needed to fully implement the plan: gaining World Heritage status, drafting and enacting legislation for the statutory trust, finishing the management plan for PIPA, reaching agreement with the government on the resource valuation, and fundraising for the statutory trust.

### **Lands and Resources**

The original conservation focus of PIPA was the terrestrial and near-shore marine resources of the eight atolls comprising the Phoenix Islands. The original proposal was to extend a 60nm ring around each of the atolls, primarily to create an enforcement buffer area around the reefs. Further research indicated the possible presence of several yellow fin tuna spawning areas in the Phoenix Islands EEZ and a number of potentially important sea mounts and submerged reefs. On the basis of this new information and in an effort to simplify enforcement issues, three alternative, larger configurations were presented to the Kiribati Cabinet. The Cabinet selected the largest configuration of approximately 410,500 square kilometers, comprising most of the EEZ around the Phoenix Islands, for enhanced conservation management. The specific conservation objectives for the resources within these PIPA boundaries are to be developed through the PIPA Management Plan using a marine zoning approach akin to the Great Barrier Reef approach. Creation of a tuna conservation zone in the PIPA will be phased in as the endowment fund grows and can support additional payments for lost tuna revenues. Most DWFN tuna access permits are annually renewed; a multilateral treaty governs the US tuna fleet with Pacific island nations and lasts for ten years. It is set to expire in 2013.

### **Threats**

Under current Kiribati law, the terrestrial resources of most of the atolls in the Phoenix group are closed to access for conservation purposes. There are a number of invasive species (rats and rabbits primarily) that were either introduced or landed during shipwrecks on the reefs. There is subsistence fishing on the reefs of Abariringa (Kanton atoll) associated with the small port-of-entry government community that is located on the island. Foreign tuna boats are prohibited within 12 nautical miles of the eight Phoenix atolls and purse seine tuna boats are prohibited within 60 nautical miles of Abariringa to prevent conflicts with the domestic subsistence fishing.

The primary threat to the reef resources is sanctioned (and unsanctioned) shark finning. Because of the species abundance and richness, fishing for other reef resources for the aquarium trade or the live fish trade in the Far East may be possible although the logistics are challenging and to a large extent financially prohibitive. There have also been periodic inquiries to the government by private entrepreneurs exploring the possibility of securing exclusive private access to the reefs for bone fishing and high-end trophy fishing.

The reefs are also vulnerable to coral bleaching associated with seawater temperature spikes. A recent bleaching event caused significant damage to the corals but recovery has been much more rapid than expected, possibly because of the absence of any other negative anthropogenic factors.

Long term, the range of potential threats to the PIPA will magnify as demand for fish and reef resources expands. Piracy and unauthorized exploitation of marine resources in the PIPA will continue to be threats that will challenge PIPA managers and the government of Kiribati. The project partners believe that the development of appropriate ecotourism will provide better site surveillance on the reefs but the ultimate solution to these threats will require cooperation between nations and multi-lateral response mechanisms to the larger problem of illegal, unreported, unregulated (IUU) fishing and resource exploitation.

### **Organizational and Partner Capacity**

The strong and personal interest of President Tong in protecting the Phoenix Islands opened a number of conversations with ministry officials that may have otherwise been difficult, since PIPA promises primarily future, not present, benefits to the country. The recruitment of an effective Kiribati “champion” to head up the PIPA project on Tarawa has been another key factor in maintaining momentum with the project. NEAq chose to work with CI and GCF because they had expertise in both the development of conservation contracts and the Pacific Islands. The early relationships developed with consular staff from Australia and New Zealand have produced multiple unanticipated benefits in the form of technical assistance in invasives eradication and financial assistance for implementation. Further work with these governments and the US government will be critical for the enforcement aspects of PIPA’s long-term success as Kiribati has extremely limited law enforcement capabilities at sea. With efforts to enhance protection of neighboring atolls such as Howland and Baker to the north (controlled by US Fish & Wildlife Service) as well as Palmyra to the east, there may be efficiencies in air or satellite surveillance and conservation monitoring that should be explored.

The fundamental partnership responsibilities between Kiribati, the NEAq, and Conservation International were spelled out early on in a detailed Memorandum of Understanding that was executed by the heads of each of the NGO organizations and by the Environmental Minister on behalf of the Kiribati Cabinet. This MOU was critical in keeping the discussions moving forward productively over time and became the constitutional template for the project.

### **Legal Framework**

The Republic of Kiribati has full sovereign ownership over the atoll resources in the PIPA and sovereign control over the PIPA EEZ. There are no indigenous rights to the terrestrial or marine resources by historic settlements. There is some anecdotal information that individuals may have been given some property rights in one of the atolls during one of the re-settlement schemes, but there are no documents to support that story and the government denies that there are any third-party rights.

The conservation contract will be enforceable under the domestic contract law of Kiribati and is specifically identified as an appropriate mechanism in the generic protected area legislation that was enacted in 2008 under which the PIPA is declared. Since relief in the nature of specific performance is unlikely in the event of a breach by the government of its obligations under the conservation contract, the trust fund’s conservation payment into the country’s general fund must be sufficient to create incentives for voluntary compliance. Over time, the development of appropriate eco-tourism in PIPA will provide other stakeholders vested in achieving and maintaining the conservation objectives.

### **Socio-economic Considerations**

The creation of the PIPA was dramatically simplified by the fact that there are no tenure rights associated with traditional settlements on the atolls or any other private property rights. The development of additional PIPA management and research capacity on Abariringa will be a benefit to the existing group of government employees who are settled there, who feel relatively isolated. The project is expected to benefit Kiribati people with a science interest and business people through employment opportunities associated with the eco-tourism and research facilities that are expected to develop in PIPA over time. Additional benefits will be realized to Kiribati by restoration of the World War II-era runway on Abariringa. The runway will help unite the country across its vast central Pacific reaches by providing a refueling site between Tarawa in the Gilbert Islands in the west and Kirimati Island in the Line Islands in the east.

## **Outreach**

The primary stakeholders are the representatives of the government of Kiribati: the President, the Ministers of the various agencies with either a present stake (mostly Fisheries) or a future stake (Tourism and Environment) in the PIPA. The key ministerial people have been included and will continue to be included in both the process of creating the PIPA as well as in the process of managing it over time. Every effort has been made to reduce or eliminate political costs associated with supporting the effort, although there has been and likely will continue to be a tension between those who promote the PIPA as the economic development strategy for the Phoenix Islands and the Ministry of Fisheries, who will continue to see a marine resource that is not being harvested. Interestingly, both the politically appointed ministers and the top civil service agency heads rotate frequently among the various ministries so there are fewer vested ideological positions in the agencies than found elsewhere.

## **Funding**

There were substantial costs associated with early stages of the project, particularly with the logistical expenses of traveling and staying on Tarawa. Also, because of the lack of any functional central library or country database, significant efforts had to be made to collect all the published information about the Phoenix Islands from other sources throughout the Pacific. One of the side benefits of the PIPA project was the creation of an extensive, searchable electronic database -- but that product took more than a year of dedicated effort. Funding for this and other activities was provided through an implementation grant provided by CI's Global Conservation Fund. Additional funding for preparation of the World Heritage nomination dossier was provided from government sources. Funding and in-kind services were also provided by Australia (for information exchanges and a workshop with Great Barrier Reef staff) and by New Zealand (for invasives eradication).

The major challenge now is raising the endowment funds. The project partners have estimated that an initial target of \$25,000,000-\$30,000,000 will be needed to establish core protections and to implement baseline management functionality.

## **Conclusions**

### **Opportunities**

CI has used similar approaches with conservation contracts on land to protect forest resources but this is the first application of this approach in the marine environment.

### **Scale**

This project is working at a regional sea scale, which presents significant management, administrative, enforcement, and financial challenges. One of the most important tasks of the management planning process will be to identify priorities within this large system.

### **Complementation**

As noted above, there are a number of other atolls in the central Pacific under US ownership and others under private ownership that are already protected or are being considered for protection. PIPA partners have not yet had discussions with representatives from these sites but it is logical to assume that there may be a number of efficiencies associated with sharing certain tasks such as enforcement and monitoring.

## **Lessons Learned**

Relationships, relationships, relationships. The early and candid conversations with Kiribati officials, including specifically the President, have helped to shape this as a true partnership with the government. This is particularly true of the meeting between President Tong and Greg Stone after the first research expedition. The President noted approvingly that the NEAq was the first research team to the Phoenix Islands who ever took the time to come to Tarawa to report the results of their expedition. There have been some tensions associated with the valuation process but nothing unexpected. There is a good foundation of trust that will smooth bumps in the road as they emerge.

The project team also got lucky in securing such a competent and respected civil servant to lead the effort on Tarawa when he retired. This connection continues to provide excellent access to the government and also brings the conservation effort into the heart of the government.

Finally, the project benefited greatly by the expertise brought to the discussions by Sue Taei, who works for Conservation International in the Pacific. Having someone who is knowledgeable about Pacific etiquette and protocols helped the project team avoid numerous gaffes.

Another lesson is the value of remembering constantly that marine resources are inherently public resources over which governments (national and local) exercise dominion and control. The project team worked hard to make PIPA a true partnership with the government. Success has been defined as a project that works fiscally and politically for Kiribati and as a project that produces true conservation benefits for the NGO partners. Shortcuts or easy answers that jeopardized any of those objectives were avoided.

## **Recommendations**

The global conservation community needs to recognize the specific fiscal and political circumstances faced by a least developed or under developed nation and develop conservation strategies, including conservation payments where appropriate, that work well for the affected government, the affected indigenous people, and the ecosystem.

## Asia-Pacific: Philippines

### *Private Tools for Mangrove Conservation in the Philippines*

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#### Abstract

Fishponds and other coastal developments have taken a heavy toll on mangroves in the Philippines. Mangrove forests remaining along the Philippine coastline are of lower quality than those found in the early century and cover less than one-third of the original area. Only 5% of the existing mangroves are primary growth. Three protection and management strategies for mangroves exist in the Philippines: 1) assignment of user and property rights; 2) regulatory techniques; and 3) non-regulatory techniques. This case study compares these strategies and focuses on the assignment of user and property rights, specifically contracts, permits, and leases issued by the Government of the Philippines. These instruments have been issued to qualified organized communities and other private and government entities with the goal of pursuing community-based mangrove development, conservation and management in protected areas and other areas of the public domain.



Map of the Republic of the Philippines  
Courtesy of Dr. Aliño, et al., MSN Secretariat

#### Program Overview

##### Agreement Mechanism

The agreement mechanisms being used in mangroves in the Philippines relative to assignment of user and property rights are summarized in the table below.

Agreement / Permit / Lease	Legal Basis	Contracting / Signing Parties	Implementer	Monitoring Center	Fee	Duration	# Existing in Central Visayas	Notes
<b>CBFMA</b>	-E.O 263 -DAO 96-29, DENR	Gov't & Head of People's Organization (PO)	Head of PO	PO & DENR	None	25 yrs, renewable for another 25 yrs	62	Products produced are taxable
<b>PACBRMA</b>	RA 7586 & DAO 2004-32	Gov't & organized tenured migrants or indigenous people	POs	PAMB	None	25 yrs, renewable for another 25 yrs	4	Products produced are taxable
<b>SAPA</b>	DAO 17, Series of 2007	Gov't and private individual operator or head of business partnership, PO, Corp., or LGU	Private individual operator or head of business partnership, PO, Corp., or LCE for LGU	PAMB through the PASu	RUF	Not to exceed 25 yrs, renewable for a period not more the first term	7 (50 existing apps)	Products produced are taxable
<b>FLAg</b>	DAO 2004-59	Gov't and head of business partnership, PO, Corp.,	Head of business partnership, PO, Corp.,	Gov't	Permit Fee based on policy	25 yrs, renewable for another 25 yrs	57	Products produced are taxable
<b>FLAgT</b>	DAO 2004-28	Gov't and head of business partnership, PO, Corp.,	Head of business partnership, PO, Corp.,	Gov't	Based on laws/ policy	25 yrs, renewable for another 25 yrs	8	Products produced are taxable

## Context

The agreements stipulated below are issued not only in mangrove areas but also in the forest areas of the public domain. The context, process and procedures including the issues surrounding the use of the agreement/permit/lease are described as follows:

## Community-Based Forest Management Agreements

The Community-Based Forest Management Agreement (CBFMA) is a production-sharing agreement entered into by an organized community and the government to develop, utilize, manage and conserve specific portions of *forestland* consistent with the principles of sustainable development and pursuant to an approved community Resource Management Framework Plan (CRMF). Since mangroves in the Philippines are classified forestland by virtue of Presidential Decree 705 which took effect in 1975, CBFMA's have been issued in mangrove forests since the decree.

CBFMA's empower communities to enter into agreements with private sectors and with any units of government for appropriate development and management projects in multiple use zone timberland areas as contained in the CRMF in accordance with the provisions of Department Administrative Order 96-29, Department of Environment and Natural Resources (DENR) and other pertinent policies, rules and regulations of the government of the Philippines. The CRMF defines the terms and procedures for access, use and protection of natural resources within CBFMA area.

The additional benefits of being a CBFMA holder include:

- Exemption from paying rent for use of the area;
- Exemption from charges for timber and non-timber products harvested from plantations;

- Consultations on all government projects to be implemented in the area;
- Preferential access to the DENR for assistance; and
- Income and proceeds from the use of forest resources within the area.

The CBFMA application process involves

- Formation of a people's organization (PO) if one is not in existence;
- Registering interest to apply for CBFMA;
- Identification of the planned CBFMA area;
- Upon CBFMA approval, development of a Community Resource Management Framework Plan, Annual Work Plan and Resource Use Plan (CRMF, AWP& RUP); and finally
- Initiation of stewardship work in the mangrove area under the CBFMA.

As of 2008, there have been 62 CBFMAs awarded to POs in Central Visayas, Philippines covering an area of 5,500 hectares of mangroves. This data is continuously increasing as the government continues to award more mangrove areas through this instrument to peoples' organization.

### **Protected Area Community-Based Resource Management Agreements**

The Protected Area Community-Based Resource Management Agreement (PACBRMA) is entered into by the Department of the Environment and Natural Resources (DENR) representing the government and organized tenured migrant communities or interested indigenous peoples in protected areas and buffer zones (upland and mangroves). PACBRMAs have terms of 25 years and are renewable for another 25 years. This community-based program (CBP) provides opportunities to organized tenured migrant communities and indigenous peoples to manage, develop, utilize, conserve and protect the resources within the protected areas and buffer zones. The tenure instrument is issued only within multiple use, sustainable use and buffer zones. However, the tenure holders may engage in protection and restoration activities in other allowable zones (such as the restoration zones) consistent with the Protected Area Management Plan (PAMP). This management plan contains the rationale for protected area establishment, proposed boundaries including buffer zones and designation of management zones including buffer zones with purposes, strategies and allowable uses.

The stages of the CBP implementation include:

1. Preparatory Stage – Includes information, education and communication campaigns, institutional linkages, identification of CBP areas and processing of and conflicting claims;
2. The People's Organization (PO) Formation and Provision of the Security of Tenure Stage – includes PO formation and application, processing and approval of the PACBRMA;
3. The Planning Stage – Includes preparation of the community resource management plan (CRMP) and affirmation of the plan; and
4. Implementation Stage – This stage implements the CRMP and the 5-year plan of activities as well as enhances organizational and institutional capacities.

### **Special Agreement in Protected Areas**

The Special Agreement in Protected Areas (SAPA) is a binding instrument between the DENR through the PAMB as the first party and a second party which may be any of the following: 1) Indigenous Peoples, 2) Tenured Migrants, 3) Local Government Units, 4) Other Government Agencies (OGAs), and 5) other stakeholders such as corporations, cooperatives, business entities and NGOs.

The objectives of SAPAs are:

- To provide access and economic opportunities to indigenous peoples, tenured migrant communities and other stakeholders of protected areas thereby contributing to the reduction of poverty;
- To optimize the use of protected areas consistent with the principles of sustainable development and biodiversity conservation in cooperation with stakeholders;
- To guide the development of appropriate zones of protected areas in accordance with their management objectives; and
- To generate revenues for the sustainability of protected areas management.

SAPAs use the Resource User's Fee System in Protected Areas, the amount of which is determined by the PAMB and affirmed by the Secretary of the DENR.

### **Special Forest Landuse Agreement**

A Special Forest Landuse Agreement (FLAG) is a contract between the government and a person, authorizing the latter to temporarily occupy, manage and develop in consideration of a government share, any forestland of the public domain for specific use. FLAGs authorize all types of uses of mangrove forestlands other than the production of timber and non-timber resources. The uses may include, but are not limited to, warehouse siting, drydock/shipbuilding/shipbreaking site, industrial processing, landing site, water reservoir, etc. FLAGs have a maximum duration of 25 years and are renewable for the same period.

The qualified applicants include Filipino citizens and associations, corporations, cooperatives, partnerships or a juridical person, for which at least 60% of the capital is owned by Filipino citizens. Awarding these types of uses is subject to government bidding process.

The minimum entry fee for each type of forestland use is not lower than 5% of the zonal value of the area.

### **Forest Landuse Agreement for Tourism Purposes**

The Forest Landuse Agreement for Tourism Purposes (FLAgT) is a contract between the DENR and a natural or juridical person, authorizing the latter to occupy, manage, and develop, subject to a government share, any forestland of the public domain for tourism purposes. Authorized special forest land uses, such as the establishment and operation of beaches, camp sites, ecotourism destinations, hotels and other tourism facilities, can be undertaken for a period of 25 years. The contract is renewable for the same period upon mutual agreement by both parties.

The only difference between the FLAgT and a FLAG is the entry fee, which is based on the area and the highest entry fee offered by the applicant. The minimum entry fee schedule is:

- 0.5 ha and below - 25,000.00 PhP
- 0.51 to 99 ha - 50,000.00
- 1.0 to 5 ha - 100,000.00
- Over 5 hectares - 150,000.00

## **Process & Issues**

### **Lands & Resources**

The coastal resources that are conserved or managed by the agreements are the mangroves trees, other minor mangrove vegetation and the associated terrestrial fauna.

## Threats

The primary threats to mangroves forests and other mangrove resources in the Philippines that are addressed by the above-mentioned agreements are:

- Conversion of mangroves to fishponds and saltbeds;
- Reclamation of mangrove areas for various developments;
- Pollution and siltation;
- Dikes and structures obstructing waterways and tidal inundation;
- Disturbance due to gleaning and fish landings; and
- Overexploitation/utilization.

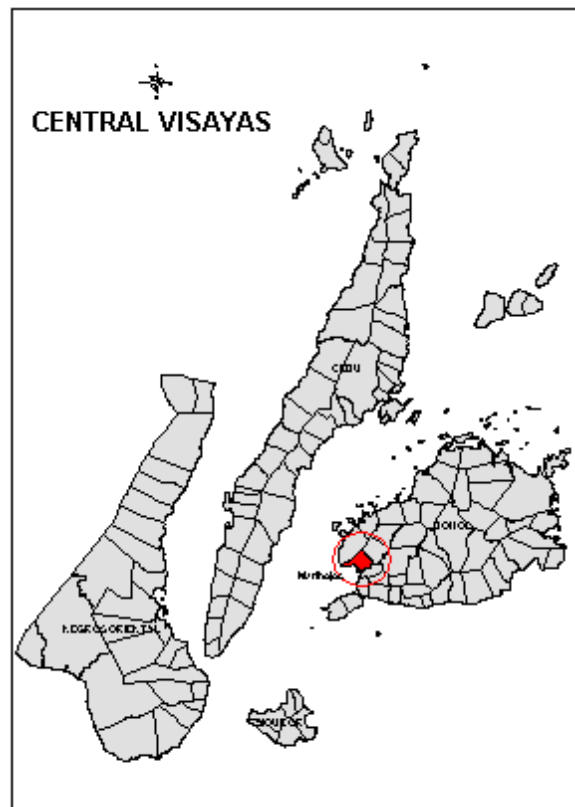
## Organizational & Partner Capacity

The specific resources needed by the projects under the different tenure instruments are mostly financial. Other important elements needed by instrument-holders include capacity building through training and cross-visits to pilot sites put up and assisted by special projects acquired through government and/or private organizations, institutional arrangements, and development of resource and social mobilization systems. The resource support for the enhancement of private tenure instruments have been nil since the implementation of the programs.

## Conclusion

### Opportunities

In Central Visayas, Philippines, the support coming from the government and foreign-assisted projects have enabled the establishment and protection of 62 sites under CBFMA, 7 sites under SAPA with more than 50 sites under applications, 4 sites under PACBRMA, 57 sites under FLAg and 8 sites under FLAgT. The opening of sites was based on perceived needs of stakeholders, reinforced by legislation and the strength of partnerships and collaborations through memorandums of agreement, leases and permits. In terms of medium and long term opportunities, more partnerships with non-governmental organizations towards supporting the people's organizations in the implementation of their management plans is needed. Specifically in terms of capacity building in the areas of enterprise development and natural resource management, including solid wastes and sewage treatment. Replicating these strategies would surely give ample opportunities for the conservation, protection and effective management of mangroves and coastal and marine ecosystems. In so doing, enhancement of biodiversity and sustainable development can be attained.



## **Scale**

The private tools for managing mangroves in the Philippines have been implemented in all of the coastal regions in the country. Since these tools are community-based and involve stakeholder participation, the experience can be confidently applied on a regional and even at the global level.

## **Complementation**

These strategies address people's empowerment and legitimize participation of the private sectors. Thus, partnerships and collaboration between and among stakeholders in the implementation of various coastal and marine initiatives are best complemented by participatory resource assessments, planning, implementation, and monitoring. Needs and gaps are filled as project implementation proceeds.

## **Lessons Learned**

These private tools show that:

- Tenure instruments legitimize partnerships between the government and the private sector by conserving and protecting mangroves and other coastal and marine environment;
- Community-based tenure empowers communities to conserve and protect mangroves while providing them confidence to engage other private sectors;
- Partnerships in project implementation create capacity for stakeholders to manage coastal resources;
- The business side of mangrove management by communities continues to need strengthening as people's organizations have not achieved maturity in economic and environmental matters; and
- Absolute rights to mangrove areas (such as title) should not be given to people's organizations in the development process, because in some instances (while the projects are still under government control and supervision) the selling of individual members' privilege to occupy mangrove forestlands is occurring at project sites. Increased sale would likely occur if absolute tenure were afforded.

## **Recommendations**

Based on experiences in the Philippines with private tenure agreements, recommendations to the global marine conservation community include:

- Provide technical and/ or financial assistance for the conservation of mangrove forests and resources as the last frontier in the protection of shorelines and coastal and marine ecosystems; and
- Support and/or participate in the furtherance of existing pilot sites and in the conservation of the Coral Triangle's ecosystem management and development of the Visayan Sea, Philippines presently initiated by some countries and private organizations working in Southeast Asia.

## Asia-Pacific: Fiji

### *Bioprospecting and Live Rock Harvesting for Coral Conservation in Fiji*

Bill Aalbersberg, PhD, University of South Pacific - Fiji

#### Abstract

A Locally Managed Marine Area (LMMA) is an area of nearshore waters actively being managed by local communities or resource-owning groups, or being collaboratively managed by resident communities with local government and/or partner organizations. An LMMA strategy offers an alternate and complementary approach to the centrally-managed system where a body (such as a national government agency) largely uses “command-and-control” to manage a marine area, often from a remote location. As of 2007, 200 LMMAs involving more than 300 communities had been declared in Fiji, covering about 30% of the country’s inshore fishery. The LMMAs in Fiji protect reefs, sea grasses, and mangroves. Management plans associated with LMMAs include income-generating activities. Under this guise, contractual arrangements between private companies and communities have been entered into for bioprospecting and artificial live rock harvesting. This case study explores these arrangements as a means to augment local incomes and create tangible value in protecting the marine environment through LMMAs.<sup>4, 5</sup>

#### Project Overview

##### Context

Since 1995 the University of the South Pacific (USP) has worked with Fiji communities to develop management plans and monitor their inshore coral reef ecosystems. About 180 sites are now involved. At almost all sites a lack of monetary resources (tied to rising material aspirations) is identified as a root cause of many of the direct threats and so active plans call for income generating initiatives.

##### Agreement Mechanisms

A number of income generating initiatives directly related to access to Locally Managed Marine Areas (LMMA) and their tabu (no take) zones have been established. Given the well-developed tourism sector in Fiji, snorkeling in no-take areas (where fish are plentiful and docile) by fee-paying tourists is a common income-generating effort. This case study focuses on two less prosaic initiatives, the commercial search for drugs from marine invertebrates and microorganisms (bioprospecting) and the rental of reef area for live rock culture (planting artificial bare substrate of cemented pumice to allow coralline algae to cover it).

##### Bioprospecting

For bioprospecting, different kinds of agreements have been used. The policy framework is that the Fiji government plays a regulatory role and benefits are channeled to the traditional marine resource owners. In all cases the University of the South Pacific has played a central role, signing agreements with overseas entities such as universities or pharmaceutical companies and in turn getting approval from Fijian communities for collection to take place.

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<sup>4</sup> Locally Managed Marine Areas. Accessed online, April 3, 2008, at: [http://www.lmmanetwork.org/Site\\_Page.cfm?PageID=15](http://www.lmmanetwork.org/Site_Page.cfm?PageID=15).

<sup>5</sup> Aalbersberg, B, A. Tawake, and T. Parras. 2005. Village by Village: Recovering Fiji’s Coastal Fisheries. World Resources. pp 144-151.

Two fee-paying initiatives have been established:

- An agreement between the Strathclyde Institute for Drug Research (Scotland) and the Verata district, signed in 1997 (the Strathclyde Institute mainly acts as a broker for Japanese companies); and
- A contract with the PharmaMar Company (Spain) and several provinces, signed in 2007.

In the Verata case a fee of \$100 USD per sample was paid for about 350 samples. Proceeds go to a district conservation and education trust fund. With PharmaMar, 40,000 Euros was split 50/50 between the USP laboratory and a trust fund established to support LMMA work in the collection areas. Many other marine collections have been made but as part of programs without immediate commercial potential (after 1995, drug discovery models have disfavored the use of natural products by drug companies). All agreements call for milestone payments for collection and sharing benefits from licensing fees or royalties.

### **Live Rock Harvesting**

The live rock initiative is an attempt to replace the removal of naturally-occurring reef base with artificially cultured reefs for aquarium traders. After about a year the cultured material attains the desired characteristics of natural live rock. In essence reef space is “rented”. The main company is Walt Smith International which signs contracts with individual villages. Villages pay US\$0.25 per kilogram of bare rock and receive US\$0.50 per kg (there is also a 20% weight increase as organisms cover the substrate). To facilitate community involvement in pilot sites, USP, under an International Cooperative Biodiversity Group (ICBG) grant, underwrites the purchase of up to 5,000 kg of material per village, with the proviso that at least 60% of proceeds are used to replant an increasing amount of live rock each year.

## **Process and Issues**

### **Decision-making and Implementation Processes**

Both processes began as part of a larger marine conservation initiative in which a healthy reef system is linked to the enterprise (through more samples being made available for bioprospecting and the availability of coralline algae to inhabit the cultured live rock). Extensive discussions were held with community leaders and government officials about the projects. For bioprospecting, the idea of providing new drugs to help people was attractive to Fijians and the extensive negotiations to maximize community benefits were mainly done on their behalf, although key issues were discussed with the community and a lawyer of community choice reviewed the agreement.

In the case of live rock, a regional integrated coastal management project planning meeting had listed live rock harvest as a major threat. A multi-stakeholder meeting (government, industry, NGOs, community and marine biologists) agreed that, among other initiatives, cultured live rock should replace removal of naturally-occurring reef rock over time.

### **Lands, Resources and Threats**

The area covered by both projects is the inshore coral reef ecosystem. In Fiji these are threatened by overharvesting, pollution (especially nutrients), destructive practices (live rock harvest could arguably be classed here), siltation, and natural disasters (including coral bleaching). Fijian rural and outer island dwellers depend on fish for their protein source; 30 kg of fish are consumed per person annually and the estimated annual subsistence harvest is valued at \$25 million.

### **Organizational and Partner Capacity**

For the bioprospecting project, the most important knowledge was that of best practices in access and benefit sharing agreements. In the absence of any Fiji government policy this was especially important. Skills in negotiations with a variety of players were also important. In both projects we were fortunate to have helpful partnerships both with industry and with international conservation advisors. As both projects also involve communities, knowledge of protocols and local language and culture were also critical.

### **Legal Framework**

Each initiative has a formal contract in which USP is in the center and makes agreements with both the community and the private sector. The communities in Fiji have customary tenure which gives them control over their marine resources. As such, land resources are owned by them but can be leased and marine resources can be used by others upon payment of compensation (legal ownership is with the state but this is disputed). The live rock agreements are simple and easily enforced; the bioprospecting agreements are complex and require long-term monitoring of testing results. The government does not have the monitoring capability but relies on the University's good will to do so.

### **Socio-economic Considerations**

The main indirect threat underlying the direct threats to reefs is the need for cash (coupled with growing material aspirations). The initial main focus of our work is good stewardship; once this is agreed to/established then income generating projects are discussed. In the case of live rock, the villages had either refused large royalty offers (bribes) of about US\$20,000 to allow access to live rock harvest (Tagaqe village) or had harvested live rock and then become aware of dangers and discontinued (Namada village). Several people in a village employed as live rock harvesters can earn as much as US\$10,000 a year (a tourism job might earn a third this amount). For cultured live rock, the initial planting will only earn the entire village about \$3,000 a year but the improved reef conditions over time will hopefully compensate for this income loss. The amount of planting can also be expanded. Where communities had direct contact with the live rock trader they were suspicious of the project, especially feeling that the payment was inadequate.

### **Outreach**

The stakeholders include the community, the government at different levels, the conservation sector and the business sector. For the live rock trade, the tourism industry was especially supportive of the cultured rock initiative and one resort offered an area in front of their resort to trial the initiative while the community discussions were taking place. The aquaria owners who ultimately buy the rock are also important as there has been a lull in the project as the original cultured rock "design" was not well-received. For bioprospecting, the general public might eventually benefit by a new drug discovery.

### **Funding**

In both cases funding for the initiatives has come from US government projects for drug discovery and conservation.

## **Conclusions**

### **Opportunities**

The initial bioprospecting project, with a fee of roughly US\$100 per sample, was not replicated per se. By the end of this project the drug discovery paradigm of pharmaceutical companies had changed and most

had discontinued their natural project divisions. Continued work at USP was made possible by partnership with US universities under US government funding. This developed capacity at USP but did not include sample fees. Benefits for collecting areas involve scholarships for students from the area in drug discovery or conservation. Collection areas were also prioritized for conservation planning that was supported by separate foundation funding. It is felt such support has greater long-term benefits for communities than sample fees.

Other collaborations with Japanese universities have offered training for a number of students. Two Fijian students who have undertaken this program have progressed through postdoctoral studies to be employed by the pharmaceutical industry. In 2007, the Spanish firm PharmaMar contributed 40,000 Euros to undertake a joint marine collection in Fiji. Half of the net proceeds were contributed to a Fiji community marine conservation trust fund. Some marine natural products obtained from Fiji sources are used in health research and a 3-5% royalty for these amounts to about \$5,000 per year to Fiji.

For the live rock trade an initial trial was made in 2005-2006 at two sites. After that the product needed to be redesigned and replanting at three sites is expected to begin in June 2008. Depending on the market penetration, earnings of up to US\$500,000 per year are possible in Fiji. Fiji supplies perhaps 50% of live rock globally. Bioprospecting sample collection continues globally although the shifting pharmaceutical scene and restrictive access conditions seem to be limiting this. The US government ICBG program funds 5-7 projects of \$3.5 million over 5 years which combine bioprospecting and conservation initiatives. Since 1994 projects have been funded in about 15 countries.

By working under existing larger project frameworks such as the Fiji integrated coastal management and the Asia-Pacific locally managed marine area network, these income-earning initiatives are a tool being used in association with other approaches to conservation and complement them.

### **Lessons Learned and Recommendations**

Direct income to communities is a strong incentive to conserve coastal and marine areas. The commitment made by communities needs to be well understood by them as well as the consequences of non-compliance. Income-generating with minimal community requirements are more likely to be successful. It is probably simpler to work initially on a small geographic scale with reasonably homogeneous community characteristics and expand them rather than try to be too ambitious to start with. Partnerships which provide best practice advice are also critical to success.

## Asia-Pacific: Indonesia

### *Conserving in Papua, Indonesia through Ecotourism*

Shawn Heinrichs, Owner and Founder, Blue Sphere Media; Representing the Misool Eco Resort

#### Abstract

The Misool Eco Resort (MER) is located in the remote southern part of Raja Ampat, Papua, Indonesia. The small resort is located on the island of Batbitim, deep in a vast archipelago of uninhabited islands, 240 kilometers from the nearest resort and half a day's journey from the nearest village. Misool Eco Resort is deeply committed to a policy of environmental and social responsibility. We seek to provide exceptional and enriching diving experiences in a sustainable environment. We aim to protect and revitalize both our natural surroundings and the community in which we operate. We are committed to demonstrating to our hosts, our guests, and the local government that tourism can support a local economy on much more favorable terms than mining, logging, overfishing, or shark finning. In doing so, MER entered into a lease agreement with the local community to establish a 200 square km Marine Protected Area (no-take zone) surrounding the Misool Eco Resort. Within this area, all fishing, shark finning, harvesting of turtle eggs and shellfish are strictly prohibited. We also require all boats to practice reef-safe anchoring. We regularly patrol the area for illegal fishing and shark finning. In addition, the Misool Conservation Centre is being registered as a UK-charity, and will provide a well equipped, functional base for scientific research and conservation projects, both social and environmental. Perhaps most importantly, MER is dedicated to safeguarding the local community in which we operate. Our labor force, drawn largely from the closest village, is offered favorable working conditions, health benefits, job training, and English lessons.

#### Project Overview

##### Agreement Mechanism

A land lease agreement, which includes a specified area of surrounding sea, was the formal agreement mechanism used to establish the Misool Eco Resort No Take Zone (MER NTZ) in the southern Raja Ampat. The agreement was signed on November 28, 2005. Key provisions of the agreement include:

<b>Law:</b>	Indonesian law and Papuan law
<b>Duration:</b>	25 years
<b>Payments:</b>	5 year terms with payments due at the start of each term
<b>Lease Area:</b>	Approx. 200 sq. km surrounding Batbitim, including two small islands of about 1 sq. km (Batbitim) and 1/4 sq. km.
<b>Lessor:</b>	Heads of Bahale and Yelfom families
<b>Lessee:</b>	Andy Miners and Misool Eco Resort
<b>Sign Date:</b>	November 28, 2005

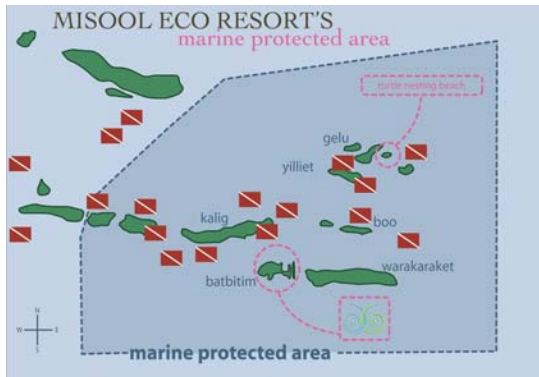


(Jef Galyu Islands)

##### Governing Law

The contract was founded on principles supported by Papuan law (or Hak Adat) and formalized under Indonesian law. The Indonesian Central Government recognizes Hak Adat as part of special autonomy status (Kursus Autonomy) whereby the state of Papua has a certain degree of autonomy from the rest of Indonesia. Under Papuan law, people can own not just islands but beaches, reefs, and waters surrounding them.

### **Key Parties to Agreement**



- Andrew Miners, Founder and Managing Director, Misool Eco Resort
- Bapak Yasuf Salim, Camat (pronounced "chamut") District Head South East Misool
- Haji Jalil Bahale, Kapala Desa (Head of Yellu Village)
- Bapak Hadir Yelfom, Yellu Village Secretary
- Bapak Haji Yahya Bahale, Adat Leader Yellu Village (Local traditions and culture leader)
- Bapak Marcus Wanmar, Bupati of Raja Ampat (Head of Raja Ampat Regency)
- Bapak Mambrasa, Head of tourism at Raja Ampat

### **Lease Rights and Limitations**

Under the provisions of the lease, MER secured exclusive rights to Batbitim and Jef Galyu Islands, including hills, forests, coconut trees, water, animals and the surrounding lagoon. In addition, rights were secured to designate approximately 200 sq. km of surrounding seas as a no take zone (NTZ) including animals, coral reefs, turtles, sharks, rays and fish. Under the terms of the lease, anyone other than MER is prohibited from taking any marine products from the NTZ or granting permission to any other party to do the same.

### **Fees and Services Exchanged**

The village of Yellu benefits in a number of ways from their agreement with MER. The most obvious benefit is MER's lease fee, payable every five (5) years. However both Yellu and MER have a clear understanding that this payment is a nominal bonus in comparison to the significant long term benefits of bringing sustainable tourism to their area. Tourism and the establishment of the NTZ offer several important economic benefits to the people of Yellu:

- New job opportunities
- Employee benefits
- Goods and services
- Language skills
- Thriving marine environment for future generations

### **Process and Issues**

#### **Decision-making and Implementation Process**

Frequently there are no official documents that state who is the rightful owner of land and sea in Papua. In the case of the MER NTZ, the local Adat committee had to confirm who the rightful owners of the area

were. A deep knowledge of the area and good relationships with the local people were critical to having the ability to form the agreement.

Initially, the idea of leasing the area from "owners" who lacked any formal documentation of their ownership rights was cause for great concern. There was a strong possibility that we might enter a lease with the wrong people or end up in a situation where counter claims undermined or invalidated the lease. To gain comfort, we went to great lengths to meet with the relevant folks in the local government and community leaders. Several factors worked in our favor:

- There are only a few villages bordering the proposed NTZ with only one obvious candidate for ownership.
- The Camat provided excellent guidance in helping locate the proposed NTZ in an area where no known counter claims existed.
- A large pearl farm operating about 10km from Batbitim leased from the same family that MER leases from and has been operating for 12 years in this location without any counter claims.

These factors, combined with our extensive due diligence, provided the necessary assurance that a formal legal agreement would be sufficient to secure the area for our purposes.

### **Lands and Resources**

Southern Misool offers some the best and most pristine diving in Raja Ampat. One dive site, Fiabecet, is considered by many to be one of the top ten dive sites in the world. In addition to obtaining permission to build MER on Batbitim Island, steps were taken to secure a NTZ reaching in all directions from the island. The goal was to include as many of the healthiest and most diverse reefs within the NTZ. Andy Miners, having been a dive master in this region for years, had intimate knowledge of many of these sites. At the same time, care was taken to not "overreach" and remove too many of the traditional fishing areas. It was critical that the area start with the support of the local villages and that support continued into the future.

MER secured exclusive rights to Batbitim and Jef Galyu Islands, including hills, forests, coconut trees, water, animals and the surrounding lagoon. In addition, rights were secured to designate 200 sq. km of surrounding seas as a no take zone (NTZ) including animals, coral reefs, turtles, sharks, rays and fish. Under the terms of the lease, MER is prohibited from taking any marine products from the NTZ or granting permission to any other party to do the same. Likewise, MER has the right to prevent any other parties from extracting marine resources from the NTZ. There is one exception to this rule established to honor traditional fishing practices. Once every two years certain shellfish can be collected by members of Yellu village over a period of only two weeks without the use of air compressors or dive equipment. This is restricted from designated dive sites.

The MER NTZ is located in the southern most boundary of Raja Ampat. South of the NTZ, open water stretches for 80 miles until you reach Ceram and Ambon even further south. Historically, many of the outside fishing fleets entered Raja Ampat from these locations, passing into and through what would become the NTZ area. Many of these boats engaged in incredibly destructive fishing practices including reef dynamiting, shark finning, turtle harvesting, turtle egg collecting and destructive trawling. These fleets were unwelcome by the local villages but the locals were ill equipped to do anything about it. Frequently these boats would anchor and dynamite or fin sharks on the southern sides of the islands to avoid detection. By locating MER and the NTZ on this boundary, a buffer was established that would significantly reduce the level of encroachment by these outside fishermen. No longer could they hide on southern aspects or enter this area of Raja Ampat undetected.

To further emphasize the above point, MER itself is located on a historical dynamite fishing camp. Many of Batbitim's south, east and shallow bay reefs were almost completely destroyed by dynamiting that occurred in the late 1990s and early 2000s. The northern reefs by comparison are stunning and virtually intact. The decision to locate MER on such an island was a deliberate one. The objective was to select a

location where tourist traffic would not negatively impact the local reefs (the water cottages are situated primarily behind dynamited reef) and where active conservation and reef building efforts would significantly improve the health of the local reefs with each year that passed.

### **Threats**

The primary threats to the NTZ are illegal fishing, shark finning, turtle/turtle egg harvesting, reef damage from net fishing, reef damage from boat anchoring, life reef harvesting (hookah divers), pollution (flotillas of plastic debris that wash in with certain currents clogging bays and mangroves) and climate change.

The NTZ agreement expressly forbids any kind of fishing or animal (turtles/eggs) harvesting and it gives authority to MER to enforce these provisions. Since all reefs are protected within the NTZ, the agreement enables MER to administer and enforce boat anchorage policy. There is nothing that can be done locally to combat the outside pollution and climate change. These are serious realities that are affecting marine environments globally.



### **Organizational and Partner Capacity**

A sound knowledge of the local area was essential to determine the appropriate location for the NTZ. Relationships with key local stakeholders (existing and new) proved critical to securing the land and sea ownership rights. As described above, navigating ownership ambiguity, traditional fishing seasons (sasi) and establishing the necessary approval required strong relationships at the local, district and regional levels.

Villagers in Raja Ampat speak both Indonesian and local dialects in their daily lives. The ability to speak proficient Indonesian (Andy does not speak the local dialect) proved essential in getting to the heart of their needs and concerns, as well as establishing mutual trust and respect.

Established NGOs provided important guidance and resources when it came to the nuances of establishing and administering an MPA. These benefits included: access to their local and regional government contacts, research and reports, maps and surveys, fisheries data, interpretation of laws, insight on pending legislation, and even transportation. These resources proved valuable as we had never before established an MPA.

### **Legal Framework**

The contract was founded on principles supported by Papuan law (or Hak Adat) and formalized under Indonesian law. The Indonesian Central Government recognizes Hak Adat as part of special autonomy

status (Kursus Autonomy) whereby the state of Papua has a certain degree of autonomy from the rest of Indonesia. Under Papuan law, people can own not just islands but beaches, reefs, and waters surrounding them. The region has a long standing local tradition of fishing seasons (Sasi) which the local villages "open" and "close" in their areas and surrounding villages generally respect.

The "sasi" proved to be a fundamental element to obtaining the lease. Because two families hold all rights to the land, sea and creatures within the sea, they thereby also have the right to exclusively lease the area. Gaining the support of the village leaders, the district head, the regional head, and the tourism department created the necessary agreement as to the form of the contract.

Having secured all rights to control the land, water and creatures within the NTZ, MER was empowered to take the steps necessary to enforce the "no take" provisions of the agreement. MER has decided to abide by the same provisions that prevent the lessor from extracting anything from the NTZ, thereby establishing an important check and balance. MER believes that if either party were to extract from the NTZ, it would be far more difficult to explain and regulate such activity.

### **Socio-economic Considerations**

From the outset, the local community was keen to bring tourism to the area. Their positive experience with the local pearl farm helped foster an environment of receptiveness to outside business ventures in their area. It is important to note that MER (the resort) was of much greater interest to them than the NTZ. Whereas the NTZ required that they give up some of their traditional fishing areas, the resort offered the prospect of long term employment and income for the villagers. In reality, the NTZ was formed on the back of the resort, with the favorable economic possibilities of the resort driving their desire and willingness to grant the NTZ.

As described in the overview, the village of Yellu benefits in a number of ways from their agreement with MER. The most obvious benefit is MER's lease fee, payable every five (5) years. However both Yellu and MER have a clear understanding that this payment is a nominal bonus in comparison to the significant long term benefits of bringing sustainable tourism to their area. Tourism and the establishment of the NTZ offer several important economic benefits to the people of Yellu:



- **New job opportunities** - Under the terms of the Agreement, MER has agreed to give preference to local communities in the village of Yellu and surrounding area when recruiting non-skilled staff. MER jobs include construction, maintenance, resort services, dive services, and NTZ rangers. All staff is paid above the "going rate" set by the man power department. MER currently employees 75 people with 45 coming from the village. When operational, MER expects to employ 35 villagers full time with the majority from the village, and an additional 15 staff for future construction.
- **Employee Benefits** - All staff, both full time and temporary, receives health, accident and pension benefits. Full time staff receives benefits for their families. This is certainly not the norm for the area or required by the state.
- **Goods and services** - MER purchases fuel, fish, some dry goods, and some vegetables from the local villagers. MER is encouraging them to grow more to sell to MER.

- Language skills - MER employees two professional language instructors and is teaching the village staff to become proficient in English. This is an important and valuable skill necessary for them to succeed in the tourism business.
- Thriving marine environment - Outside fishermen have increasingly been entering the traditional fishing grounds of the village and taking fish without securing permission or paying a permit fee. Even when a permit fee is paid, the amount received by the local community is relatively insignificant. For this reason, many in the village feel that their marine produce is being "stolen". Furthermore, the elders in the village fear that in the future, outsiders may severely degrade their reefs and deplete their fish stocks. The NTZ provides for the long term health of their reefs and fish stocks, with the anticipated spillover effect to surrounding waters offering sustainable and abundant fish catches for the villagers. Given that the concept of "closed" seasons and areas is fundamental to "sasi", they are able to grasp the idea of "spillover" benefits from the NTZ. Furthermore, they appreciate the fact that healthy reefs ensure the long term success of the dive tourism in the Misool area, and hence their ongoing MER employment.

## **Outreach**

Key stakeholders include:

- Bapak Yusuf Salim, Camat (pronounced "chamut") South East Misool District: Pak Camat is an elected government official and district head of South East Misool. He is one level senior to the Kapala Desa.
- Haji Jalil Bahale, Kapala Desa: Kapala Desa is the government head of the village. Pak Desa has been head of Yellu village for over 20 years and is a powerful and respected man. He is also the younger brother of Pak Haji (Adat leader).
- Bapak Hadir Yelfom, Yellu Village Secretary: Second in command to the Kapala Desa, Bapak Yelfom is the head of the second largest family in Yellu and joint owners of the land and seas in the area.
- Bapak Haji Yahya Bahale, Adat Leader Yellu Village: Adat is the name given to local traditions and culture. Adat is well respected by local inhabitants of Raja Ampat. Pak Haji is an influential man and head of the Bahale family, which as the longest lineage in Yellu and holds traditional rights (Hak Adat) to all the islands around Batbitim and Yellu.
- Bapak Marcus Wanmar, Bupati of Raja Ampat: Bapak Wanmar is the government head of the Raja Ampat regency. While he was not directly involved in the lease, he has lent us his support.
- Bapak Mambrasa, Head of tourism for Raja Ampat: A number of meetings were held with Bapak Mambrasa, however it was his staff that were more helpful. Although friendly, the tourism department of Raja Ampat is very young and quite inexperienced. Very little direction and assistance was provided in arranging the lease.

Each of the above stakeholders were important in the formation of the agreement. The process began in early 2004 with a year spent on site surveys. In March 2005, meetings began in earnest with the land planning department to better understand laws governing land leasing in Raja Ampat. In May, we were introduced to the Camat who identified the land owners and facilitated a meeting with the village. Scheduling conflicts and the monsoon season delayed further meetings until September.

During this delay, time was spent identifying investors to provide seed funding. In September the meetings resumed and we learned that the Camat had already shared the concept with the village leaders. We held meetings with the village and though they were very enthusiastic, both the Secretary and Kapala Desa were not present. Returning to Sorong, we met again with the Camat and the Village Secretary to draw up the lease agreement. The Village Secretary recommended a final meeting with the village to make certain they were very clear that they could not fish in the NTZ. This meeting was held and on November 28, 2005 the lease was signed.

## **Funding**

Because the NTZ establishment was tied to the resort, we needed to secure funding for both MER and the NTZ to get started. The initial NTZ lease payment was funded through a private loan. Two financing rounds were necessary to fund the construction of the resort. Construction will be completed in September 2008 and the resort opens to guests in October 2008.

The MER Conservation Center will play a critical role in the future management of the NTZ and funding is now being sought for this non-profit entity. The Conservation Center will be responsible for oversight, research, projects, patrolling and regulations within the NTZ. Most importantly, it will ensure that the no take provisions are strictly adhered to and work to restore reefs that have been damaged by destructive fishing methods.

Perhaps the most urgent need is the establishment of full time patrolling of the NTZ. Currently the resort uses its boats to intercept any observed fishing activity or destructive anchoring. In addition, periodic patrols are conducted to let fishermen know the area is being watched over. If the NTZ provisions are not enforced from the onset, it is possible the agreement could collapse because a tradition of non-compliance will be established.

Finally, a second NTZ area is currently under discussion. This will require additional funding. As described in more detail below, it offers critical environmental benefits but only modest tourism value.

## **Conclusions**

### **Opportunities**

We have currently secured one site under lease, the MER NTZ. Though still early in the project, the last 1.5 years have demonstrated some great success with the majority of the fishermen honoring the NTZ.

We are under discussions to establish a second NTZ in a beautiful mini-archipelago just over 1 hour from the resort. It is far from the traditional fishing grounds of the communities that own rights to it, and hence only fished occasionally by them. Likewise, the resort will only make occasional use of it as there are many world class dive sites within 1-15 minutes of the resort. The driving motivation to secure this area is the fact that it currently acts as a base for outside fishermen who set up illegal camps and destructively fish in the Misool region. They pay no fees to the villagers and plunder the reefs of fish, turtles and sharks. Establishing an NTZ along with ranger stations and a patrol vessel could create an incredible sanctuary within Raja Ampat and provide a sustained financial return and ranger jobs to the villages who own the area.



Perhaps the most important factor maintaining the sanctity of the NTZ is the full time, long term presence of MER. Every day the villagers are reminded that the NTZ plays a critical role in the success of MER and therefore their own personal incomes. Our model of a resort combined with an NTZ can be replicated in other parts of Raja Ampat as well as abroad.

It is worth noting that the NTZ was formed on the back of the resort, with the promise of employment more than justifying the sacrifice of a portion of the fishing grounds. This may be a good model for future NTZ development. The partnering of conservation groups with business enterprises can be a powerful force in marine conservation. The business enterprise can bring jobs and income while the conservation group brings programs, education and protection of resources. As time passes, the conservation group

can transition its functions to the business and local community, thereby creating a completely self sustaining model.

### **Scale**

The MER NTZ is operating at the local level both ecologically and politically. Though it covers an incredible abundance and diversity of reefs (200 sq. km), it is still relatively small in comparison to the larger MPAs in Raja Ampat. In addition, the area is leased from local villages and not a state or regional government.

If this model were embraced at the program level, NGOs could seek to group a number of private enterprises together in a given geography to support larger shared NTZs. This would require increased orchestration and collaboration between a large number of stakeholders.

Benefits to expanding this strategy include:

- Larger NTZs would provide greater protection for species that move and migrate more.
- Economies of scale as more stakeholders share in the cost of the NTZ.
- Increased monitoring and patrol with more stakeholders.
- Larger scale community impact thereby increasing longevity of NTZ.
- Creating a legal framework whereby future NTZs could be established more rapidly and be held to best practice standards.

Limitations to expanding this strategy include:

- A limited number of eco-resort operations can be sustained in any given area.
- Finding private organizations committed enough to take on the challenge is difficult.
- Identifying suitable locations where locals are willing to give up fishing rights is difficult.
- Patrolling and enforcing larger marine areas is costly but necessary, as poaching is rampant in MPAs.

### **Complementation**

TNC, CI and WWF have been working together with the regional and local governments in Raja Ampat to establish a series of MPAs in the regency. These MPAs became officially recognized in December 2006 when Raja Ampat was declared a marine regency (or Kabupaten Bahari). The charter of the Regency is to focus on marine economics including marine tourism.

The broader MPAs will be zoned into different use areas including: traditional use, tourism, and strict conservation. The MPAs are still awaiting zoning and with a few exceptions, there are no NTZs in place. One of the MPAs covers southeast Misool. As they look to zone this region, TNC has expressed a desire to use the MER NTZ as the center of the larger NTZ for this MPA.

There is a great opportunity to form a complementary strategy which includes smaller private groups and larger NGOs such as TNC, CI and WWF. While these NGOs can work from the top down with central and local governments to change policies and establish broader conservation measures, the smaller private groups can work at the community level to implement them. In the case of MER, the NGOs broader efforts to establish MPAs in Raja Ampat combined with MER's grassroots work to establish its own NTZ made for a perfect complementary strategy. MER is on the ground 24/7. The staff is primarily from the local villages enabling closer and deeper relationships with the villages. The local leaders visit the resort and NTZ and see for themselves the conservation practice in action. Over time (two years now) they know from their own people's accounts that MER has adhered to the covenants of the NTZ lease and have been protecting it from outside intruders.

An NTZ is perhaps the most strict form of MPA and often the most controversial. As such, it necessitates real agreement from the community for it to be granted and actually adhered to. MER offers the kind of community integrated project necessary to secure this agreement and create "real" NTZs.

## **Lessons Learned**

### *Things we did right and will continue to do:*

- Selected an area of incredible biodiversity and abundant fish life.
- Chose an area where ownership rights could be established with reasonable confidence.
- Created an NTZ instead of an MPA (with managed fishing).
- Invested in relationships and secured agreement at the local and regional levels.
- Created a very real and long term economic opportunity for local community.
- Took a serious and uncompromising eco approach to the resort.
- Maintained a constant presence since day one.
- Kept our word when we made commitments to the local community.
- Engaged the community in the protection and improvement of the NTZ.
- Realized that constant face-to-face communication is essential in order for the NTZ to be correctly socialized and to avoid any misunderstandings

### *Things we did right but could do better:*

- Constantly socializing the concept of the NTZ with the local community so they felt part of it (initially the younger members felt the elders had sold off a part of their heritage).
- Secured funding for the project prior to forming agreement.
- Understood the scope and complexity of the project in such a remote location.
- Provided for adequate transportation to and from MER.
- Accounted for the difficulty in regulating and patrolling the NTZ.
- Garnered local government support for implementing regulations for all the live-aboard and land based operators in the area.
- Established clear understanding with live-aboard operators regarding the rules and regulations of the NTZ.

### *Things we did not do but should have:*

- Provided voice and data communications from the island.
- Secured funding for the establishment of Conservation Center.
- Employed a full time community relations officer.

### *Things we did not do and are glad:*

- Established the resort without first securing the NTZ.
- Compromised our commitment to resort eco construction and operation.
- Compromised our commitment to provisions of the NTZ (i.e. allow the resort to fish but not villagers).

General Point: By not compromising on the "eco-ness" of our building practices we offer a clear visible message to the local community when they visit that we are really doing what we say we are - protecting the environment. They know we are doing good and that we are there to preserve the environment.

## **Recommendations**

There are significant benefits to having a private enterprise work at a local/regional level to establish MPAs/NTZs. NGOs frequently focus primarily on issues of law, regulation, zoning, and management. These more global concerns are critical to the long term sustainability of MPAs and must be addressed. However, they take time, resources and patience. Moreover, many NGOs frequently view their role as temporary (months to years) with the objective of creating a self sustaining model. This also is an important objective.

In the meantime, we are all aware how rapidly critical marine habitats are being stripped of their resources. At the current rate of loss for marine habitats and fish populations, every day without protection is significant. In addition, many regions lack the proper infrastructure to provide much or any economic alternatives to local peoples. This is where private conservation groups coupled with business enterprises can fill the gap. Ecotourism can offer immediate jobs and income to the local community in exchange for the rights to establish MPAs/NTZs. The community sees immediate benefits from their decision and become advocates and enforcers of the MPA regulations. And finally, because the community and private enterprise depend upon each other and form long term relationships, there is a constant daily reminder of the importance of the MPA to the futures of both groups.

## Asia-Pacific: Indonesia

### *A Private Marine Concession for Pearl Cultivation in Raja Ampat, Papua: A Case Study of Relationship Establishment and Management with an Indigenous Community*

Dr. Joseph Taylor, Managing Director, PT Cendana Indopearls / Atlas South Sea Pearl

#### Abstract

PT Cendana Indopearls (CIP), a subsidiary of the Australian listed company Atlas South Sea Pearl Ltd (Atlas), established a 30-year private marine concession for pearl cultivation with the Kawe people of Raja Ampat in 1997. This involved a steep learning curve for both the company and the indigenous community as the cultural differences and understanding of extended contracts were vastly different between the two groups. The key factor in the success of the pearling project was the investment into community relations. Community relations in the context of the company successfully operating a commercial venture in a remote area controlled by a traditional indigenous people is broad reaching and included undertaking an anthropological study of the community and their culture<sup>6</sup>. The path to success involved a clear understanding that a written long term lease is only the starting point to success. Several factors required considerable management resources to be invested in ongoing dialogue and broad community consultation: community understanding of long term arrangements was limited; there was no distinct hierarchical leadership structure; and decisions were made by community consensus at almost every level. Atlas seeks to make a meaningful contribution to local communities and is a major employer in some of Southeast Asia's most remote regions. The company is involved with assisting in the education of local school children through the provision of scholarships and assistance in maintaining and rebuilding school infrastructure. In Indonesia, the company directly employs over 500 people. To ensure the spread of benefits, the company consciously enacts a recruitment program targeting local communities and over 80% of the staff employed at the pearl farms is from local villages.<sup>7</sup>

#### Project Description

##### Context

- PMA/Foreign Investment Company started pearling in 1993.
- CIT's commenced operations in Alyui Bay, Waigeo in 1997.
- CIT has negotiated a range of contracts with two local communities (Selpele/Salio).
- Land and water areas are claimed by the villages of Selpele and Salio.
- Selpele has a population of approximately 200; Salio population is approximately 230.
- The spoken language is KAWE (there is no written form).
- Indonesian is generally spoken only with "outsiders".
- The major economic activity (except employees of CIP) is fishing, although more recently employment has become available at some of the local mining prospects.
- Villages lay claim to ownership of: West Wageo from Alyui Bay to Pulau Sayang; Kawe Island; Batangpele; and Wayag

<sup>6</sup> Keith Berry, 2000. Selpele, Salio and PT Cendana Indopearls. A report on land and resource ownership, village leadership and villager's expectations. Commissioned report, 31pp

<sup>7</sup> <http://www.atlassouthseapearl.com.au/apearling-environment.asp>

### **Community Information**

- Leadership is not defined by “Kepala Desa” status: no single person or group has the right to negotiate.
- Traditional relationships remain critically important and ten family groups are considered the community founders.
- Decisions are generally reached via whole community consultation.
- There is an unsophisticated understanding of long-term arrangements.
- There is significant “political” action within the community, i.e. power struggles.

### **CIP Agreements**

No single agreement is in place for all activities and areas utilized by CIP. All agreements must be documented, witnessed and broadly communicated. This is extremely important as most communication within the community is verbal repetition. As a result, there is a significant risk of distortion of facts from person to person. The initial contract for land and water is for a 30-year term. This includes a one-off payment, commitment to employ, community house for school children, and transportation assistance. Three additional contracts for land owned by family groups with single payments were also entered into. In addition, many non-contractual commitments exist, including voluntary royalties on pearl production, scholarships (bea siswa), free medical assistance, a community relations office, and electricity generation. Ad Hoc donations support religious festivals, specific “adat” events, re-building schools, and repairs to church and other community buildings. The company maintains a small community centre in the village of Selpela staffed by a permanent community relations officer or HUMAS. The yearly investment into community relations is significantly more in monetary terms than any of the specific lease arrangements and CIP budgets this accordingly.

### **Managing Relations**

The relationships with the local communities in Papua require continual management. As such, human resources must be dedicated to Community Relations Management (CRM). CRM is the major challenge of working in Papua.

In 2000, the company commissioned Keith Berry, an Australian anthropologist who has lived and worked in Papua for over 20 years, to conduct a discrete survey of the two local communities. Berry’s specific brief was to elicit candid responses in regard to community attitudes towards the CIP and to determine some community aspirations whilst also highlighting any specific cultural beliefs and behavioral patterns that CIP management should be aware of. Further, the Berry report identified some of the key resource ownership issues as well as highlighted the specific style of local leadership and decision making process.

As a result of the survey and management’s own observations, CIP senior management determined to invest at least 25% of time in community relations. Senior farm management staff has adopted an “open door” policy in regard to local villagers’ opportunity to meet and speak directly with those in charge of running the project. This is a critical point in maintaining mutual respect and is quite contrary to the standard management approach in Indonesia whereby the “boss” is a distant figure not to be disturbed.

Important points:

- The Project Manager is accessible to the local community;
- CIP employs one full-time, village-based community relations officer (“HUMAS”);
- Minor misunderstandings have major consequences if not immediately addressed – these can cause threats of violence against people/property (has never led to actual event) and loss of time through “crisis” management;
- Relationship management is critical to develop “trust” in the community; and
- Support from the government and organizations is extremely limited in a practical sense.

### **Community Investment/Payments**

We have found that it is extremely difficult to develop local business models and consequently have found it better to support “visible” activities rather than pay cash. Some of our support activities include building programs, providing schooling/medical/transportation assistance, supporting local activities (fishing, market, barter). The barter program in particular has been a successful model. Under this program local community members can barter products, such as fresh fish and other products, with CIP in return for goods such as flour, fuel and rice. CIP uses the Sorong market price<sup>8</sup> as a reference point for local produce. This means that the “seller” is achieving a better return on effort when dealing with CIP as opposed to selling to a middleman trader who then takes the produce to market for sale.

### **Social/Cultural Points**

CIP came to understand very early on that the local community leadership structure did not follow the accepted norms of an Indonesian village. In most cases, regardless of ethnicity, a village community is under the direct leadership of a Kepala Desa or Village Headman. Under Indonesia’s political system the Kepala Desa is a recognized government posting and in recent times the Kepala Desa is elected by the community<sup>9</sup>. Often this style of leadership is augmented by a Kepala Adat or Traditional Leader. The Kepala Adat generally has a role in religious and cultural leadership. In the villagers of Selpele and Salio, whilst there is a Kepala Desa and Kepala Adat, leadership involves all of the senior men from the main families. The Kepala Desa often has very little say in final decisions and anything that an individual representing the community might agree to with an outsider is held in high suspicion. As a result, it is critical to involve as much of the community as possible in any discussions that will lead to a structured agreement.

Important points:

- Kawe people do not like to be reminded of what has been previously provided to them.
- Embarrassment is an extremely uncomfortable emotion for the local people and is to be avoided at all costs. Embarrassed individuals may seek revenge to redeem self worth.
- Most issues are “immediate” and forward planning beyond a few days is meaningless.
- It is culturally accepted that resolution following disagreement involves a “payment”.
- It is accepted that Western people are wealthy and should be prepared to “share”.
- Distinction between “profit” and “non-profit” will not be clear to the community.
- Westerners are expected to behave extremely well – Kawe people (culturally) are expected to have their transgressions forgiven and forgotten.

### **Recommendations**

A single lease or one-off agreement that intends running several years (decades) will not allow any project to succeed. Community involvement and sense of ownership is more important than cash payments that may come from a lease.

Given these experiences, CIP recommends:

- An on-site project and community relations manager must be appointed for any similar project.
- Indonesian language should be used by project managers and some efforts at understanding the basics of local language should be made.

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<sup>8</sup> Sorong is the nearest major town and is the neighboring regency to Raja Ampat. Sorong is approximately 160 km by sea from Alyui Bay.

<sup>9</sup> Until very recently, a Kepala Desa was appointed by a higher political authority. Since the adoption of Regional Autonomy early this century direct elections within the community determine the position of Kepala Desa.

- Project staff should have experience in community negotiations and in local community discussions.
- Project assistants should include members of the local population.
- Negotiations on concessions must involve public forums.
- Any agreements must encompass direct local employment, e.g. rangers.
- Project managers should be prepared for continual on-going dialogue with stakeholders and must be accessible to members of the local community.

## Americas: Washington State

### *Private Conservation of Puget Sound in Washington State*

Rich Doenges, Aquatic Resources Division Director, Washington Dpt. of Natural Resources  
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#### Abstract

Puget Sound's 2,500 miles of shoreline provide a range of habitats and dynamic processes that support the Sound's far-reaching web of life. The shorelines are also important to people, connecting Washington citizens to an inland sea that is at the heart of the region's cultural, social, and economic identity. Because of this vital importance, three leading conservation groups—People for Puget Sound, The Trust for Public Land, and The Nature Conservancy—launched a new partnership called the Alliance for Puget Sound Shorelines. The partnership is protecting and restoring Puget Sound's ecologically rich habitats and ensuring they're available for people to enjoy for generations to come. The goals of the Alliance include creating 10 new waterfront parks, completing restoration on 100 miles of shorelines, and protecting 1,000 miles of shoreline. This case study demonstrates how private fee acquisitions and leasing complements the other coastal and marine conservation strategies being undertaken by the Alliance. The state's Conservation Leasing Program will be highlighted as one of the only known formalized programs of its kind in the United States.<sup>10</sup>

#### Project Overview

##### Agreement Mechanism

Legalities: The Conservation Leasing Program is based on the statutory authority granted to the Washington Department of Natural Resources (DNR) by the state legislature. The legislature directed DNR to manage state-owned aquatic lands for a balance of public benefits subject to certain conditions and limitations. DNR implements management of the public aquatic lands through contracts governed by general contract law, statute, administrative code and internal guidance. DNR staff must consider the "appropriateness" of the conservation activity in the proposed location. The conservation activity must conform to differing limitations on the various types of aquatic land classes, preference rights of adjacent upland owners and potential conflicts with existing and/or potential authorized uses. Additionally, the conservation activity is subject to local, state and federal permit requirements which must be obtained by the lessee before DNR can issue the lease. The duration, exclusivity, valuation, bonding and other contractual terms are all well-defined and enumerated in law, code or guidance (see Washington Administrative Code 332-30-122, Revised Code of Washington 79.105 and DNR Guideline GL09-20.3 for more detail).

Through the Conservation Leasing Program, DNR offers both leases and licenses. In contrast to a lease or an easement which conveys an interest in the land, a conservation license is simply permission to conduct activities on public submerged lands. The license holder does not have exclusive use of the property, unlike a lease holder, and enjoys limited site protection responsibilities. DNR retains full use of the property covered by a license and may authorize a use of the property to others. Practically, DNR will consider how the improvements made under a conservation license will affect future uses since these improvements will not be protected beyond the term of the license, absent regulatory actions by other agencies.

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<sup>10</sup> *The Alliance for Puget Sound Shorelines: Working with partners to protect and restore Washington's remarkable inland sea. Accessed online, April 3, 2008, at: <http://www.shorelinealliance.org/index.html>.*

Formalities: The agreement mechanism is a standard contract form prescribed by DNR. The contract names the parties, rent, liabilities and warranties. The lease must be accompanied by certain exhibits including a survey of the leasehold, approved conservation plan, certificate of insurance, and a bond or other surety (depending on land classification). The lessee must designate a site manager who will be responsible for ensuring the conservation work is completed and the terms of the agreement will be met. The agreement must be signed by an authorized signatory of the lessee and notarized. Annual rent or fee is collected, plus leasehold tax if applicable, and remitted to DNR. The completed agreement is recorded in DNR's title and records office and noted in aquatic land records. At the end of the lease period, the lessee is expected to demonstrate that the conservation plan has been implemented and exit surveys completed to document the site is being left in the same or better condition than at the onset of the lease.

DNR prefers that proposed conservation activities clearly demonstrate a likelihood that habitat conditions will be improved relative to current conditions. Additional preference is given to projects that demonstrate a connection to conservation activities on adjacent uplands and aquatic lands. In areas that have been functionally degraded or completely lost over time, DNR prefers and will encourage restoration and enhancement of the historic aquatic habitats and functions. Projects that restore or enhance processes are preferred over those that restore or enhance specific features of a site. For example, a proposal to restore or enhance a feeder bluff by removing barriers to nearshore sediment transport may be more desirable than a proposal to re-nourish (i.e., enhance) a beach where the physical processes necessary to keep that beach are not functioning.

The preservation of naturally functioning habitat is encouraged and preferred when undertaken with other conservation measures within the same project (i.e., preservation and restoration; preservation and enhancement; etc.). Preservation activities ensure that the present conditions of a site are maintained. Preservation activities not done in concert with other conservation activities within the same project will require at a minimum maintenance, monitoring, reporting, and outreach.

Parties: For conservation leases, the lessor is usually DNR but could be a public port if the conservation activity is to occur within lands owned by the state, but included in a port management agreement. The lessee is typically a conservation organization, such as The Nature Conservancy, or any other public, private or non-profit entity. It is also conceivable for an existing lessee to sublease to a conservation minded third party, subject to review and approval by DNR.

Lead Implementer: Existing conservation agreements on Washington aquatic lands have been between DNR's Aquatic Resources Division and TNC. Both entities have publicized and promoted conservation leases to the conservation community and funding entities.

Rights/Responsibilities acquired or directed: Under a conservation lease, the lessee has contracted to manage state owned aquatic lands for certain purposes as defined in the agreement's conservation plan. The maximum authorization term depends on the land classification. Subject to the rights of navigation under the public trust doctrine, the lessee has control over ingress and egress into and through the leasehold from shore. The lessee has also made a commitment to undertake the restoration, enhancement and other habitat or ecosystem process improvements. The lessee also has the authority to sublease for the same purpose. At the end of the lease term, if requested by DNR the lessee may be required to remove all improvements placed on the leasehold. The lessee is responsible for costs associated with the remediation of any hazardous substances released or caused to be released on the leasehold during the terms of the lease and must indemnify DNR against all actions of third parties

Value of fees: Under the Revised Code of Washington (RCW) 79.105.210, the DNR has the authority to lease state-owned aquatic lands for water dependent activities. RCW 79.105.060 defines "water-dependent use" as a use that cannot logically exist in any location but on the water. Since conservation of aquatic habitats and functions cannot logically occur in any location but on the water, conservation activities are considered water dependent. RCW 79.105.240 describes the procedure for determining annual rental rates for water-dependent lease activities. WAC 332-30-123 gives further guidance on

determining rent for water-dependent uses. For rent determination purposes, there are three scenarios under which conservation activities may take place on state-owned aquatic lands:

*Scenario A* – The conservation activity takes place on state-owned aquatic lands that are located adjacent to uplands that are used (typically by the same entity) in conjunction with the conservation activity.

*Scenario B* – The conservation activity takes place on state-owned aquatic lands that are located adjacent to uplands that are not used in conjunction with the conservation activity. Under this scenario, for purposes of determining rent, it does not matter if there are non-adjacent uplands (of any kind at any location) that are used by the lessee in conjunction with the conservation activity

*Scenario C* – The conservation activity takes place on state-owned aquatic lands that are not located adjacent to uplands (i.e., on bedlands or detached tidelands and shorelands). Under this scenario, for purposes of determining rent, it does not matter if there are non-adjacent uplands (of any kind at any location) that are used in conjunction with the conservation activity.

According to RCW 79.105.240(1)(1), water dependent rent will be charged based on the adjacent upland tax parcel when it is used “in-conjunction” with the leased area. If there are no such uplands, the nearest upland tax parcel used for or in support of water dependent purposes should be used. This can be applied in a straightforward manner for scenario A, as long as all other criteria related to the parcel are met. For scenarios B and C, an alternate parcel must be determined using the sequential process identified in WAC 332-30-123 (4).

For the purposes of determining the “same use class” under WAC 332-30-123 (4)(b)(i), lands used for non-regulatory habitat preservation, restoration, enhancement, and creation activities shall be considered. Examples of lands that fall within the “same use class” include, but are not limited to, the tax-assessed portions (when they exist) of DNR Natural Resource Conservation Areas, state parks, wildlife areas managed by the U.S. Fish and Wildlife Service or the WDFW, or privately-owned natural areas managed by non-governmental organizations for conservation purposes. Regulatory-required habitat improvement and protection sites (such as compensatory mitigation sites, Natural Resource Damage Assessment (NRDA) sites, and remediation sites managed under the Comprehensive Environmental Response, Compensation, and Liability, Act (CERCLA) and Model Toxic Control Act (MTCA)) are not in the “same use class” as conservation sites. For the purpose of identifying a “water-dependent use” under WAC 332-30-123 (4)(b)(ii) through (iv), regulatory required compensatory mitigation is considered “water dependent” while CERCLA and MTCA sites are not considered “water-dependent” or “water oriented.” NRDA sites will have to be evaluated on a case-by-case basis to determine if they are “water-dependent” or “water oriented.”

For scenarios A, B, and C, any parcel used to determine the water-dependent rent must meet the criteria for an upland parcel as well as a consistent tax assessment as described in WAC 332-30-123 (2) and (3). If conservation activities are conducted under a license, water-dependent rent must be calculated and prorated as per the length of time the site is actually being used. For example, if the project proponent shall only be on the site for 10 days of each month over a period of two years, then the water-dependent rent for the license shall be based on 240 days of encumbrance (10 days x 12 months x 2 years).

Areas of the leasehold that are designated for free public use are not included in the area subject to rent. “Public use” means that the area is available to the public on a first-come, first-served basis, and may not be managed to produce a profit or leased to private parties on any more than day-use basis. The availability of free public use must be prominently displayed by signage or on a nearby public road if the area is not visible from a road. Encouraging public use and access is one of the key public benefits DNR strives to provide. Rent reduction is available only to the actual area of the leasehold that provides public use and access.

Rent Payment: For leases, the rent is paid annually and calculated according to the requirements for water-dependent uses. The amount is adjusted every four years and based on the consumer price index (CPI); see Washington Administrative Code 332-30-123 and Revised Code of Washington 79.105 for more detail. After reevaluation, large increases are limited to no more than 50% of the rent subject to revaluation. Lessees have the right to appeal their rental adjustment. For aquaculture projects, rents are calculated based on the value of existing shellfish resources, rather than on the value of adjacent uplands.

Lease Duration: The duration of leases is up to 30 or 55 years, depending on classification of bedlands (tidal versus subtidal). For tidelands, a conservation lease is limited to 55 years for platted tideland or 10 years for 1st class unplatted tidelands. The lease cannot be subject to renewal but parties can negotiate for a new lease. For bedlands, a conservation lease is limited to 30 years for bedlands abutting first and second class tidelands or up to 10 years for bedlands abutting 1<sup>st</sup> class unplatted tidelands. Conservation license agreements are limited to one 5-year term for both tidal and subtidal sites.

## **Context**

The first conservation lease authorized by this program was between DNR and TNC's Washington Field Office. It had the dual purpose of being able to: 1) demonstrate the utility of a conservation lease agreement between the DNR and a private party to achieve DNR's goal of environmental protection, and 2) investigate methods for native shellfish recovery on public land. It was a 10-year agreement (signed in October 2005) that covered 10 acres of submerged aquatic lands in Woodard Bay, WA. TNC worked with DNR to develop the leasing program and a training module for DNR staff to implement the program using private grant funds. Once the program was in place, TNC entered into negotiations with DNR on location, purpose and terms of this first conservation lease. TNC also submitted a Conservation Plan for management of the site consistent with the conservation purpose of the lease. The plan was subject to review and approval by DNR scientists and land managers. A second agreement was authorized under this program (Frye Cove conservation license) but is not discussed at length in this paper.

## **Process and Issues**

### **Decision-making and Implementation Process**

TNC and DNR were both considering development of a conservation leasing tool independently – DNR because of interest expressed on the part of private land owners and recognition that the agency lacked existing leasing tools dedicated for conservation – TNC because private ownership as a conservation tool was familiar for terrestrial environments but not possible in context of submerged lands, most of which are publically owned. TNC saw lease agreements as a possible mechanism to reserve aquatic tidelands and bedlands for conservation values and purposes. The timing of program development and lease agreement were opportunistic because both organizations were developing interest at the same time and funding was available to support the work. DNR had been searching for a tool to encourage and allow efforts by public agencies (other than the DNR) and private parties to restore, enhance, create, and preserve aquatic habitat on state-owned aquatic lands, as well as to provide an easy and effective mechanism to authorize conservation projects; and protect the public's broader interests, including environmental protection and other public benefits, in the management of the state-owned aquatic lands.

Process involved in developing the pilot lease:

- Scoping- This phase started with discussions and agreement of interest from TNC and DNR and ended with TNC securing funds for program development.
- Program development- This included development of the leasing tool, policy guidance and a training package.

- Identification of pilot project – TNC completed scoping to identify the project type and site based on multiple criteria (e.g., must be a viable conservation project on DNR land and available for lease, in Puget Sound, in TNC priority area and acceptable to key stakeholders).
- Application and pre-lease surveys - TNC obtained a right of entry to conduct baseline surveys (biological and physical site surveys as well as legal boundary surveys) needed for development of a Conservation Plan and to document pre-lease conditions. The Conservation Plan was submitted to DNR, reviewed, revised and approved. TNC submitted permits and obtained grant funds for restoration.
- Lease Negotiation - significant lease negotiations related to rent and liability.
- Implementation – TNC initiated oyster habitat restoration and is currently in monitoring and adaptive management phase.

### **Lands and Resources**

Native Olympia oysters are the target for the conservation lease pilot project. Olympia oysters provide important ecosystem services (food and habitat as well as physical structure for other organisms; water filtration; and nutrient inputs). They are the only oyster native to the West Coast and were once plentiful enough to support a robust commercial industry. Native oysters are a conservation target in TNC's Willamette Valley-Puget Trough-Georgia Basin Ecoregional Assessment. Native shellfish restoration is also a priority for our partnership with NOAA's Community Based Restoration Program and our Global Marine Initiative (both provided funding).

Potential lease sites were considered that historically supported native oysters and where native oysters were still present and natural recovery was an option. Woodard Bay was an ideal location because of the historical presence of native oyster, the existence of a remnant population, proximity adjacent to a protected area (Woodard Bay Natural Resources Conservation Area) and strong support from DNR's Natural Areas Program staff in nearshore restoration. This created a unique opportunity for combined terrestrial/marine conservation project. The project type and location were also acceptable to key stakeholders (i.e., tribes and shellfish industry).

### **Threats**

The conservation lease at Woodard Bay provided an opportunity to address some of the primary threats to native oysters in south Puget Sound which include:

- Depressed natural populations and limited "seed" sources;
- Lack of suitable habitat for natural recruitment (i.e. hard substrate is limited);
- Changes in environmental conditions – increased sedimentation, nutrient overload and algal production; and
- Predation and competition from other native and non-native shellfish and other species.

The restoration project primarily addresses the loss of hard substrate and aims to allow for natural recruitment. Ultimately we hope to see the natural population boosted to a sufficient size that it acts as a seed source for other sites in the inlet and to advance restoration in a way that minimizes direct competition and predation of newly recruited oysters.

## **Organizational and Partner Capacity**

Existing resources included:

- Legal and policy expertise - TNC had legal staff locally and nationally that were able to participate in policy development and negotiations on the agreement; DNR was supported by policy staff and legal services from the Office of the Attorney General.
- Science support - TNC had access to science staff in Washington and from TNC's Global Marine Initiative who were knowledgeable about shellfish restoration; DNR had access to scientific staff with academic and research experience in submerged aquatic vegetation, benthic infauna and nearshore ecosystem processes. DNR also had access to technical staff with expertise in design and implementation of contaminated sediment remediation and cleanup with additional experience working with excessive wood waste accumulation.
- Funding – TNC provided funding for project development (from the Russell Family Foundation) and implementation (from NOAA's Community Based Restoration Program partnership with TNC's Global Marine Initiative, and the Coastal Protection Fund)

Resources developed/acquired during the project included:

- Methods for oyster restoration –TNC obtained technical support from various academic and agency staff via informal arrangements and workshops and obtained expertise in shellfish restoration through contracts with another NGO (Puget Sound Restoration Fund).
- Expertise in contaminated sediments - TNC obtained consulting services for an environmental site assessment to document pre-lease conditions related to submerged wood debris.

## **Legal Framework**

Washington State entered the USA as a non-riparian state with ownership of the bedlands and shorelands to navigable freshwater lakes and streams and marine submerged lands held in public ownership. However, while nearly all of marine and freshwater bedlands remain in public ownership, 70% of tidelands within Puget Sound have been sold into private ownership and an increasing number of rights assigned to adjacent private landowners. DNR does not currently sell marine lands to private parties although exchanges of parcels of equal value are permitted. However, there is a well defined set of laws and administrative rules that define and circumscribe the rights of the state and tenants. Private entities, including NGOs, may acquire leasehold rights in accordance with applicable laws, code and guidance. Non-profit sector lessees must meet many of the same leasing requirements and responsibilities as the for profit sector (and often time more rigorous standards). DNR ensures lease terms are being met by conducting annual inspections of the leasehold.

## **Socio-economic Considerations**

From DNR's perspective, community characteristics are best expressed in the designation of the shoreline by local government in their Shoreline Master Plan. All DNR use authorizations must be in compliance with this and other land use laws. Local governments benefit financially from leases on public lands from payment of a leasehold tax, calculated on the annual rent paid to DNR and remitted by the lessee. Conservation leasing provides a benefit to the environment in terms of ecosystem services that reaches past jurisdictional boundaries but is not valued financially. Where a conservation lease precludes other water dependent uses such as marinas or piers, there may be a cost to local government and also to the state.

TNC had a different set of socio-economic considerations placed on them by internal and external sources including a requirement that the lease site must be in Puget Sound in a TNC Priority Site identified by one of our Ecoregional Assessments and must be acceptable to key stakeholders (tribes,

commercial shellfish growers, and private landowners). TNC met several times with commercial shellfish growers to discuss the concept of conservation leases which could put TNC and others in position to compete with commercial enterprise for public land access and use. Later TNC met with both tribes and commercial growers to identify best places for siting native shellfish restoration projects and talked to the tribes about harvest rights and evaluated existing shellfish resources at the site as consistent with tribal treaty rights.

Community benefits included the opportunity for landowners and community members to voluntarily take part in restoration and monitoring. If successful, long-term community benefits may include increased water filtration, enhanced biological diversity associated with development or thriving oyster beds and an increased source of oyster larvae that is available for natural recruitment beyond the lease site.

### **Outreach**

Both TNC and DNR were involved in outreach efforts to promote the Conservation Leasing Program in general and to highlight the accomplishments of our pilot project. TNC obtained technical guidance on native oyster restoration through a workshop which included DNR and WDFW staff biologists, NOAA, TNC, Puget Sound Restoration Fund, Taylor Shellfish and the Squaxin Tribe. When the lease was obtained, a signing ceremony was held on-site with landowners, volunteers and interested community members in attendance. Community members were also invited to participate in restoration and monitoring. Local news media were invited and attended both the lease-signing and restoration events, resulting in two news articles. The lease was also highlighted in the Conservancy's national and state magazines, highlighted by NOAA in their Coastal Services magazine and presented by TNC and DNR at numerous conference venues.

### **Funding**

The total cost to TNC for the pilot leasing and oyster restoration was approximately \$300,000 and included approximately \$100,000 for development of the leasing tool and training package and \$200,000 for survey requirements, restoration and monitoring. DNR also absorbed personnel and legal costs in its general operating budget since this effort was a program priority. The leasing tool and training was funded primarily with a private grant and the restoration was funded using a combination of public and private funds obtained by TNC.

TNC received a zero dollar rental rate which was based on the value of existing shellfish resources at the site. A significant amount of the cost (\$74,000) was for several surveys that were required to obtain a conservation lease— some required by DNR; others required by TNC. Surveys included a physical baseline characterization, biological baseline and shellfish biomass surveys, legal boundary survey, environmental site assessment and oyster recruitment and survival studies. The survey costs for this project are admittedly higher than would likely occur for other sites due to potential contamination and liability concerns related to submerged wood debris. This cost does not include anticipated exit survey costs.

There were no funding shortages as implemented, but given costs expended on this project it may not readily be replicated or expanded on by TNC until additional program changes are implemented. The rental rate would have been prohibitively expensive had this project not been aquaculture related and if the rent had been calculated based on the value of the adjacent uplands.

## **Conclusions**

### **Opportunities**

The Conservation Leasing Program provides an opportunity to protect and restore two aquatic sites in Puget Sound. TNC obtained both a conservation lease at Woodard Bay, WA (discussed in this paper) and a conservation license at Frye Cove, WA (highlighted in poster). The lease provided an opportunity to link terrestrial and marine conservation together in a single area by allowing TNC to lease and restore subtidal lands adjacent to intertidal and upland habitats managed as part of the Woodard Bay Natural Resources Conservation Area (NRCA). TNC's conservation work at the site became a gateway to broader conservation efforts by DNR and TNC. DNR has since initiated a nearshore restoration feasibility study for the entire NRCA, building upon TNC's initial survey work.

DNR continues to support and promote conservation leasing as an effective tool for restoring and enhancing ecosystem functions on aquatic lands where there are no conflicting uses and proponents seek assurances that their habitat improvements will be maintained. There is no reason conservation leasing could not be replicated on other submerged lands in Washington State, especially where adjacent upland property has low assessed value. Limitations to replicating the program continue to be the legal requirements of lessees to pay rent and reduce liability to the state.

### **Scale**

Both TNC agreements are focused on pilot scale restoration projects (10 acres or less) relative to DNR's land management responsibilities and TNC's marine habitat conservation goals in the state. TNC has not replicated the lease agreement elsewhere in part due to issues related to rent. The specific conditions of the Woodard Bay site and the nature of project (native shellfish restoration at a site with low value of existing shellfish stocks) made this project affordable to TNC due to the pricing structure for aquaculture related projects and the size of the lease site. Scaling this type of project up to approach even 10% of TNC's marine conservation goals would be prohibitively expensive at the current market rate for leases including survey costs – even if the shellfish aquaculture pricing structure was used. Projects not focused on shellfish restoration may also be too expensive for TNC or other NGOs to consider at a large scale unless public access can be provided without impact to the restoration in exchange for a zero rent agreement.

For TNC, it may be much cheaper in the long run to purchase available private tidelands in high priority areas rather than to enter into a lease with the state. However, purchase of submerged lands, which are nearly all in state ownership, is not possible. At a large scale, other mechanisms such as aquatic reserves or formal withdrawals from leasing at the discretion of the Commissioner of Public Lands are likely to be more effective at achieving conservation goals at scale. However, these designations are both reversible by the agency and do not provide the same level of certainty and obligation that the site will be managed with conservation as does a conservation lease. Pursuing conservation leases at very small sites may also be prohibitively expensive relative to the ecological benefits since the administrative costs for DNR and survey and other costs to obtain a lease would be similar regardless of the site size.

### **Complementation**

Conservation leasing complements TNC's more traditional protection measures in that it provides an opportunity to gain proprietary interest in aquatic lands that are not available for acquisition and allows for restoration or enhancement. It complements DNR's aquatic land management activities by providing a mechanism for environmental protection, one of the four public benefits defined in statute. This strategy could also work very well with aquatic reserves and for stewardship measures related to DNR's developing Habitat Conservation Plan since these efforts prioritize environmental protection on spatial and policy levels. This program complements other policy tools including the Endangered Species Act,

Clean Water Act, Superfund/MTCA, fishing regulations, Marine Mammal Protected Act and various land use regulations.

Conservation leasing may also be an effective precursor for aquatic reserves or marine protected areas assuming the conservation activity is robust and successful. Because of the financial and legal constraints for NGO tenants in complying with lease rents and responsibilities, proponents will need to select areas where shoreline regulations favor protection of marine critical areas so lease terms can be kept to the minimum duration necessary to implement the conservation activity.

## **Lessons Learned**

### *Things we did right:*

- Selected the correct agreement type (lease and license) and a good scale and location. The conservation activity is very replicable and has in fact been replicated at other sites in Puget Sound.

### *Things we could do better:*

- Understand the need for staff training and organizational buy-in;
- Clearly understand the legal limitations of and legal liability associated with leasing public lands; and
- Have better communication between DNR and TNC about the expectations for the Conservation Plan and the level of flexible, adaptive management that is acceptable given that exact prescriptions for many types of restoration are not known or agreed upon.

### *Missed opportunities:*

- Piloting conservation licenses in other areas of the state;
- Coordinating conservation leases with fee simple transfers to public ownership;
- Conservation leases with public ports;
- Conservation leases or licenses along with other designations (NRCA, NAP, Aquatic Reserves etc). to protect and restore; and
- Outreach to granting agencies to get their buy-in and to help promote conservation leasing and make it eligible as a grant expense.

### *Dead ends:*

- No fee leases without public access to all or portion of site; and
- Waiving DNR indemnification.

## **Recommendations**

- Evaluate if private agreements make sense (ecologically, economically and politically) in the marine environment where most lands and resources are in public ownership.
- Evaluate ways to reduce costs of leasing (e.g., explore the option of exchanging the value of conservation activities for rent; reduce survey requirements; clarify exit survey requirements).
- Target use for innovative restoration or enhancement activities.
- Seek business partners and/or opportunities for sub-leasing.
- Update lease and ownership data in spatially explicit and searchable database.
- Identify areas where larger leases could be taken to increase the ratio of restoration benefits to project costs.
- Clarify DNR's commitment to protecting the restoration investment beyond the lease term.
- Promote the Conservation Leasing Program to and get buy-in from other agencies and funding programs.
- Clarify post-lease protection of restoration investment into the future after lease end (will be important to lessee and funders).

## Americas: Ecuador

### *Private Incentives to Conserve Ecuador's Coast*

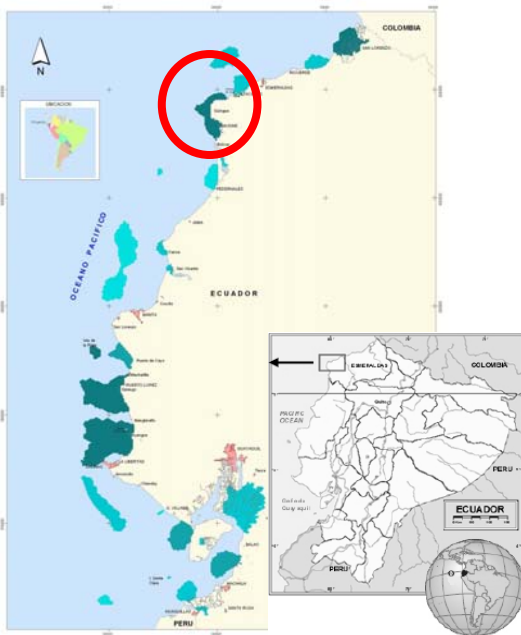
Patricia Zurita, Senior Director, Conservation Stewards Program, Conservation International  
Soledad Luna, Director, NAZCA Institute for Marine Research

#### Abstract

Conservation International (CI) has developed a programmatic approach to private conservation using incentive agreements. Conservation incentive agreements hold potential to protect a wide variety of terrestrial and marine habitats, ranging from vast tracts of Amazonian rain forest to coral reefs in the South Pacific. Under a conservation incentive agreement, national authorities, communities, or individual resource owners agree to protect natural ecosystems in exchange for a steady stream of structured compensation from conservationists or other investors. In its simplest form, a conservation incentive agreement might be modeled after a timber concession, whereby a logging company pays the government for the right to extract timber from an area of public forestland. Rather than log the concession area, the conservation investor would pay the government for the right to preserve the forest intact. A conservation incentive agreement thus presents an alternative opportunity for countries to capitalize on vast tracts of forest or other areas of high conservation value. With ultimate objectives that include long-term protection of biodiversity and economic development, this mechanism offers an alternative that conservationists, development agencies, governments, and local communities alike can support. This case study illustrates how conservation agreements between institutions and fishing communities are being used along Ecuador's northwestern coast to help establish marine reserves.

#### Background and Project Overview

The Galera-San Francisco's marine area was identified as one of the most important zones for biodiversity conservation on the coast of mainland Ecuador. A study requested by the Ecuadorian Ministry of Environment to determine the future establishment of a National System of Marine Protected Areas to fulfill commitments with the Convention of Biological Diversity (CBD) prioritized this area as key to be protected (Campos *et al.* 2007).



GAP Analysis and priority areas for Biodiversity Conservation in mainland Ecuador<sup>11</sup>

<sup>11</sup> Campos, F. M. Peralvo, F. Cuesta – Camacho y S. Luna (eds). 2007. Análisis de vacíos y áreas prioritarias para la conservación de la biodiversidad en el Ecuador continental, Instituto Nazca de Investigaciones Marinas, EcoCiencia, Ministerio del Ambiente, The Nature

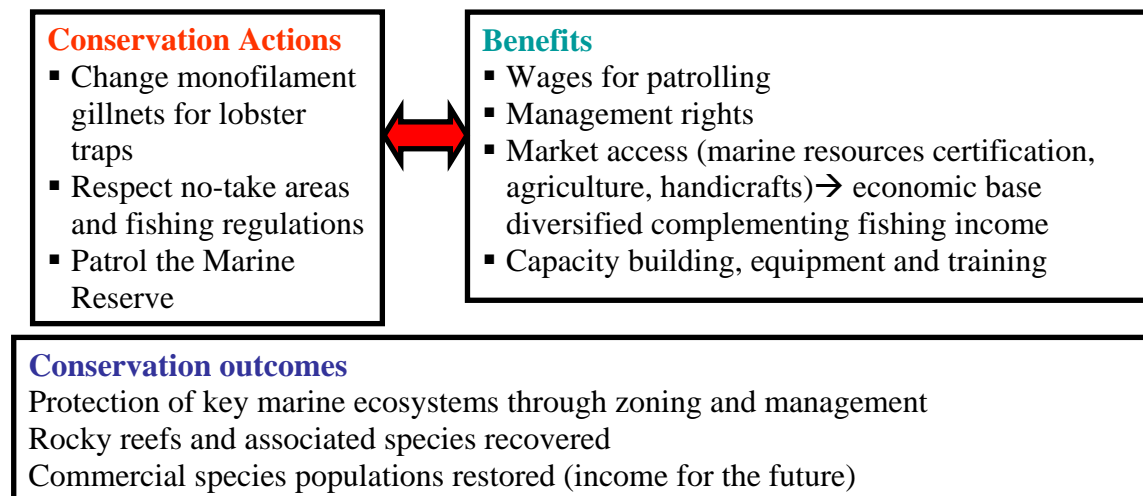
Galera-San Francisco is located in the northern coast of Ecuador in a region known as the Chocó, and is part of the Chocó-Darién-Magdalena hotspot defined by CI (Mittermeier *et al.* 2005). This area features an outstanding diversity of habitats ranging from mangroves, estuaries, rocky reefs, and coral patches to moist and dry tropical forests, with high levels of biological diversity and endemism. However, this ecosystem is threatened by overfishing, habitat destruction, deforestation, pollution and uncontrolled development. People who live in this area are strongly dependant on natural resources for their subsistence, and fishing is one of the main activities to sustain the local community. Unsustainable fishing practices (use of non-selective gear) have resulted in the collapse of marine resources, jeopardizing the biodiversity of the area and the well-being of the local community.

The creation of a marine protected area in Galera-San Francisco will help conserve the marine biodiversity of this outstanding area by promoting sustainable fishing practices and ecosystem-based resource use approaches. The result of the implementation of these practices and approaches by fishermen and the local community will result in improved socio-economic conditions for the local community. To achieve these objectives the local community will be engaged in all steps of the management of their natural resources and the conservation agreement methodology will be used to define the management basis for the area. Engaging the community from the onset and defining with them a management scheme that is beneficial to the protection of key biodiversity and to improve their well-being will facilitate the creation and establishment of the first Marine Protected Area in the continental coast of Ecuador: the “Galera-San Francisco Marine Reserve.” Additionally, this learning experience will set the precedent to contribute to the future creation of a national network of marine protected areas at the national level.

### **Using Conservation Agreements to Establish a Marine Reserve**

Conservation agreements are a novel approach that reconciles biodiversity conservation with development. Under a conservation agreement, national authorities or local resource owners agree to protect natural ecosystems in exchange for a steady stream of structured compensation from conservationists or other investors. A negotiated agreement produces visible conservation products that result from the conservation actions of resource owners and development through the investment of the compensation in what the resource owners decide is most beneficial to them. Financial mechanisms such as endowments and trusts allow for the long-term provision of the compensation and rigorous monitoring ensures that both conservation and socio-economic results are being achieved. The NAZCA Institute for Marine Research (NAZCA) and Conservation International Ecuador have proposed using the conservation agreement methodology to develop the management structure and initial rules that will inform the management plan of the Marine Reserve when created. The conservation agreement model in the Galera-San Francisco area is a novel tool that will empower local communities to manage a protected area and set up the basis of a management plan that would be implemented entirely by the local community with the political support of an inter-institutional management committee.

The conservation agreement methodology includes a series of steps that allows the conservation organization to first determine if a conservation agreement is feasible, then guides the engagement, design and negotiation process of an agreement and lastly recommends measures for the implementation and monitoring of the agreement. The Galera-San Francisco agreement is at the feasibility study stage. This step in the conservation agreement model determines the viability of establishing conservation agreements by clearly identifying threats, rights over the resources, capacity to implement conservation actions, and costs of implementing an agreement. Although a formal conservation agreement has not yet been signed, the definition of conservation actions, benefits and outcomes have been scoped and initially discussed with the communities and included below.



### Process and Issues

#### Biodiversity Importance

Galera-San Francisco is in a tropical setting of oceanographic conditions and is home to a diversity of coastal and submarine habitats and therefore a high diversity of associated marine organisms. Main representatives are soft and hard corals. Most likely the largest recovering population of black corals in Ecuador is located here. This area encompasses many commercially important benthic and migratory organisms such as spiny lobsters, goliath snapper, octopuses, mahi mahi, tuna fish and sword fish. Also the Galera-San Francisco area is home to endangered species such as five different sea turtles, 20 different species of marine mammals, sea horses and corals, plus other organisms that represent a potential for tourism (such as whale sharks and manta rays) and bio-prospecting (such as sea slugs).

#### Threats

Galera-San Francisco is threatened by over exploitation of marine resources, uncontrolled development, habitat destruction and deforestation. Poverty and open access to marine resources have led to over exploitation and biodiversity loss of this unique ecosystem. Lack of enforcement has driven the commercial and industrial fishing to this area resulting in destruction of habitat and overfishing of key commercial species.

The spiny lobster (*Panulirus gracilis*) has been traditionally fished in this area by local fishermen for hundreds of years and constitutes one of their main economic activities. However, the resource has been severely depleted by a series of factors: non-selective fishing gear, overexploitation and lack of fishing regulations. Traditionally, lobsters were caught using wooden traps. However, due to the lack of economic alternatives, fisherman switched to non-selective and highly destructive monofilament nets. At present, reduced catch sizes and low abundances are a clear sign of overexploitation. Furthermore the use of monofilament gillnets to catch lobster destroys rocky reef habitat and by-catch is high.

By-catch of sea turtles is a big threat particularly in the mahi mahi fishery, where fishermen report that a single boat can incidentally capture between 20 and 40 individuals. Like the mahi mahi fishery, swordfish fishery is resulting in high levels of shark by-catch. Thus industrial fishing boats represent one of the most important socio-environmental problems because shrimp trawlers and boats with greater efficiency to

perform mahi mahi and sword fishing practices are adding higher levels of pressure to the resources already extracted by the artisanal fishermen with the added problems of by-catch of turtles and sharks.

### **Legal framework**

The legal framework of Ecuador is rather confusing and not supportive of local management of marine resources. Although Ecuadorian national law does not define specific rights over the seas, a ministerial agreement stipulates that the first eight nautical miles adjacent to the coast are of exclusive use of artisanal fisheries. However, lack of enforcement of this regulation provides the opportunity for shrimp trawlers to enter these areas since they require depths no greater than 200m.

There is a Fisheries Law that mandates no harm should be caused to areas declared as protected. However the lack of enforcement capacity of the government has made this law useless. Enforcement has been lightly charged to the Navy who plays a rather weak role controlling the follow up of the law. Thus the legal framework for artisanal fisheries and marine resource use has not been effectively implemented or enforced.

Considering the lack of enforcement by the government, the participation of local communities as additional patrollers of protected resources should be a natural decision. The work NAZCA is doing with the fishing communities of the Galera-San Francisco area will set a precedent of local management supporting the enforcement of a weak legal framework that hopefully will be strengthened by the regulations in the creation of the Marine Reserve.

### **Socio-economic Considerations**

There are about 4,400 people living in the Galera-San Francisco political division, out of which 3,000 live directly on the coastline. The main economic activities in the area are agriculture, cattle ranching and fishing.

Although the area is ecologically and biologically very rich, the levels of poverty of local communities are very high. None of the basic services such as drinking water, electricity, education, health and sanitation are provided in a satisfactory manner. Some of the local towns lack these services completely.

Poverty and lack of government attention have driven the local community to overexploit their resources to provide income for their families, even when they are aware of the decline of natural resources. They are convinced that they need to implement conservation measures that will recover the health of their natural resources, but lack of economic alternatives have prevented these practices from being implemented.

### **Engaging Decision Makers**

Designing a conservation agreement in the Galera-San Francisco area requires understanding of all the different layers of decision making and engaging the formal as well as informal stakeholders who make decisions regarding the use of resources. Local traders are often the decision makers when the relationships between fishermen and boat owners are not good. Compounding the relationship issue is the fact that local fishermen are not organized among themselves and do not have transportation facilities to take their product to markets. As a result, local traders have the power to impose prices for the marine products and thus decide the fate of the resources. In other areas where fishermen own their boats (or maintain good relationships with boat owners) and are better organized, the fishermen become the decision-makers. In order to overcome this potential conflict and ensure the formal and informal decision makers concur, boat owners as well as traders have to be involved in discussing and designing the conservation agreements.

The Galera-San Francisco area is a complex socio-political environment. In addition to the fishermen, boat owners, and local traders, there are several authorities that should be involved in the management of the area. These include the Ministry of the Environment, the Navy, the Fisheries Secretariat of the Ministry of Agriculture, and the municipality. To promote collaboration between these different government agencies and build a strong relationship with the actual managers of the area and the community, the declared Marine Reserve will have a local Management Committee that will be legally established. The main role of this Management Committee is to discuss, analyze and make management decisions. Once the Marine Reserve is created the management plan of the area will embrace the conservation actions defined by the conservation agreement. In this sense, the conservation agreement will serve as the basis for the management plan and its implementation in the future.

### **Organization and Partner Capacity**

NAZCA is a local Ecuadorian NGO whose mission is to study the coastal and marine ecosystems in the Tropical Equatorial Pacific and promote biodiversity conservation as a worldwide value. NAZCA aims to create and constantly feed a baseline of information on the marine biodiversity of Ecuador, propose and implement the tools for its adequate characterization, in order to maintain and conserve it. The management efforts that NAZCA promotes include the development of strategies that seek human well-being that are at the same time compatible with conservation objectives.

NAZCA's staff has worked in the Galera-San Francisco area since 1999 building the biological knowledge and trust with the local communities to promote better management of the area. NAZCA has encouraged a management system for the area that would be multidisciplinary, inter-institutional and highly participatory. This is the first time in the country's history that the proposal of a protected area has been done entirely with the local community's support and using tools that would empower them to become the management entity of the area. Thus the management team of the proposed protected area is being established with members of the local community, including fishermen, but also involving local and national authorities that will provide technical advice for the management of the reserve. During the establishment of the inter-institutional committee, NAZCA provided technical support to the community and is implementing a conservation agreement that will contribute to set the basis of the management plan for the Marine Reserve. Technical support includes building capacity in the community, such as knowledge of marine ecology and governance.

### **Funding**

Funding for the establishment of the protected area and the design and implementation of the conservation agreement has been provided by The Nature Conservancy and Conservation International through the Conservation Stewards Program and the Eastern Tropical Pacific Seascape work funded by the Walton Foundation. Funding from these sources allowed NAZCA to lead the discussions for the establishment of the protected area, engage the community building the agreement as the basis for the management plan of the reserve and build the political capital to establish the inter-institutional management committee with all the different authorities involved.

The sustainability of the protected area will depend on a combination of factors. Productive markets that are in line with sustainable management of resources must be developed. Most importantly, government funding is necessary to establish a trust fund that supports the management of the area in the long-run. In this sense, it is crucial that activities in the area create a stable management and administrative regime, enabling the maintenance of the conservation agreements and thus the implementation of the management plan.

### **Conclusions**

The decline of natural resources on which the local communities of the Galera-San Francisco area depend on have increased the awareness and desire to support conservation actions in the region. The political will of the government to support the first co-managed marine protected area has opened the door to create a management mechanism entirely implemented by the local community with the support of an inter-institutional management committee. The use of conservation agreements to develop the basis of the management of the area and define with the local community a set of conservation actions that will promote the protection of key resources provides the means to empower the community and create a truly participatory management system. Additionally, the provision of sound benefits in exchange for their support of the protected area management creates opportunities to improve the well-being of impoverished communities on the coast of Ecuador.

Building this challenging but very promising participatory process with the support of multiple institutions at the national and local level creates an important precedent for the development of a network of marine protected areas that the Government of Ecuador committed to under the framework of the CBD.

## Americas: Chile

### ***Marine Conservation in Chile: private actions can speed up the process***

Dr. Miriam Fernández, Associate Professor, Pontificia Universidad Católica de Chile

#### **Abstract**

A diversity of legal tools allows the protection of the ocean and coastal zones in Chile. Marine Parks, Marine Coastal Protected Areas, Natural Sanctuaries, Marine Reserves, and National Monuments can protect single species or marine biodiversity in coastal zones and in the open ocean. Although in most cases the administration of these protection mechanisms is in the hands of national agencies, private organizations can become involved in conservation actions. This potential has not yet been explored as a nationwide strategy that can have multiple benefits minimizing the conservation costs for the government. Furthermore, private actions can often help establish marine protection quicker than national agencies, which is a major advantage in regions where the rapid expansion of exclusive use areas (i.e., aquaculture and exploitation) may prevent the establishment of conservation areas in the future. This case study identifies the past, present, and potential future role of private marine conservation efforts in Chile emphasizing recent collaborations with fishermen to implement private marine protected areas.

#### **Project Overview**

##### **Protection and Agreement Mechanisms**

A diversity of legal tools allows the protection of the ocean and coastal zones in Chile. Marine Parks, Marine Coastal Protected Areas (MCPAs), Natural Sanctuaries, Marine Reserves, and National Monuments can protect single species or marine biodiversity in coastal zones and in the open ocean. This diversity of legal tools can be implemented and administered by an equally large number of national agencies, which imposes serious constraints to the design of a common conservation approach. For instance, the Fisheries Administration, the Comisión Nacional de Medio Ambiente (CONAMA), and the Navy Undersecretary each have independently selected priority sites and in some cases implemented protected areas. However, these agencies have sponsored protected areas at very slow pace. The Fisheries Administration can declare Marine Parks (the best mechanism to fully protect marine biodiversity) and Marine Reserves. Marine Protected Coastal Areas (MPCAs) can be declared by the Navy Undersecretary. CONAMA, however, can only collaborate with these agencies because it lacks independent authority to create marine protected areas on its own.

The situation is even more complex if we consider that Marine Concessions and Natural Sanctuaries. In contrast with the legal mechanisms described above, Marine Concessions and Natural Sanctuaries can be sponsored and administered by private organizations. In fact, these two mechanisms have been used in the past by private organizations, such as private mining companies and universities (e.g., Las Cruces, Mehuin, Montemar, and Escondida). Two Marine Concessions assigned to Chilean universities were established in the early '80s, providing crucial scientific information about the effect of humans on coastal marine ecosystems. Moreover, the evidence on the rate of recovery of exploited species prompted the establishment of a novel management instrument, called Management and Exploitation Areas (MEA).

The MEAs are implemented through Marine Concessions. MEAs are partially protected areas, administered by local fishers who pay the running costs of the MEA, including enforcement, but benefit from the exclusive use rights of the resources in these areas. The success of this management strategy is reflected in more than 500 exclusive-use MEAs that were established in the last 15 years, interspersed with devastated free-access fishing grounds. Preliminary results show that the abundance of highly valued species such as loco (*Concholepas concholepas*), limpets (*Fissurella spp.*), crabs, sea urchins

(*Loxechinus albus*), and macroalgae is higher in MEAs than in open fishing grounds (Gelcich, Fernández & Castilla, in prep). Moreover, MEAs often also exhibit higher biodiversity than open-access neighboring coastal areas. These preliminary exciting and unexpected results highlight the potential (but unexplored) stewardship value that MEAs may have for coastal ecosystems and offers the potential to integrate two traditionally antagonistic activities, exploitation and conservation, in preserving ecosystem services. Furthermore, MEAs offer the potential to combine public and private approaches to marine conservation in a national network of fully and partially protected areas.

The processes to obtain a Marine Concession, a Natural Sanctuary, or a Management and Exploitation Area are different because the applications are submitted to different agencies. However, the processes always involve consultation with several local and national agencies. In all cases, the application needs to consider a clear enforcement plan as well as biological information supporting the importance of the site to be protected. There are no costs associated with these mechanisms, except for the cost related to the application itself (biological surveys, meetings, etc).

### **Context**

In 1982, the Pontificia Universidad Católica obtained a Marine Concession for scientific purposes in Las Cruces. The goal was to study human impacts on marine ecosystems. Similar approaches were followed by other Chilean universities (Universidad Austral in Mehuin, Universidad de Valparaíso in Montemar, Universidad Católica de la Santísima Concepción in Lenga, and Universidad Católica del Norte in Herradura) and private companies (Minera Escondida in northern Chile and Endesa in Huinay, southern Chile). In the case of Las Cruces, full protection occurred since the scientific studies required human exclusion. Given the long lasting status of this Marine Concession as a no-take area, the new status of Marine Protected Coastal Area was added in 2005. Las Cruces is now part of the national system of marine protected areas of Chile.

In the last few years, and based on the experience of Las Cruces, we decided to explore the possibility of establishing marine protected areas (MPAs) in central Chile through private initiatives, sponsored by local or national authorities. Our priority on central Chile is related not only to the fact that our biological databases are centered there, but also to the urgent need to protect coastal zones in the most populated region of Chile. Our role in all cases is to provide scientific advice, help preparing the documents to apply for the protected area, and advocate for approval.

With the goal of establishing protected areas, we established contact with two local fisher organizations after receiving information of their interest to protect a fraction of the coast. In one case, we intend to establish a Natural Sanctuary in Navidad, sponsored by the local government (Municipalidad) and local fishers (Sindicato La Boca). Navidad is one of the top ten poorest counties of Chile. We have been working for almost two years to develop the biological information necessary to apply for a Natural Sanctuary. All local agencies involved in the evaluation process are willing to approve the proposal to establish a marine protected area in this zone. This area contains a kelp forest, a typical habitat in this region, but also an important local resource. In the second case, we intend to establish (1) a no-take zone in Isla Juan Fernández, and (2) an exclusive fishing-right area around the no-take zone. Juan Fernández Island is one the regions with highest levels of endemism in the world. We are starting to prepare the application in association with the fishers union and sponsored by CONAMA.

### **Process & Issues**

The best legal tool for private entities to implement protected areas should be determined on a case-by-case basis, depending on the specific entities and facts involved. By law, the Navy is responsible of the preservation of marine ecosystems and the Fisheries Administration is responsible for the preservation of exploited resources. The CONAMA had played, however, a vital role in the implementation of the existing Marine Protected Coastal Areas sponsored by the national government in Chile. The private approaches

to marine conservation in Chile, existing or in progress, were based on opportunism. As of now, it seems that Natural Sanctuaries and MPCAs are the only viable marine protection mechanisms as the Fisheries Administration has been more reluctant to work on joint ventures.

Natural Sanctuaries are approved by the National Council of Natural Monuments, which confers all enforcement and administration responsibilities to the organization (or groups of organizations) that proposed the creation of the protected area. Natural Sanctuaries are usually small. There are 12 Natural Sanctuaries that protect coastal (intertidal) zones, the first one to include subtidal zones is the one proposed in Navidad. In most cases Natural Sanctuaries were established to protect specific flag species (marine vertebrates). However, the proposed Natural Sanctuary of Navidad promotes the protection of biodiversity associated with kelp forests. All existing Natural Sanctuaries were created upon the request of private organizations or local governments (municipalities). The Consejo Nacional de Monumentos Naturales officially protects the area and regulates the activities in the area assuring that the local organizations that administer the area are meeting the goals stated in the proposal. In the case of Navidad, the proposal brings together the local government and fishers, who are responsible for the enforcement and administration of the area, and are committed to report regularly the progresses made to the National Council of Natural Monuments. The collaboration between private initiatives and local governments is interesting as it can help to implement the enforcement plan.

The size of MPCAs can range from very small (Eastern Island, Las Cruces, and Huinay) to extremely large (> 30 km of coastline). Four MPCAs have been created by the Navy, in most cases driven by a proposal submitted by CONAMA, and sponsored by other national agencies dealing with coastal zones. It is important to note, however, that only one of the four existing MPCAs includes a no-take zone. The rest of the MPCAs are still open to all kinds of activities, including fisheries and aquaculture. As of now, two MPCAs were established by private organizations (Las Cruces and Huinay). In the case of Huinay, only intertidal zones are protected. In Las Cruces, 10 ha have been protected in the intertidal and subtidal zone, which includes in a no-take area and a buffer area. MPCAs are administered by the agency or organization that requested the protection of the area, which is responsible to produce reports on the area (biodiversity and education) to the national government. The cost of producing such reports, and the information supporting them, is paid by the private entities involved. It is important to note that both legal mechanisms, MPCAs and Natural Sanctuaries, may be overlapped with a Marine Concession. Also, the tenure can be renewed over time, if the goals have been reached. This is the case of the MPCA of Las Cruces.

There is a clear difference between the preservation goal of existing Natural Sanctuaries and MPCAs. While the first mostly target single species, the latter were established with the goal of protecting local marine biodiversity. There are also clear differences in the spatial scale of these areas. Natural Sanctuaries usually protect small areas while MPCAs can protect areas that are very small or quite large. However, the specific threats affecting them (aquaculture and exploitation of marine resources) are common and the main persistent threats along the entire coast. In the case of Navidad, a region that heavily depends on the exploitation of macroalgae, protection of natural kelp forests is seen as a priority given the increasing fishing effort driven by aquaculture of abalone. In the case of Juan Fernández, the major threat to local endemic species is the increased fishing efforts of industrial fleets which are moving toward the island after depleting other regions. Local fishers are very concerned since fishing effort of artisanal fisheries in Juan Fernández Island has proved to be sustainable.

In order to implement any legal tool to protect marine ecosystems in Chile a proposal is needed. The proposal needs to compile biological information emphasizing the main reasons to establish a marine protected area. Biological information can be based on the compilation of existing literature, local surveys, or both. This biological information is critical to convince the different agencies to support the project based on the habitats, hot spots of biodiversity, presence of flag species, or unique ecosystem processes. To receive official support, the project needs to be approved not only by the agency that deals with each specific conservation tool, but also by other agencies (e.g., Local Coastal Committee, the Fisheries Administration, and CONAMA, among others).

Another existing mechanism, which has not yet been used but which has the potential to protect marine biodiversity, is the Management and Exploitation Area (MEA). Although MEAs are established to develop exploitation plans, recent studies showed that if properly administered, MEAs can help achieve marine biodiversity conservation goals as species abundance and size were comparable to no-take zones. If the proper incentives are created, MEAs can contribute to the national network of marine protected areas assuring connectivity among areas. Currently, the minimum distance between MPCAs is 411 km while between MEAs is less than 5 km (Gonzalez et al. submitted). The maximum average potential for dispersal of planktonic species is 240 km, suggesting the need to increase connectivity among marine populations. The novelty will be the involvement of local fishers in a project that combines conservation and exploitation goals.

Scientists sponsored by a PEW Fellowship have:

- (1) Provided the scientific support for the private approaches to marine conservation that are in-progress (Navidad and Juan Fernández);
- (2) Helped to refine conservation ideas behind each initiative;
- (3) Organized meetings involving the actors participating in developing the conservation proposals;
- (4) Conducted lobbying with local and national agencies;
- (5) Collaborated in the search for national or international financial support; and
- (6) Developed conservation courses directed to local communities.

It is important to keep in mind that specific activities need to be developed on a case-by-case basis. For instance, the proposal can be entirely developed by local communities or organizations which may have the capacity to develop scientific research, outreach activities and the necessary lobbying, or may involve more entities if some of these capacities are not present locally. The costs of developing biological and oceanographic information, and outreach activities are major detractors of private initiatives.

There is no doubt, however, that the major challenge is the implementation of an enforcement plan because of the cost and the legal mechanisms needed. Although local organizations can develop plans to prevent poaching and can have the personnel to constantly monitor the area, only the Navy can undertake the actual enforcement. This is a major and costly problem especially in isolated areas.

### **Socioeconomic Considerations**

Since the long term persistence of a protected area depends on its success, the development of the preconditions for success, namely participation, education, and economic benefits, is crucial. We think that local communities need to be involved from the first stage, engaging them in the project to assure the success of the protected area. For this reason we continue to assess the value that local communities (permanent residents and tourists) ascribe to coastal ecosystems, natural resources, and to MPAs. We have also developed outreach activities related to these values. In Navidad we developed courses for school children and talks for the general public and local authorities. We have not yet developed specific outreach activities for Juan Fernandez, where the community is aware and very proud of their unique natural resources.

The two communities we are working with are poor and heavily dependent on tourism and exploitation of natural marine resources. Therefore, direct benefits from the marine protected areas can help support the area and assure its success. In Juan Fernández Island it is possible to develop activities compatible with the protected areas (diving and an outreach center) that can bring benefits to the local community. Unfortunately, the highly exposed coast of Navidad prevents diving excursions. For this reason we believe it is critical to develop a small outreach center which can be administered by the local actors involved. We consider outreach activities to be critical at all stages -- before, during and after the protected area has been established. However, the maintenance of a novel and long term outreach program is critical for the long term success of the area. Funding to support these private approaches to marine conservation in Chile is a major constraint.

### **Conclusions**

We think that private initiatives can bring fresh air and dynamism to marine conservation initiatives in Chile. The existing legal tools allow the involvement of private organizations in the process, but we think that this possibility may become more restrictive in the future unless economic and conservation benefits can be achieved simultaneously. Private initiatives can speed up the establishment of protected areas, pacing conservation actions with the increasing threats on marine ecosystems. Local authorities and CONAMA seem to be more willing to engage in this type of joint venture. Therefore, the projects need to be conducted at small, local scales (few kilometers of coastline). Nevertheless, several small and coordinated local initiatives can have significant impact at regional scales. However, coordination may not occur because it depends on the existence of local actors in relevant areas for marine conservation, their capacity to administer the area, and their long-term goals.

We are currently working on two initiatives to establish a Natural Sanctuary and a Marine Coastal Protected Area and hope to extend this project to other areas. For instance, Los Molles, is a unique area in terms of marine biodiversity, oceanographic features, and biological processes. The Local Coastal Committee may be willing to sponsor this project after officially receiving the proposal, and we are looking for partners to join this project.

This process of combining private and public sectors in partially and fully marine protected areas has not yet been explored as a nationwide strategy that can have multiple benefits, including minimizing the conservation costs for the government. The main challenges ahead are how to link these individual actions to a nationwide strategy, how to optimize the cost and benefits of such a network, and how to assure long-term success of the areas. The major constraints for the success of private conservation programs will be funding to support enforcement and outreach activities.

## Americas: Mexico

### ***Buy-outs and buy-in: Saving the vaquita in the Gulf of California***

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#### **Abstract**

A joint TNC/WWF Gulf of California team is exploring several options for private marine and coastal conservation to complement and augment existing protection strategies. Those include coastal zone concessions, coastal land acquisition, kelp concessions, water rights acquisitions, incentive-based fisheries management tools, and fishing buy-outs. This case study focuses on the vaquita initiative, which is a collaborative effort by several government agencies and non-governmental organizations. A public-private buyout effort, the leasing of gillnets, and gear swaps are being used in a strategy to protect the vaquita harbor porpoise from extinction. This paper highlights the importance of obtaining governmental collaboration for creating the enabling conditions for a buy out

#### **Context**

##### **The vaquita**

The vaquita (*Phocoena sinus*) is the smallest cetacean in the world and one of only four *Phocoena* species. It was not described scientifically until 1958. The species is endemic to Mexican waters. Its historical range is not known, but the existing evidence suggests that it was never widely distributed. The core area of its present distribution is in the northern Gulf of California. Vaquitas are cryptic and elusive in behavior, they occur in small groups (an average of two), spend little time at the surface where they are inconspicuous (i.e., do not splash or jump), do not vocalize extensively, and generally avoid contact with humans. They are shallow water, generalist feeders, consuming a wide variety of benthic fishes and squids. The maximum population growth rate is not likely to exceed four percent annually. Their present age distribution appears to be bimodal, with a paucity of younger adults. Existing evidence suggests that females reach maturity between ages three and six and are able to produce a calf once every two years.

##### **The vaquita is threatened**

Historical abundance of the vaquita is not known, but genetic evidence indicates that the vaquita population was never large. A survey suggested that in 1997—after five decades of by-catch in fisheries—abundance was about 600 individuals. Continued by-catch since then, combined with the species' naturally low rate of population growth, indicates a present abundance of about 150 individuals, only a portion of which are mature and contributing to recovery through reproduction. The available survey data (visual and acoustic) indicate that the population is declining rapidly. Refining this information could take a decade or more and cost millions of dollars, but would not change the fundamental dilemma or alleviate the severe risk of extinction. The limited number of breeding vaquitas may lead to inbreeding, increasing the expression of deleterious, recessive genes and increasing mortality or decreasing reproduction. Such inbreeding depression can be resolved only by increasing population size. Existing evidence does not indicate that inbreeding is a problem now, but the risk will increase if recovery is delayed.

The primary cause of vaquita mortality, and thus the primary threat to the vaquita population, is entanglement in gillnets. Historically, gillnets were set for totoaba, which was overfished and is now endangered. Currently, gillnets (large- and small-mesh) are set for shrimp, chano, corvina, mackerels,

sharks, and rays by fishermen from San Felipe, Puerto Peñasco (Rocky Point) and Santa Clara. Surveys in 1993-1995 indicated that 39 vaquita were killed each year by fishermen from Santa Clara alone.

### **Social and economic context**

Fishing resources of the Upper Gulf of California have been the basis of economic and demographic growth in the upper Gulf of California since the beginning of the 20<sup>th</sup> century. Totoaba fisheries were the basic reason for human settling at Santa Clara and San Felipe, but in the 1940s the captures decreased drastically. Meanwhile, the shrimp capture grew and currently is the most important fishery of the region. Due to its size and quality, the shrimp from the Upper Gulf is highly demanded for export and domestic consumption.

Given the physical characteristics of the Upper Gulf, agricultural/livestock and mining activities are practically nonexistent. Population employed in the primary sector is engaged on fishing activities. Human communities depend on fisheries and fisheries are declining drastically, therefore the future of fishing villages in the upper gulf is unclear if over-fishing continues.

### **Institutional context**

The last census (in February 2008) revealed that there are about 700 fishing permits and around legal 850 legal vessels in the zone. There is not a clear idea about the number of illegal vessels, but the estimates range from less than 300 (fisheries commission best guess) to nearly a thousand (legal fishermen perception). Some (but not all) of the illegal fishermen are considered legitimate, legal fishermen by their peers as they have been fishermen for years and are part of a local community of fishermen. In addition, “legal” fishermen who are from neighboring villages are considered “non-legitimate” by the locals. This complexity has created a historical tolerance of illegal fisheries and poorly defined property rights for the fishing resources within the zone. These conditions complicate the possibility of implementing successful public policies in the zone.

Furthermore there is a long history of conflicts among stakeholders in the zone. The upper Gulf of California is an important zone for fisheries and conservation sectors. Conflicts among fisheries as an economic sector and conservation have occurred during the last half century. These conflicts persist even inside the Mexican government as the fisheries commission (part of the agriculture ministry) and natural protected areas commission (part of the environmental ministry) have different mandates, different political clients and have a history of very poor collaboration.

### **Agreement mechanism: a buy-out**

The idea of a buyout first arose in 2005 with a joint document within the Mexican National Institute of Ecology (INE) and some international non-profit organizations (WWF, TNC, CI, and EDF). The idea is simple: if entanglement is the primary cause of vaquita mortality and the quality of life for fishermen is declining along with fish stocks, then compensating fishermen to stop fishing may be a solution for saving vaquita from extinction. The document also recognizes that the enabling conditions for trying to do a buy-out—strengthening the enforcement, clarifying property rights, and promoting inter agency collaboration within Mexican government agencies—are necessary to implement this agreement.

### **The buy-out as a part of a more comprehensive solution**

The buy-out strategy came after years of looking for different solutions. Zoning and technological solutions, market instruments (labeling “vaquita free” shrimp and consumer boycott of Mexican shrimp), micromanagement for helping fishermen to develop alternative livelihoods, as well as banning the use of

gillnets, have been part of the discussions. A buy-out provides the financial incentive to reduce mortality of vaquita in the short-term, hopefully before the population becomes too small to recover. We hope to implement all of the options listed below. The first two options listed below may be implemented as direct and pure buy-outs or as support for developing alternative livelihoods.

- A permanent buy-out - Purchasing gear, boats and permits from fishermen who stop using gillnets.
- A temporary rent-out - Immediately renting gear, boats and permits to reduce mortality while permanent options are explored.
- A technological swap-out - Swapping non-entangling gear (e.g., traps, *suriperas*) for gillnets, in a temporal or permanent basis.
- A geographical buy-out - Compensating (permanent or temporal) fishermen for not fishing in the vaquita refuge.

### **Creating the enabling conditions**

As mentioned above the institutional context is defined by conflicts among stakeholders, weak and un-effective enforcement capacity, limited cooperation among governmental agencies, historical tolerance to illegality and extremely poor defined property rights. Under those conditions the success of a buy-out could hardly be assured. Thus the challenge is assuring that governments, fishermen and civil society work together to create the conditions needed for a buyout.

Some actions undertaken by the Mexican government to create the enabling conditions for the buy-out are listed below. With these pieces in place, it is now possible for conservation agreements to help save the vaquita.

- Creation of the biosphere reserve (1974, 1993) - Since 1974 the upper Gulf of California has been under different conservation categories. In 1993 the upper Gulf was designated a biosphere reserve.
- Creation of the refuge area (2005) - In 2005 a refuge for vaquita was created in their limited area of distribution.
- Program for vaquita protection inside the refuge area (2005) - The program established guidelines for protecting vaquita in the refuge zone. However, there were enforcement problems due to conflicts between the Environment Ministry that had the responsibility for managing the refuge and the Fisheries Ministry that has the only enforcement authority over fishermen.
- First buy-out for alternative livelihoods (2007) - The first buy-out for alternative livelihoods cost approximately \$3 million with the retirement of a few more than 60 fishermen. This buy-out was criticized for several reasons: (i) it was done before the fisheries completed its review of fishing permits that tied each permit to one fishermen, specific fishing equipment and specific boats (the permits that were purchased did not ensure that the boats and motors were not sold to other fisherman and may not have reduced fishing effort); (ii) the buy-out simply retired permits, not vessels or engines and fishing equipment; and (iii) the auction design artificially inflated prices for the permits.
- Management plan of the biosphere reserve (by mid-2008) - The current management plan was published in 1995. A new plan will be completed by mid-2008 that should ban the use of gillnets at the intersection of the refuge and the biosphere reserve. The Environmental Ministry has

jurisdiction in the reserve, and could enforce the gillnet ban in accordance with the fisheries agency if and only if this strategy is part of the management plan.

- Fishermen census (2008) - The Fisheries Commission counted the number of fishing permits (about 700) and boats in the zone (about 850).
- Fishermen re-ordering complete - After re-ordering, fishing permits were tied to one fisherman, specific fishing equipment and specific boats. The new fishing permits are also now tied to a specific zone, in this case the upper Gulf of California. No other fishermen will be allowed to fish in this zone, creating fishing exclusivity for the re-ordered fishermen.
- Coordination agreement (2008) - An agreement between the Environment and Agriculture (Fisheries) Ministries allows for coordination of the vaquita conservation program.
- Enforcement agreement - An enforcement agreement was signed between three agencies: fisheries and the attorney general for enforcement, and the Navy to provide 10 Navy boats for 100 days each year and flights over the zone to enforce compliance of the gillnet ban and the fishing exclusivity zone.
- Creation of an evaluation and monitoring committee for vaquita program (2008) - A committee of NGOs, fishermen, academics and the government will evaluate, certify and recommend annual changes to all aspects of the conservation and enforcement program.
- Second buy-out for alternative livelihoods (2008) - This buy-out cost \$13.5 million, to compensate for the retirement or modification of fishing practices for the total legal artisanal fleet. Two-hundred fishermen opted for the alternative livelihoods compensation, 100 fishermen opted to switch fishing gears, and 548 fishermen opted to stop fishing inside the zone.

## **Funding**

The vaquita effort is being supported by three different sources of funding: the Mexican government, international support, and philanthropic funds. In this situation it is important for the NGOs involved in the process to know how to mobilize international public and private concern while affirming the Mexican government's leadership on this issue.

- Mexican government funding - About \$20 million has been invested by the Mexican government to create the enabling conditions and to carrying out the first two buy-outs. Mexican government funds are conditioned (by Mexican law) to pay for investment in alternative livelihoods (i.e., infrastructure and small businesses). It is not possible for the Mexican government to directly compensate fishermen to stop fishing. As such, all Mexican government buyouts are limited to those fishermen who want risk starting a new small business with the financial and technical support of the government.
- International support - At this moment international aid has been used to improve science, test technology and create public awareness. The window of opportunity is open for the Mexican government and international NGOs to mobilize international aid for reducing fishing effort among the 548 fishermen that still have gillnets and permission to use them outside the vaquita refuge.
- Philanthropic funds - NGOs should not work independently of one another to obtain funds. Building a collaborative, non-competitive NGO coalition is a must for supporting the effort. Very clear rules for the buy-out and the commitment of the Mexican government are key issues for giving certainty to the donors that want their money used in a successful investment. The funding requirements will depend on whether the Mexican government plans to provide funding for

alternative livelihoods for the 548 fishermen that still have gillnets. Philanthropic funding may be needed for temporary rent-outs, direct buy-outs or gear switching.

### **Conclusions**

The vaquita initiative was a very messy process with many errors in application. However, the urgency for saving the vaquita did not allow the initiative to reach for perfect solutions. The private agreements (the buy-outs) were first proposed in a very difficult context within which property rights were not clearly defined. The initiative continues to create enabling conditions while acting, almost simultaneously, to reduce vaquita mortality. In general the conclusions of the vaquita experience can be summarized in six points:

- Urgency - We had to significantly reduce mortality immediately or the vaquita would go extinct. Trying to discover the perfect solution may be the enemy of success; the right solutions may be messy.
- Enforcement is key - Success depends on effective enforcement. Without ways to keep retired nets out of the water and new fishing effort from leaking back in, the buy-out efforts will be wasted.
- Social solutions are indispensable - Gillnet elimination, without meaningful compensations and/or transitions to alternative livelihoods, was politically infeasible.
- Durable management solutions must follow short-term fixes - The political will to create and enforce a permanent ban on gillnets is the key to making this investment last and saving the vaquita.
- Without clear property rights private agreements will not stand - An important lesson, applicable to other private agreements, is that without clear property rights there will no certainty of compliance with a private agreement. In this particular case it was not possible to buy the fishing rights of someone who did not have a clear and individual property right.
- Buy-outs require buy-in - Mexican government leaders—from the presidency to local agents—had to buy in to the plan and work hard to implement it. International actors have to play more intelligent, nuanced and less visible supporting roles.

## Americas: California *Central Coast Groundfish Project - Use of Private Agreements*

Michael Bell, The Nature Conservancy

### Abstract

The Nature Conservancy has long acquired terrestrial lands in California as a protection strategy. Now, in addition to coastal land acquisition, the Conservancy is undertaking kelp leasing, the identification of underwater land holdings, and fishery buy-outs as strategies to conserve ocean and coastal resources. This case study focuses on the Conservancy's 2006 purchase of seven federal trawling permits and four trawling vessels from commercial fishermen. In doing so, the Conservancy became the first private organization to buy out Pacific fishing permits and boats for conservation purposes. The acquisitions were part of a collaborative effort with fishermen and government regulators to protect 3.8 million acres of ocean. The Conservancy has since launched the organization's first Conservation Fishing Agreement. The Agreement is with a central coast fisherman and is aimed at helping sustain fisheries, protect California's marine resources and support fishing communities. The voluntary, private agreement is a lease designed to test methods for making fishing more sustainable and economically viable, focusing on techniques to reduce by-catch and conserve habitat. In addition to this effort, the Conservancy is evaluating the benefit of using more selective gear (hook & line and traps) with its remaining permits. This document serves as a review of the private legal agreements that have been utilized to achieve the conservation objectives of the Central Coast Groundfish Project (CCGP). Background on the CCGP and the west coast groundfish fishery are included to provide necessary context.

### West Coast Groundfish Fishery Background

Fishing communities of California's Central Coast have long relied on the harvest of local stocks of groundfish, such as petrale sole, black cod (sablefish) and lingcod. Although fishermen from these communities also participate in other fisheries, such as Dungeness crab, albacore, and salmon, the groundfish resource has been the most reliable source of locally harvested seafood. Decades of reliance on these local populations of groundfish helped to build the rich fishing heritage that characterizes the Central Coast of California.

Today, the west coast groundfish industry is in economic crisis as a result of resource declines, falling prices, and rising costs. Several groundfish species have been harvested down to "overfished" levels, which is inarguably associated with the industry's overcapitalization, over fishing and reliance on the non-selective and habitat damaging fishing technique of traditional bottom trawling. The west coast groundfish species is comprised of 83 species, but 12 of those species represent the bulk of the fishery's value (61%). Moreover, 5 of these 12 species are now considered "overfished." The decline of the fishery in economic terms has been drastic. In 1987, the ex vessel value of the fishery was \$110 million. By 2003, due to strict catch restrictions established to rebuild overfish species, the value of the fishery dropped to \$35 million.

Unfortunately, management has not provided the incentives for fishermen to fish more selectively and avoid the catch of depleted species. Trawl permit holders are prohibited from switching from trawl gear to more selective, less impacting gear. This means that regulations intended to protect depleted species also severely constrain fishermen's ability to harvest relatively abundant species, limit their ability to find more sustainable ways to fish, and operate viable fishing businesses. The result has been the steady decline in the economic performance of the groundfish industry that also threatens California's Central Coast fishing heritage and locks fishermen into unsustainable harvest practices.

Today, the opportunity for substantial change lies on the horizon. The Pacific Fishery Management Council (PFMC) is moving to shift the West Coast groundfish trawl fishery to a system of “individual fishing quotas” (IFQ). Quota-based programs aim to “rationalize” fisheries by making sure that the program’s economic incentives for participants are compatible with the long-term sustainability of marine resources. Quota-based management will create a very different regulatory landscape for the west coast groundfish fishery, one that may present new challenges and opportunities for the preservation of the rich marine resources and fishing heritage of California’s Central Coast. The permits owned by TNC are among those under consideration for transition to IFQ.

### **Conservation Planning**

In 2002, the National Academy of Sciences completed a comprehensive study on bottom trawling reported in their paper “Effects of Trawling and Dredging on Seafloor Habitat.” The paper recommends that management of the effects of bottom trawling include a combination of fishing effort reduction, modification of gear, and establishment of closed areas to bottom trawling.

In 2003, The Nature Conservancy (TNC) completed its Marine Ecoregional Assessment for Northern California. The conservation assessment identified areas of biological significance to serve as targets for marine conservation efforts and assessed the greatest threats to the habitat and marine life within those sites. The outcome of this work supported the Conservancy’s understanding that the offshore areas of California coast harbor globally significant marine biodiversity. However, the Central Coast emerged as a region of particular interest due to its rich collection of diverse marine habitats and associated wildlife. To assess the threats to this ecoregion, TNC consulted with scientists and others with intimate knowledge of California’s marine ecosystems. These experts strongly agreed that bottom trawling, a fishing technique that typically drags large weighted nets along the seafloor in a manner that results in high bycatch and habitat impacts, should be considered the greatest threat to benthic biodiversity and offshore marine ecology of the Central Coast region.

### **CCGP – Phase 1**

At the outset of the CCGP, TNC focused on direct habitat protection and trawl effort reduction strategies to abate the threat of trawl fishing to the important marine biodiversity of the Central Coast. In 2003, TNC drafted the following goals for the project:

- To protect at least 50% of high priority seafloor habitat (ecoregional portfolio sites).
- To reduce bottom trawl effort by 50%.

To reach these goals, the organization entered into a unique partnership with regulatory agencies and fishing communities of the Central Coast to protect seafloor habitat essential for the diverse array of groundfish species. Fishermen agreed to cooperate with TNC to identify diverse marine habitats that would be off limits to trawling and jointly submit those recommendations to the (PFMC) for designation as Essential Fish Habitat (EFH). In exchange, the Conservancy agreed to purchase federal groundfish trawl permits and vessels from those who wished to sell to reduce trawling effort and to help ease the economic loss of fishing grounds should the consensus proposal be adopted.

The results of these efforts were the establishment of 3.8 million acres of No Trawl Zones, encompassing 67 percent of the high priority conservation areas between Point Conception and Point Sur (as identified in TNC’s conservation planning work) and a 100 percent trawl effort reduction in Morro Bay (TNC acquired all six locally operated federal groundfish trawl permits).

**Key private agreements utilized:**

**1. Option Agreements to acquire permits/vessels, contingent on establishment of EFH areas**

TNC entered into Option Agreements for the acquisition of federal trawl permits and (if necessary) vessels with those fishermen interested in selling their fishery assets. Option Agreements listed several conditions regarding “Buyer’s obligation to close” which included agreement on design and delineation of EFH areas by TNC and fishermen, as well as the PFMC and Department of Commerce’s approval and implementation of these new “No Trawl” zones.

**2. Fair Market Value / Purchase Price of permits**

TNC contracted an economist of the Marine Science Institute of UCSB, familiar with the West Coast groundfish fishery and its potential transition to Individual Fishing Quota (IFQ) management, to provide a valuation of the permits which TNC would option for acquisition. The key factors used to determine permit value included the catch history of the subject permit during years 1994 – 2003 (the catch history window proposed by the PFMC to be used to determine quota allocation) and a % likelihood of the fishery transitioning to IFQ management.

**3. Non Competition Agreements**

Sellers of permits/vessels were also required to sign a Non Competition Agreement. The objective of the Non-Competition Agreement was to foreclose to the maximum extent permitted by law, the ability of a trawl permit seller (and persons or entities closely associated with or controlled by the permit seller) to engage in bottom trawling anywhere in U.S. federal or State waters. Non Competition Agreements were written to extend for 5 years. This was the maximum period that transaction counsel advised would be enforceable under California and other applicable law. So, after 5 years, it is understood that the fisher may reenter the bottom trawl business. It is reasonable to assume that many, if not most, fishers will, after 5 years, have either have found other livelihoods or adapted to other modes of fishing.

**4. Vessel Restrictions**

TNC incorporated vessel restrictions into option agreements to assure that the trawl vessels being used by fishers who sold federal groundfish permits to TNC would be permanently restricted as follows (1) the Vessel is precluded from being used in the future to bottom trawl for groundfish in federal waters of the United States or in waters of the State of California, and (2) the Vessel will not be transferred out of the United States registry or to any person or entity that is not a citizen of the United States. Where TNC acquires the vessel, it has committed, incident to any transfer of the vessel to any third party, that the title to the vessel is encumbered with the Vessel Restrictions. Imposition of the Vessel Restrictions is accomplished by the Vessel owner transferring to TNC a 1% interest through a Bill of Sale to TNC including the Vessel Restrictions. TNC, after closing, transfers the 1% interest in the Vessel back to the fisherman, reserving, however, the benefit of the Vessel Restrictions. Bill of Sale and Vessel Restrictions are recorded with the National Vessel Documentation Center.

**CCGP – Phase 2**

**Using Our Trawling Permits for Conservation Purposes**

TNC believes the best use for its West Coast groundfish fishery assets are in catalyzing a move in the fishery toward more sustainable practices. Simply holding or retiring the trawling permits would not do enough to conserve marine resources in the long-run, since current regulations allow the remaining trawlers in the West Coast groundfish fleet the right to harvest the catch previously landed by the trawlers we bought out.

TNC is currently working to use its permits in key projects, described below, that will test the environmental and economic merits of harvesting groundfish using fishing gear and methods that target desired species, avoid depleted species and do less damage to seafloor habitats.

### **Experimental Gear-Switching Program**

We have developed a plan for leasing some of the trawling permits we have acquired to commercial fishermen, but under restrictions requiring the fishermen to use other gear in place of trawling nets. TNC and its partners believe that using alternative gear that is more selective and does less damage to seafloor habitats, such as traps or hooks and lines, will help convert this traditional trawling fishery to a more sustainable fishery. This experiment will allow us to evaluate the effectiveness of this approach. Along with our partners — Environmental Defense, the California Department of Fish and Game, the Commercial Fishing Associations of Morro Bay and Port San Luis, the City of Morro Bay, and the Port San Luis Harbor District — we submitted a proposal to the PFMC in early 2006 for an “exempted fishing permit” and permission to set up a one-year experiment off the Central Coast (with an option for extending it in the future) that will test the benefits of switching from trawl to non-trawl gear under shared harvest and bycatch caps, using the structure of a community-based association (see below). Thanks to the excellent work of the staff of our Coastal and Marine Program, the PFMC approved this permit in November 2007. We are now waiting for the final approval of NOAA Fisheries. We hope to launch the experiment early in 2008. We would like eventually to see these permits managed by a yet-to-be-created regional fishing association (see below).

In this experiment we will lease six of our seven trawling permits to commercial fishermen who will use traps, pots, hook-and-line, or long-line gear to harvest a defined allocation of fish (much like a quota). The fishermen to whom we are leasing these new permits will start fishing after the regulations are approved in early 2008. At the end of the year, we will evaluate the management, conservation achievements, and economic benefits of this approach. We hope that this experiment will provide the PFMC with critical information and practical experience on how to switch traditional trawl fisheries to more sustainable fishing methods using alternative types of gear. We also expect the experiment to test innovative management approaches that might be used to mitigate any unintended negative consequences of making the transition to a system of individual fishing quotas. If we are successful, we will not only protect fish populations and ocean habitats, but we will help preserve the unique fishing heritage of California’s Central Coast.

### **Conservation Fishing Agreement (Lease of Trawling Permit)**

It is important to understand that we see no likely future scenario in which trawling will be entirely eliminated from West Coast fisheries. A number of still-abundant flatfish species that are important to the economics of the fishery, such as petrale and Dover sole, can be harvested only by trawling.

To test a modified approach to trawling, we have signed a “Conservation Fishing Agreement” with a local commercial fisherman. This unprecedented agreement will function as a sort of “conservation easement in the sea.” The California Coastal and Marine Program believes that this new tool holds great potential for aiding marine conservation efforts.

In this agreement we have leased our seventh trawling permit and a trawling vessel to an experienced commercial fisherman, Edwin Ewing of Morro Bay, who will be restricted to fishing only in previously trawled areas of sandy or muddy seafloors. This experimental trawling will be prohibited in areas with rocky or reef habitats, in no-trawl zones, and in areas that have never been trawled. Our hypothesis is that restricting this fishing operation to soft-bottom habitats that have already been impacted by trawling, will help us develop “best management practices” for the trawl fishery that would avoid potential damage to sensitive and relatively healthy seafloor habitats.

Moreover, by the terms of the agreement, the fisherman will use only smaller, lighter, more selective flatfish trawling gear. This modified gear, which has been tested in other waters off the West Coast with encouraging results, targets more abundant flatfish species and should do less damage to the seafloor than traditional trawling gear. As this experiment proceeds, the Conservancy will work with fishermen and experts in fishing gear on possible further modifications of the gear in order to minimize damage to the seafloor and improve the gear's ability to catch selected target species.

### **Conservation Fishing Agreement II (Scottish Seine)**

An additional fishing agreement is being considered that will use alternative gear types that minimize habitat disturbance. The details of this agreement were being negotiated as of the publication date of this paper.

### **ROV Habitat Monitoring**

TNC is uniquely positioned to measure the effectiveness of these efforts to protect seafloor habitat and promote more sustainable fisheries by studying the impacts of and recovery from directed trawling in soft bottom habitats on the Morro Bay shelf. Assessing recovery of different types of soft bottom communities from trawling effort of known intensity and timing is critical to understanding the potential impact of trawling and how zoning or other measures can be used to reduce impacts to shelf communities. TNC currently owns all of the trawl permits in the Morro Bay area and has the means, through the Conservation Fishing Agreement - that can be used to conduct experimental trawling. Using a remotely operated vehicle, also owned by TNC, we have an unprecedented opportunity to monitor the recovery of seafloor habitats. We are working with partners – NOAA Fisheries, Monterey Bay National Marine Sanctuary, and California State University, Monterey Bay – to design a three to five year trawl impact recovery study.

### ***Institutionalizing Changes in Fishery***

*In addition to overseeing our two experimental permit leasing programs and analyzing their performance, we will work with motivated Central Coast fishermen and other partners such as the Sustainable Fisheries Group to develop a collaborative proposal dealing with the future of the permits the Conservancy holds. Our idea is to use the trawling permits we now hold, the additional permits we intend to acquire, and the results of our experimental lease programs to help set up a local entity able to hold and manage fishing permits as well as incorporate community, conservation and industry in its fishery decision making. Such an entity could lease and manage our permits — under appropriate conservation restrictions and best management practices based on the results of our leasing experiments — for the benefit of the ocean, its species, commercial and sport fishermen, and local communities. This approach could result in a significant, quantifiable reduction in the amount of trawling that threatens high-priority habitats off the Central Coast and could serve as a model for similar efforts elsewhere.*

If we succeed in establishing this new fishery entity, it could also serve as a vehicle for certifying fish as having been harvested under sustainable practices and begin to develop a viable market for certified local seafood. Such an association would be the first in the nation, and if it is successful, it could provide a model for other troubled fisheries seeking ways to move toward sustainability.

### ***Looking Forward – Future Potential for Private Agreements in CCGP***

These efforts to establish large No Trawl Zones in the Central Coast have effectively protected larger representative areas of seafloor habitats and marine biodiversity. However, TNC has realized that the manner in which the groundfish fishery is managed must be reformed if we are to protect the unique marine systems off the entire California coast, and throughout the larger region.

Although TNC's permit acquisitions were not popular in local commercial fishing circles, there was general agreement that fishery regulations and the traditional trawl business model (lots of fish sold for low prices) make trawling neither economically nor environmentally sustainable. This reality has fostered a new partnership between conservation and fishing community interests, united by the goal of reforming the local groundfish industry. This group believes it can establish a new fishery that will effectively protect marine resources, preserve California's unique fishing heritage and ensure that people can buy and eat local and sustainably harvested seafood.

This vision will be carried out by helping Central Coast fishing communities, which have long depended on bottom trawling to catch most of their groundfish seafood product, to diversify their harvest methods and shift to more selective and less habitat damaging fishing techniques. Demand for local and sustainably-harvested seafood continues to grow, providing a market stimulus for these changes in fishing behavior. A large portion of traditional trawl fishing effort can be transitioned to hook and line and trap fishing, resulting in lower volumes of higher quality and higher value product. TNC is also working with fishermen to modify and geographically restrict trawl fishing efforts in the Central Coast to reduce their impact on the environment. Trawls remain the best means of harvesting flatfish – a critical component of the groundfish economy in the project area.

TNC is now working within this new partnership to:

1. Use TNC-owned permits to test ways to transition trawl fishing to more selective, less habitat impactful hook-and-line and trap methods.
2. Use a TNC-owned permit to launch "Conservation Fishing Agreements" (conservation easement in the ocean) – incorporate conservation terms within a private fishing lease agreement.
3. Acquire trawl permits to reach our goal of a 50% trawl effort reduction in the Central Coast – and set the conditions necessary for a change in the business model of the local industry.
4. Launch a research projects to improve scientific understanding of fish stock and ecosystem health as well as fishing impacts.
5. Build a lasting fishery institution that can hold and manage fishery assets and incorporate conservation objectives into its business decision making.

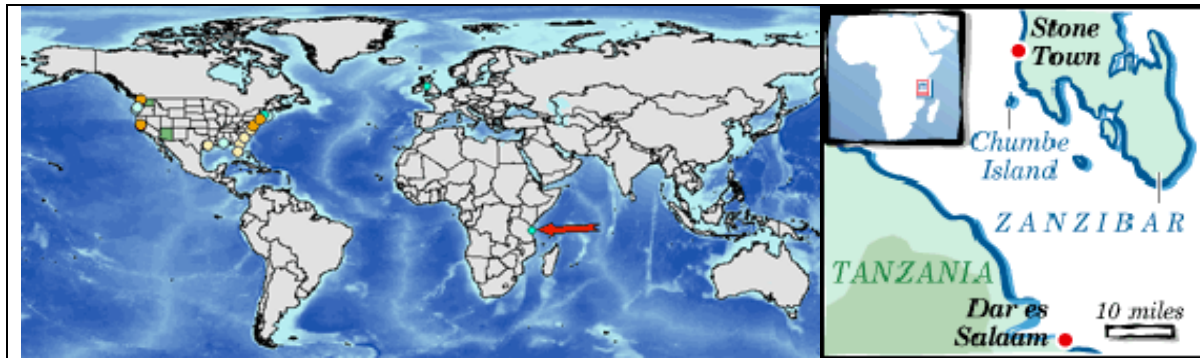
**Summary of key private agreements utilized:**

1. All Private Agreements listed above in Phase 1 section
2. Conservation Fishing Agreement (CFA) – TNC entered into a license agreement of a federal trawl permit that is encumbered with conservation terms and restrictions. The idea of this agreement originates from conservation easements on land. In the CFA, we are leasing a permit to a fisherman subject to gear, geography, monitoring terms and restrictions aimed at exploring ways to improve the environmental performance of a fishing operation.
3. Exempted Fishing Permit (EFP)
4. Establishment of a new fishing institution

## Africa: Tanzania

### *Chumbe Island Coral Park: Helping save the coral reefs of Tanzania*

Sibylle Riedmiller, Owner and Project Director, CHICOP Ltd., Zanzibar/Tanzania



#### Abstract

The Chumbe Island Coral Park is a privately established and managed island nature reserve formally recognized by the Zanzibar Government since 1994 and UNEP-WCMC since 1995. The park is located on and around a small formerly uninhabited coral island west of the larger island of Zanzibar off the coast of Tanzania. The park includes a 30-hectare marine reef sanctuary and a 22-hectare coral-rag forest reserve covering most of the island. Founded in 1992 to establish and manage the reserve, Chumbe Island Coral Park Ltd. (CHICOP) won management contracts and a lease from the Government of Zanzibar (GoZ) to create and manage the park, which has become both a successful ecotourism destination and an internationally recognized conservation success. Training by volunteers and employment of local fishermen as park rangers proved cost effective and facilitated direct partnership with local fishing communities. Chumbe is recognised and classified as a Class II protected area under IUCN's WDPA listings.

#### Project Overview

##### Agreement Mechanisms

Negotiations on the investment proposal that included the gazettement of the Marine Protected Area (MPA) started 1991 and in 1992 the reef to the west of Chumbe was declared closed by the Department of Fisheries. In 1993, the GoZ Commission for Lands and Environment (COLE) leased 2.44 ha of land on the island to CHICOP for a period of 33 years.

In 1994, an agreement was signed between the Ministry of Agriculture, Natural Resources, Environment and Cooperatives (MANREC) and CHICOP, declaring the reef to the west of Chumbe as the Chumbe Reef Sanctuary by virtue of section 6 (1) (e) of the 1988 Fisheries Act, Legal notice no. 99 on December 24, 1994. This made Chumbe Island Zanzibar's and Tanzania's first MPA (IUCN, 2001) and gave CHICOP responsibility for preserving, controlling and managing the Reef Sanctuary for an initial period of 10 years. This arrangement was reviewed and extended between MANREC and CHICOP on January 3, 2004, for a further period of ten years.

In 1995, an agreement was signed between the MANREC and CHICOP, which declared the terrestrial area of Chumbe Island, excluding the area leased to CHICOP, the Chumbe Forest Reserve in

accordance with the provisions of Wood Cutting Decree Ch. 121 and which entrusted management to CHICOP for a period of 33 years. Both management contracts are renewable upon expiration.

A 1995-2005 Management Plan for the reserve was developed with wide stakeholder participation and extended and updated for 2006-2016. CHICOP issues quarterly and yearly progress reports on park management and business operations to the respective sectoral GoZ departments.

The Management Agreements provide for an Advisory Committee formed by GoZ representatives of the Departments of Environment, Fisheries, Forestry, leaders of four neighboring fishing villages and a representative of the Institute of Marine Sciences (IMS) of the University of Dar es Salaam. The Advisory Committee meets at least twice yearly. Meetings have been held according to schedule since 1995 to discuss the Management Plans, project progress and any issues. There have been no major disagreements on actions to take so far, though recommendations of the Advisory Committee are not binding for the CHICOP Management.

Since establishment, the Chumbe MPA has hosted numerous research projects for national and international students. Based on a Memorandum of Understanding with CHICOP signed in 2004, the IMS in Zanzibar and foreign academic institutions linked with the IMS co-operation programs conduct regular long-term research that is only possible in protected areas. Shorter-term studies have been carried out by a host of academic institutions involving several scientific institutions around the world.

**The table below summarizes contractual arrangements, partners, duration and fees.**

Management Contract	2 (marine sanctuary, forest reserve)
Area	118.4 acres (49.6 hectares)
Resource	Fringing coral reef & seagrass beds (30 hectares), coral-rag forest (19.6 hectares)
Dates/duration	1995 to 2015, 10 yr renewable (marine); 1993 to 2026, 33 yr (forest reserve)
Fee/price	None
Location	The whole of Chumbe Island & western fringing reef, Zanzibar/Tanzania
Use	Marine sanctuary, wildlife sanctuary, research, eco-tourism, and local environmental education
Overall Authority	Zanzibar Investment Promotion Agency (ZIPA) approved Investment proposal (mandatory)
Grantor(s)	Zanzibar Ministry of Agriculture, Livestock and Natural Resources
Grantee(s)	Chumbe Island Coral Park Ltd. (CHICOP)
Lease	1 (building site)
Area	5.9 acres (2.4 hectares)
Resource	Minimal disturbance building site following environmental principles, zero-emission sustainable technologies for energy, water provision & waste disposal
Dates/duration	33 yrs from 1993
Fee/price	Land lease US\$4,874/yr + fees, various licenses, taxes on commercial operations
Location	Chumbe Island, Zanzibar, Tanzania
Use	7 bungalows, Visitors' Center for environmental education, staff quarters
Grantor(s)	Zanzibar Ministry of Lands and Environment
Grantee(s)	Chumbe Island Coral Park Ltd. (CHICOP)

## **Context**

The legal structure of the park is complex. Zanzibar is comprised of two large islands (Unguja and Pemba) that form a semi-autonomous region within the United Republic of Tanzania. Zanzibar is autonomous concerning natural resource management and foreign direct investment (FDI). Thus all contracts and agreements were negotiated with GoZ only. For foreign citizens and organizations (such as CHICOP Ltd.), land tenure in Tanzania (including Zanzibar) is generally only available for approved investment purposes through leaseholds. There are several small islands around Zanzibar, most of which were uninhabited until recently, that have now also been developed for (conventional) tourism. The legal set-up and contractual agreements that facilitated the establishment of the Chumbe Island Coral Park project (land lease, gazettelement and management agreements for marine and terrestrial PAs), clearly define roles and functions of CHICOP Ltd and the several sectoral GoZ departments involved. CHICOP has full managerial and financial responsibility for Chumbe Island. The GoZ responsibilities are mainly public announcement of all legal and regulatory measures concerning the reserve and their enforcement (by Fisheries and Forestry officers, the Navy, Marine police, and courts of law).

## **Process & Issues**

### **Decision-making and Implementation Process**

Disillusioned with limited impact and sustainability of official development assistance to Tanzania, the project initiator, a former aid worker, conservationist, and sailing and diving enthusiast, formed CHICOP with the ambition to create an MPA where profits from tourism would help support conservation and environmental education.

Chumbe Island was a good candidate for conservation because it was uninhabited, traditionally closed to fishing because of its location near the shipping channel between Zanzibar and mainland Tanzania, and therefore relatively well preserved. Yet the island had not been included in earlier proposals for MPAs in the country.

In 1991, the investor presented a business plan to the GoZ that would establish Chumbe Island as a privately managed MPA financed through ecotourism. After lengthy negotiations with seven GoZ departments, including a decisive meeting with the President, GoZ approved the project in 1993. Chumbe Island Coral Park Ltd. (CHICOP) was formed and registered in Zanzibar for the creation and management of the reserve.

The negotiation process involved meetings with adjacent fishing communities in 1991. Based on an agreement with villagers, CHICOP employed and trained former fishermen as park rangers, stationed rangers on the island, and provides a free environmental education program for local schools.

### **The Chumbe Island Management Plans 1995-2016**

A management plan was developed in 1995 with the involvement of stakeholders (CHICOP staff, GoZ departments, local fishermen and dive companies). The management plan was endorsed by the Advisory Committee in 1995, and in 2006 revised and updated for another 10 years, again based on consultations with stakeholders.

### **From investment plan to action**

Project activities from 1991-2008 are summarized below, including partners and funding sources:

- The gazetting of the Western reef and Chumbe Island as protected areas was negotiated from 1991 to 1994 between GoZ and CHICOP.
- Park rangers were employed and trained by expatriate volunteers from 1993, mostly for interaction with fishers, monitoring techniques and tourist guidance skills. Patrol boats and

outboard engines were sponsored by GTZ-Small Projects Fund, International School Schloss Buchhof, Germany and EC-Microprojects Tanzania.

- With the help of volunteers and some support of GTZ-Small Projects Fund, baseline surveys and species lists on the island's flora and fauna were conducted from 1993.
- Forest and marine nature trails were developed from 1993 with information materials in English and Kiswahili, sponsored by the Netherlands Embassy in Kenya and the Special Tropical Forest Stamp Program of the German Postal Service.
- An Advisory Committee was established in 1995, with representatives of the Departments of Fisheries, Forestry and Environment, the IMS and village leaders of neighboring fishing villages.
- Rats (*Rattus rattus*) were eradicated in 1997, with the help of an expert from Cork University, Ireland, supported by the Irish volunteer organization APSO and ZENECA, the company producing the rodenticide used.
- A sanctuary for the highly endangered Ader's duiker (*Cephalophus adersi*) was established in 1997 in co-operation with the Commission of Natural Resources of Zanzibar, the Zoo Munich-Hellabrunn, Flora and Fauna International (UK), the WWF-Tanzania and the Chicago Zoological Society.
- The ruined lighthouse keeper's house was rehabilitated as the park headquarters and visitors' centre in 1997-98 with support from GTZ-CIM and the Netherlands Embassy in Tanzania.
- Seven visitors' bungalows ('Eco-bungalows') and the visitors' centre were constructed in 1994-1998 with state-of-the-art eco-architecture (rainwater catchments, grey water recycling, composting toilets, and photovoltaic power generation).
- As part of the Chumbe Environmental Education Program, teacher training seminars and island excursions are offered to local schools, in its early phases supported by the US National Fish and Wildlife Foundation (NFWF), the Southern African Development Community Environmental Education Program (SADC-EE), the International Coral Reef Action Network (ICRAN) and others. Since mid-2008, around 3,000 schoolchildren and 550 teachers have visited the island under this program.

## **Lands and Resources**

Chumbe Island is situated 12 km Southwest of Stonetown, Unguja, Zanzibar and 6 km from the nearest point on the Unguja coast. Latitude/Longitude: 6 16' S; 39 10' E. The Chumbe MPA closely borders the Menai Bay Conservation Area, fished mostly by traditional users. The island is roughly oval in outline with its long axis running roughly north-south, approximately 1.1km long and 300m wide at its widest point. The total terrestrial area is approximately 22ha. The highest point is only about 5m above the high tide level. A key reason for CHICOP's early establishment, investment proposal and campaigning to gazette the Chumbe MPA was the observation of high biodiversity value in both the reef and forest habitat.

The Chumbe Reef Sanctuary has 4 key habitats: pelagic, coral reef, coastal shallows and intertidal areas. Baseline surveys identified coral species from 55 genera and over 200 species and at least 432 fish species. During surveys, one new species of coral was found in Chumbe (*Oulophyllia chumbensis*) awaiting description<sup>12</sup>. Compared to other MPAs (without no-take-areas, NTAs), Chumbe has a six times greater biomass of commercially important fish species observed in the Sanctuary. This effect of protection in an NTA is unusually high, as revealed in an international review of 89 other MPAs (with NTAs) where such comparisons revealed a maximum biomass increase of three times greater in NTAs (Halpern, 2003). The most abundant of the commercially important fish include species that have been found to be travelling out of the NTA to nearby fishing grounds.<sup>13</sup>

The Chumbe Forest Reserve has three key habitat areas, mangrove pools, short scrub and a relatively tall (6m) dense coastal thicket covering the majority of the island. It is an example of an undisturbed 'coral

<sup>12</sup> Veron, pers.comm.1997

<sup>13</sup> Tyler, E.H.M. (2006) Coral reef monitoring in Chumbe Island Coral Park: A manual prepared for Chumbe Island Coral Park. Version 1.1., Zanzibar

rag' forest, which is becoming increasingly rare in the region and indeed throughout the Western Indian Ocean. Fauna include rare and endangered species, e.g. possibly the world's largest known population of Coconut crab (*Birgus latro*), listed as Data Deficient in the IUCN Red List. To date 93 species of birds have been recorded. Attracted by abundant fish in the reef sanctuary, large colonies of the regionally endangered Roseate Tern (*Sterna dougalli*) bred on the islets of the MPA in 1994 and 2006. After successful rat (*Rattus rattus*) eradication in 1997, Aders duiker mini-antelopes (*Cephalophus adersi*) were translocated to the island for breeding in 1999/2000. The Ader's duiker is a Critically Endangered (CR)<sup>14</sup> species of mini-antelope and the Zanzibar population is believed to be the last remaining viable population.

### **Historical Monuments**

Three historical buildings found on Chumbe Island were preserved:

- A lighthouse built by the British in 1904 and powered from 1926 to this day by an AGA gas system.
- A lighthouse keeper's house, also constructed by the British at this time, now transformed into the Visitors' Centre.
- A small mosque of Indian architecture, dating from around 1906 and built by the Zanzibar Indian Community for the first lighthouse keepers based on the island.

### **Threats**

Permitted uses in the MPA include recreation (swimming, snorkeling, underwater photography), education and research. Extractive and destructive activities, such as fishing, anchorage, specimen collection (even for research) are not allowed. The Forest Reserve is also closed for any extraction. Access is only along nature trails in the southern part of the island. The north is impenetrable and closed to visitors.

Due to the island's status, relatively small size of the park, the committed work of the park rangers and the Environmental Education programs, enforcement has not been a major problem throughout project history, except for an episode during Zanzibar's first multiparty election in 1994-95, when the park status was challenged by a group of fishers from a Zanzibar town. A meeting of all parties in the Prime Minister's office and the establishment of the Advisory Committee helped overcome this particular political threat.

Since 1993, CHICOP has employed professional conservation coordinators to train the park rangers and oversee all research and monitoring programs. Baseline surveys, research reports and monitoring data are available on most flora and fauna of the park. The park rangers have monitored the park since 1992 and provide continuous data on infringements. The conservation status and threats are thus well documented.

### **Environmental Threats**

During the 1998 El Nino coral bleaching event the MPA lost ca 30% of its *Acropora* species, however, recovery and new growth became prevalent within two years<sup>15</sup>, restoring the former coverage of the 'reef canopy'. Since 2003, active intervention has been required to control Crown-of-thorn (COT) starfish and *Diadema* sea urchin outbreaks. The sources of the COT and *Diadema* outbreaks are unclear. They affected, and continue to affect, all surrounding coral reefs between the Zanzibar and Tanzanian

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<sup>14</sup> Listed in the IUCN Red List as CR A4 acd.

<sup>15</sup> Daniels, C., 2004, Conservation Co-ordinator Marine Science Report, Update report for DFMR, October 2004, Chumbe Island Coral Park Ltd

mainlands. The systematic removal of the COT effectively brought the outbreak to a halt in the MPA<sup>16</sup>, while the *Diadema* population is being controlled regularly.

Recent research has established that the Chumbe MPA is among the most resilient reefs in the Western Indian Ocean region and likely to be less affected by environmental stress, temperature changes and other causes of coral mortality linked to climate change.<sup>17</sup> Based on these findings, a related study concluded that the management status of MPAs in the region needs to be reprioritized based on areas that are both likely to survive climate change related thermal stress and have biodiversity. Chumbe ranks among the highest performers in all these categories.<sup>18</sup>

Environmental impacts of tourism operations are also controlled and monitored. All buildings on the island (seven visitor bungalows, the Visitors' Centre and staff quarters) were constructed according to state-of-the-art eco-architecture (rainwater catchment, grey water filtration, composting toilets, and photovoltaic power generation), in order to minimize any environmental impact. Most systems have worked well throughout. However, as visitor numbers increased, the grey water vegetative filtration system could not cope with the nutrient-rich kitchen water anymore. With professional help of specialists recruited by the volunteer agencies BESO and SES, the system was modified several times over the last three years and will now undergo a decisive testing during the coming season. A recent study calculating the phosphorus budget of the ecotourism operations on Chumbe Island recommended that compost from the composting toilets and wood ash of the staff kitchen have reached a saturation point and should in the future be removed from the island in order to avoid nutrient leakage into the coral reef. These measures are now implemented.<sup>19</sup>

### **Organizational and Partner Capacity**

Marine conservation was a new field for GoZ in the early 1990s, and the relevant policies, legislation and institutions were yet to be created. Therefore, capacity to assist CHICOP in the development of the park was limited. All necessary resources and expertise were mobilized by CHICOP from 1991 up to the present.

Decisive for project success were the 50 professional volunteers, biologists, technicians and educators from several countries who joined CHICOP for periods between one month and three years since 1993. They conducted baseline surveys on the ecology of Chumbe Island, trained the rangers, the administrative and hospitality staff, developed the education program, installed technical equipment and helped manage the increasingly complex project.

The cooperation of GoZ officials with CHICOP, in initial negotiations on the investment proposal, management agreements and plans, in the Advisory Committee and numerous on-site activities helped build capacity and raise conservation awareness and understanding of the legal and institutional requirements. This was decisive for political support for CHICOP and indirectly influenced GoZ policy making.

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<sup>16</sup> Lanshammar F, Muhando C, 2008. Ecological effects of the crown-of-thorns starfish removal programme on Chumbe Island Coral Park, Zanzibar, Tanzania, paper presented to 11th ICRS, Florida, 7-11 July, 2008

<sup>17</sup> Joseph Maina, Ventijn Venus, Timothy R. McClanahan, Mebrahtu Ateweberhan, Modelling susceptibility of coral reefs to environmental stress using remote sensing data and GIS models, *Ecological Modelling* 212 (2008) 180-199, Science Direct, Elsevier [www.sciencedirect.com](http://www.sciencedirect.com)

<sup>18</sup> McClanahan et.al. 2007b, Effects of climate and seawater temperature variation on coral bleaching and mortality. *Ecol. Monogr.* 77, 503-525

<sup>19</sup> Lindstroem, 2007, A phosphorus budget for the eco-tourist resort of Chumbe Island Coral Park, Zanzibar. MSc Thesis 2007, No. 153, Swedish University of Agricultural Sciences, Dept of Soil Sciences.

## **Legal Framework**

- The Zanzibar Investment Act 1986 sets conditions for FDI. The Zanzibar Investment Promotion Agency (ZIPA) is the overarching body responsible for implementing the legislation. ZIPA approved the CHICOP Investment proposal in 1993.
- Land is only available for leasehold based on approved investment plans and for a maximum of 33 years. Leases are governed by the Land Tenure Act 1992 and issued by the GoZ Department of Land and Registration. Regulations issued in 2006 govern the control of environmental damages, water use and waste disposal on leased land. CHICOP leased a small plot for development on Chumbe Island.
- Fisheries in Zanzibar are governed through the 1988 Fisheries Act, and it was in reference to this law that the Chumbe MPA was gazetted as a closed fishing area (NTA) under the GoZ Department of Fisheries.
- The Chumbe Forest Reserve was established in accordance with the Wood Cutting Decree Ch. 121. The GoZ Department of Forestry entrusted management to CHICOP for a period of 33 years.
- Monitoring and enforcement are entirely based on CHICOP's own resources and systems. Independent researchers provide important additional data. As agreed in the Management Agreements, CHICOP reports on a regular basis to the sectoral GoZ departments and the Advisory Committee. The Agreements contain a clause that allows for revocation in case of serious contravention by the company.
- The 1996 Environmental Management for Sustainable Development Act is the most relevant act related to overall biodiversity goals and protected area networking. Part VII of the act outlines plans for a National Protected Areas system in Zanzibar within which existing sanctuaries and protected areas will be eligible for inclusion. It outlines plans for a National Protected Areas Board as a consultative authority to provide policy guidance. The board draws 11 members including the Principal Secretaries of all relevant ministries associated with natural resources, environment, tourism and finance, with additional members drawn from selected experts in resource management, community development and environmental affairs. Under a 1999 supplement to the Environment Act, a Zanzibar Nature Conservation Areas Management Unit is to be set up to coordinate the networking of protected areas.

## **Legal issues affecting private investment in conservation**

- All land leases in Tanzania and both management contracts for the protected area are renewable upon expiration. However, like any land lease or agreement in Tanzania, CHICOP has no legal assurances that the lease and management contracts will be renewed after expiration. Land leased to a foreign investor has to be developed within a set period. Leases can be revoked in case of contravention.
- Investment protection under the Zanzibar Investment Act of 1986 provides limited protection only against expropriation by GoZ, as the law regulates procedures for negotiating for compensation, but has no provisions for challenging expropriation as such.
- The Environmental Management and Protection Act 1996 (enacted after CHICOP had been established), contains a clause that may in a worst-case scenario weaken the contractual setup of CHICOP, as it allows for cancellation of existing contracts and leases 'for environmental reasons'. However, there has so far been limited political will to implement the law, and the respective institutions have not been created yet.

### **Socio-economic Considerations**

- All around Tanzania and Zanzibar, coral reefs and coral islands suffer from overexploitation and destruction by unsustainable and destructive fishing methods, in particular dynamite fishing and beach seining. Other threats are coral mining, pollution by coastal development and intensive agriculture, and last but not least, the effects of climate change: coral bleaching and acidification of seawater. Formerly unexploited marine organisms, such as sea cucumbers and sea horses, shells and shark fins are now harvested and exported to distant Asian markets.
- Forests are disappearing at a fast rate, providing land for settlement and agriculture and being cleared for firewood and charcoal (remaining the most important sources of domestic fuel in rural and urban areas). Endangered and protected species, such as sea turtles, duikers, large mammals and a myriad of unexplored indigenous flora and fauna lose their habitat or are hunted or collected for food.
- Since the 1990s, the liberalization of the Tanzanian economy has opened coasts and beaches for investment in tourism. This also contributes to the deterioration of coral reefs and coastal forests. In the absence of garbage disposal systems, plastic bags, containers and packing materials litter streets and beaches.
- Environmental awareness by the general public and GoZ action lag far behind the pace of environmental deterioration, particularly concerning coral reefs. As a result, decades of destructive fishing methods (dynamiting, smashing corals and beach-seining) have been met with little public and governmental concern.

### **Outreach**

In summary, CHICOP has:

- Held village meetings since 1991, before and during implementation to discuss the progress and issues with local people, especially fishermen.
- Asked fishing villages in 1991 to propose candidates for park rangers.
- Given local people preference in employment opportunities for most jobs, though this requires substantial on-the-job training and close assistance. With 42 staff and only 7 rooms, CHICOP employs 300% more staff per room than the international average for Eco-lodges.<sup>20</sup>
- Developed Management Plans 1995-2005 and 2006-2016 that involved consultation with a wide range of stakeholders (GoZ, villagers, private sector, and IMS).
- Established an Advisory Committee with GoZ, University and village representatives in 1994, to discuss the Management Plans and other project development issues.
- Offered a marine rescue service since 1993 to help local fishermen in distress (there is no marine rescue service in Tanzania). Ranger reports show that since 1994, over 1,000 fishermen (and 160 vessels) have been assisted or rescued by the Chumbe rangers.
- Created an Environmental Education Program for local fishermen and schoolchildren that has (through mid-2008) covered around 3,000 schoolchildren and 550 teachers.
- Helped restock depleted fisheries and degraded coral reefs. Located upstream of major fishing grounds, the sanctuary provides protected breeding areas for fish and corals that recolonize the overfished and degraded areas opposite a Zanzibar town.<sup>21</sup>

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<sup>20</sup> International Finance Corporation, 2004, *Ecolodges: Exploring Opportunities for Sustainable Business*, Wash/DC

<sup>21</sup> Fish tagging, habitat surveys and interviews with local fishermen on and around Chumbe gave indirect evidence of spill-over (net emigration of adult fish) from the MPA. 94% of fishermen interviewed believed that fish inside the park travel out and are caught (Tyler, 2006: 179). Fish tagged on Chumbe were recaptured up to 4 km away,

- Created a market for local produce, handicraft and services. All buildings were constructed with local natural renewable materials and technologies, thus benefiting local artisans and primary producers. CHICOP also buys food supplies directly from fishers and farmers in local markets. Some services, e.g. guest transport, are outsourced to local people.

## **Funding**

The total investment into the development of the reserve was ca. 1.2 million USD. (50% from the project initiator, 25% small donor grants for non-commercial project components, - i.e. baseline surveys, visitor center, ranger training, nature trails, education program -, and 25% professional work contributed by over 50 volunteers over several years). A financial analysis<sup>22</sup> revealed that by mid-1997 conservation costs accounted for 52% of the investment realized so far, while 9% had been spent on educational infrastructure (nature trails and information materials). The remaining 39% were used for building the tourism infrastructure (Visitors' Centre and seven eco-bungalows).

Commercial operations started in 1998, with occupancy rates gradually increasing from 15% to 86% from 1998 to 2007. This is comparable to performances of ecolodges worldwide, most of which took a minimum of 5 years to find their market.<sup>23</sup> The revenue generated from small-scale but high value ecotourism now fully funds the park management and conservation and education programs since the year 2000-2001 (a minimum occupancy rate of 30-40% is required for this to occur). About one-third of the operational budget of Chumbe is spent on conservation management staff and education programs. Capital payback is only recently starting.

Revenue generation has steadily increased to around US\$500,000 USD / year. Of this:

- ca 30% is spent on taxes, licenses, leases and associated permits for operations.
- ca 40% is spent on general operations, salaries of administrative and hospitality staff, running the eco-lodge, out-sourcing services locally, administration, marketing etc.
- ca 30% is spent on staff for conservation and education services and their operations (i.e., the education programs, research, monitoring, community liaison and associated initiatives).

## **Conclusions**

### **Opportunities**

CHICOP used a unique window of opportunity in the early 1990s, when Zanzibar opened up to the outside world, and policies, legislation and institutions for both FDI and conservation were still being developed. Though these are in place now, 18 years later, the challenge may be limited political will, mainly due to a massive increase of FDI in the tourism sector, the higher income expected from large-scale corporate and mass tourism, and from generous donor support for marine conservation to government.

In summary:

- **Technically and operationally**, CHICOP is well established concerning both park management and tourism operations. Prospects would be favorable for using similar arrangements for suitable sites around the country, in the region and elsewhere in the world.

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although based upon comparative data from other NTA's, it is believed that whilst spill-over does occur, it is likely to be limited in magnitude and spatial extent.

<sup>22</sup> Neill Soley, 1997, Chumbe Island Coral Park, Analysis of Costs, Paper presented at the Workshop on Revenue from Nature Conservation Areas in Zanzibar, 15-16 July 1997, Zanzibar

<sup>23</sup> International Finance Corporation, 2004, Ecolodges: Exploring Opportunities for Sustainable Business, Wash/DC

- **Financially**, CHICOP is also stable, with an occupancy rate (>80%) that has for several years been about the double the minimum required to fund park management (30-40%). This could also encourage similar investments in the country, region and beyond.
- **Politically**, CHICOP is now well accepted in Zanzibar and internationally. The outreach and education programs contributed to that. Decisive was the international recognition and the many prestigious awards won for the conservation work and ecotourism services.
- **Long-term prospects** of CHICOP depend on political stability in Zanzibar and favorable GoZ decisions on extension of management agreements and the land lease. Improvement of security of tenure would require changes in certain legal provisions and judicial reform. Conservation policy development and legal and institutional development in Tanzania are commonly financed by donors according to the predominant international paradigms. Therefore, donor attitudes towards private involvement in conservation matter considerably. For example, in 1993, it was due to the intervention of a donor representative that the duration of the MPA Management Agreement of CHICOP was reduced from the planned 33 years to (renewable) 10 years, which increased investment risks considerably for the company.

#### **Opportunities for private investment in marine conservation in general**

The following are some very preliminary observations, mainly based on conditions in Tanzania. Africa is a huge and incredibly diverse continent and conditions may differ vastly between countries.

#### **Favorable Conditions:**

- Many countries still have abundant sparsely populated wilderness areas available, and population pressures are lower than in Asia, for example, even in coastal and marine areas.
- Along the coasts, resource exploitation is rather by traditional small-scale means for subsistence, therefore at comparatively low levels of intensity, though locally destructive.
- The local economy is mostly informal and very small volume by international standards. Therefore eventual compensations to local users would be much lower than in more advanced economies.
- The cultural tradition of 'clientelism'<sup>24</sup> implies that local people generally welcome co-operation with outside partners that offer secure basic subsistence.
- Clientelism and donor-dependency<sup>25</sup> also determine the relations between governments and outside partners. Therefore, donors are relatively influential in policy and decision making. Policy-making and planning processes as well as implementation are often donor-funded.

#### **Major Obstacles:**

- Governance problems and institutional weaknesses, e.g. of legal systems, limit security of tenure and of contractual arrangements. Governance is particularly weak in the Fisheries sector/
- Illegal, unreported and unsustainable (IUU) fisheries exploitation in Africa's oceans is occurring on a massive scale, leading to collapsed fisheries, the loss of critical ecosystems and the extinction of marine wildlife. The market value of fish caught illegally in Africa by (often foreign) commercial fishing companies could be as much as US\$ 1 billion every year. The economic and social consequences for coastal communities are a major concern throughout the continent.
- Local communities commonly lack organization and representation. NGOs are often private enterprises of a few people (often related to government officials) set up to benefit from abundant donor aid available. Encouraged by lax supervision of donors, many provide few services if any and lack transparency and accountability.

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<sup>24</sup> Chabral, Patrick & Daloz, Jean-Pascal (1999), *Africa Works – Disorder as Political Instrument*, The International African Institute, James Currey, Oxford/UK & Indiana University Press, Bloomington/USA

<sup>25</sup> Chabral & Daloz (1999)

- The informality of relations between government and people implies that government power and capacity for enforcement is limited.<sup>26</sup> This is particularly true for mobile fishers and people in relatively remote locations.
- Donor paradigms and socialist traditions in many countries create a perceived dichotomy between 'local communities' and 'private sector', assuming that the former are always 'poor and exploited' by the latter, and that the private sector is always 'large corporate' and located outside of local communities. This rather ideological view ignores economically attractive options for sustainable resource management for the benefit of both, and thus potentials for win-win arrangements.
- Many governments in Africa are highly donor-dependent, have weak institutions and low absorption capacity, which results in over-funding and spending pressures. This creates powerful incentives for state-run conservation as the more 'profitable' approach for both, government and aid agencies. Lack of transparency and accountability to local people in and around parks reduces possible benefits from this bonanza and alienates them, not to mention sustainability, which is undermined, in spite of all good intentions and declarations to the contrary.

## **Scale**

With political will, the Chumbe model could well have been extended to more areas and operate at a larger scale, and CHICOP would have been prepared to give technical assistance to similar initiatives. For example, appropriate conditions could have been set by GoZ for the development of several formerly uninhabited islands off Zanzibar (Bawe and Changuu islands) and by the Government of Tanzania for mainland Tanzania. However, some islands were leased recently by GoZ to 'politically connected' tourism companies not particularly known for environmental concerns.

The challenge of influencing GoZ policy making and decisions on issues affecting marine conservation and tourism investment is beyond the capacity of single investors. Large international organizations, like The Nature Conservancy and Conservation International would probably be in a much more powerful position to engage the government. However, even where the political and legal framework may be favorable for private investment in marine conservation, there may still be important limitations for large-scale protection of marine areas. Formal organizational levels are low in many rural coastal communities and therefore, interactions with local resource users extremely time-consuming. Confidence-building measures and personal relationships are decisive for success for work with local people. This limits the scale of effective agreements for co-operative marine resource management and conservation on the ground.

## **Complementation**

CHICOP is fully compatible with national and regional conservation and management strategies. However, as most strategies and projects are developed by government within donor-funded projects, there is a certain tendency to keep the private sector, and actually most other stakeholders, out of the equation. This is not only because of the 'ideological biases' mentioned above, but also a result of cumbersome bureaucratic requirements, high spending pressure under tight schedules, while genuine stakeholder involvement requires flexibility and is extremely time-consuming.

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<sup>26</sup> Chabral & Daloz (1999)

Tanzania is signatory to the Convention on Biological Diversity, and of the Nairobi Convention of 1985 (The Convention for the protection, management and development of the marine & coastal environment of the East African region). Both highlight the importance of MPA establishment.

At the World Parks Congress in Durban in September 2003, Tanzania also announced the intention to increase protection of its seas to 10% by 2012 and 20% by 2025. This includes the development of MPAs, and a potential strategy for meeting this commitment has been outlined in a Blueprint 2050 document, where expansion of MPA systems and networks is recommended, along with a supportive legislative environment for MPA establishment and management.

Tanzania is beneficiary of several major aid projects in support of integrated coastal zone management, including marine conservation, e.g.:

- The US\$ 61 million 6-year World Bank-GEF-funded Marine and Coastal Environmental Management Project (MACEMP) that has three components: Component 1: - Sound Management of EEZ including governance, harmonization of governance regimes of mainland and Zanzibar and establishing appropriate and acceptable institutional mechanisms for managing the economically and ecologically important resources of the EEZ; Component 2 - MPA establishment and networking of MPAs; and Component 3 - Coastal District Planning and Co-Management Capacity Building. Zanzibar receives 40% of the MACEMP budget.
- MACEMP is complemented further by multi-million US\$ projects, e.g. the IDA supported Tanzania Social Action Fund (TASAF, supporting village level social projects in coastal areas also), Local Government Reform Program (LGRP) doing the same at district level, the two WWF-Projects RUMAKI (Rufiji-Mafia-Kilwa Coastal Zone Management, funded by Japan) and a similar project in Mtwara (funded by DANIDA) and several others. Further regional support available to Tanzania is the GEF-funded South West Indian Ocean Fisheries Project (SWIOFP), the Targeted Research Project on Coral Reef Management, and the Regional Program for the Sustainable Management of the Coastal Zones of the Indian Ocean Countries (ReCoMap), funded by the EU with ca 27 million US\$.
- Norway has chosen the fisheries sector as one of the priority areas for future support, with several hundreds of millions of US\$ committed to the government. This is in addition to General Budget Support Tanzania receives from 14 donors in Tanzania, and together with the Highly Indebted Poor Countries initiative (HIPC) relief, this contributes 20 per cent of public expenditure and includes the Natural Resources sector.

Altogether, around 40% of the government budget is donor-funded. There are major concerns about the use of this support, based on recent press reports and parliamentary enquiries, about a series of massive irregularities that involved payment of hundreds of millions US\$ of government funds, particularly from the national bank and the state electricity company, to briefcase companies apparently owned by top politicians and senior government officials. Some of these cases are now being investigated, a prime minister resigned and the cabinet was reshuffled in February 2008, but legal action is yet to be taken. There is a general perception that the use of donor funds by the government is not transparent. For example, MACEMP operations started in 2005, but there is little information available on activities so far. Press reports mention major delays in project implementation. Networking of MPAs is an objective, and the private sector is mentioned as a stakeholder in the project documents, but CHICOP is yet to be contacted for co-operation or co-ordination.

## **Lessons Learned**

Altogether, CHICOP achieved its objectives as outlined in the investment proposal and management plans, though the pace and costs of implementation were underestimated by about 300% at the outset. However, there is little that project managers could or should have done differently. The pace of implementation and many bureaucratic hurdles created by GoZ were mainly determined by CHICOP's refusal to pay bribes. This decision delayed operations and increased investment costs considerably.

In summary, the lessons were:

- Private management of a marine protected area can be effective and economically viable, even in a challenging political climate.
- The park has benefited local communities by generating income, employment, a market for local produce, developing new work skills, demonstrating sustainable resource management, and restocking commercial fish species in adjacent areas (spill-over).
- Private management has strong incentives to achieve tangible conservation goals on the ground, co-operate with local resource users, generate income, be cost-effective and keep overheads down.
- To avoid user conflicts, it is easier to preserve a resource that is not being used to a major extent for subsistence or other economic endeavors by local communities.
- Extensive work with GoZ agencies in establishing the park has enhanced the understanding of environmental issues among local and national authorities.
- Long-term secure tenure, together with a favorable political, legal and institutional environment, would be needed to attract more private conservation investment in the developing world.
- Ambiguous regulations and wide discretionary powers of civil servants in the area of land leases, building permits, business licenses, immigration and labor laws encourage corruption and are thus hurdles to doing business by drastically delaying developments and increasing costs.
- Investment in conservation and in environmentally sound technologies, as well as the employment of additional staff for park management and environmental education programs, raises costs considerably, making it difficult to compete with other tourist destinations. Favorable tax treatment could encourage such investments, but is not granted in Tanzania.

## **Recommendations**

CHICOP is a success story and can be replicated elsewhere, where conditions are favorable. The lessons learned mentioned above provide guidance. The following are very basic recommendations only.

Start small-scale and expand gradually. Low levels of formal organization among coastal communities and fisher folk make interactions with local resource users extremely time-consuming. Confidence-building measures and personal relationships based on powerful cultural norms are sometimes more important for success than formal contracts. Successful 'alternative income generating' (AIG) activities are yet to be found, and require understanding of local cultures and economies and a lot of experimentation.<sup>27</sup>

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<sup>27</sup> Ireland (2004), *Alternative Sustainable Livelihoods for Coastal Communities – A Review of Experiences and Guide to Best Practice*, IUCN

The key for more involvement of the private sector in marine conservation is a paradigm shift in the donor community and international NGOs (IUCN, WWF) involved in conservation, who play a, not always acknowledged, influential role in policy formation and implementation. Private investments in marine conservation need to gain acceptance as a feasible and attractive option for effective and sustainable conservation on the ground, for the benefits of both, nature and local people. Where governments, including park authorities, are not responsive to local concerns, local alliances between the informal and formal sectors of the economy, fishers and tourism operators in particular, can create effective win-win arrangements.

There is need for proactive stewardship that highlights the comparative advantages of private management of marine resources. This includes the acknowledgement that tourism operators, fisheries and other users often operate in the same area, compete for uses, and thus have strong incentives for direct negotiations on issues related to user rights, management and eventually conservation on-site. Localized private management has a comparative advantage over central authorities and finds it easier to deal with local communities for enforcement, training, employment and education, by virtue of their small size and mutual dependence. Private management agencies can operate more flexibly and efficiently than government as they are less affected by party politics, and also not bound by restrictive government civil service and budgetary regulations and cumbersome bureaucratic procedures. Last but not least, private management has stronger incentives to keep overheads down and generate income than governmental and externally funded management bodies.

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**See also**

Biodiversity Conservation and Eco-Tourism (Chumbe Island, Tanzania), UNESCO Environment and development in coastal regions and small islands. This web site contains links to videos, papers, discussion threads, and other resources on Chumbe from 2000-2001.

## Critical Issues for Marine Conservation Agreements

Can Marine Conservation Agreements (MCAs) be applied everywhere, at anytime, and under any set of circumstances? Likely not. MCAs are but one tool in the ocean and coastal conservation toolbox. MCAs, government-established marine protected areas, outreach and education, science, best management practices, coastal zone management, zoning, ecosystem-based management, area-wide laws and regulations... these are all different tools that ocean and coastal conservationists can use.

But when is it best to use MCAs as opposed to one or more of the other tools? Are MCAs a “jeweler’s tool” to be used extremely carefully only under precise circumstances? Or are MCAs a “new homeowner’s tool” to be used forcefully under nearly all circumstances? Unfortunately the answer is likely not so clear-cut. There should be, however, a set of critical issues (or criteria) that generally determine when MCAs can be applied. In addition, if critical issues can be established, there may also be a logical progression in which that the resultant criteria should be met.

Can we develop a simplified decision-making checklist for MCAs that satisfies us? Recognizing that site-specific and project-specific circumstances vary widely, fundamental critical issues can augment existing decision-making criteria organizations may already have or can stand alone when other criteria are absent. In general, if potential projects do not address the critical issues and satisfy the resultant criteria, then it is expected that other conservation strategies may be more effective.

For example:

1. **Can the ecosystem services we’re concerned about be directly or indirectly acquired or managed via MCAs?**
2. **Can the human and environmental conditions threatening the ecosystem services be directly and indirectly abated via MCAs?**
3. **Do the legal circumstances provide for the establishment of MCAs?**
4. **Can the relevant socio-economic factors be understood and accounted for via MCAs?**
5. **Can we identify and obtain sufficient funding for planning, negotiations, authorization, initiation, and long-term stewardship associated with MCAs?**
6. **Are organizations and stakeholders who are directly and indirectly impacted by MCAs engaged, supportive, and understanding of the approach?**

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## Critical Issue: Ecosystem Services

### What ecosystem services can MCAs deliver?

The Millennium Ecosystem Assessment <sup>28</sup> (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?

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<sup>28</sup> 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>

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

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**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?

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## Critical Issue: Threats

### Which threats can MCAs abate?

Before using Marine Conservation Agreements (MCAs) as a conservation strategy, organizations must consider whether the human and environmental threats<sup>29</sup> to the ocean and coastal systems of concern can be abated by the exclusivity, control, or management direction provided by MCAs. MCAs can be used to acquire sites and resources in fee or less-than fee-title or used to direct management of sites by others, such as local communities. But can MCAs be used to abate the specific threats that are occurring at specific sites?

MCAs often provide some form of exclusivity or management direction over sites. This exclusivity and management creates the ability to directly or indirectly control or restrict some activities and structures at specific sites. Some measure of control in and around a site may be needed to protect priority species, habitats, resources, and ecological processes from current and future harm; but exclusivity may not be needed (or useful) when other uses and activities are compatible with the conservation goals identified for the site or when off-site threats are the cause of the site's vulnerability. If achievement of the conservation goals do not require complete elimination or partial restriction of other uses at a site, then a MCA is likely not necessary. However, if there are on-site threats that need to be controlled or excluded, MCAs could be the appropriate tool.

Typical activities and structures that might be excluded or restricted from sites via MCAs include, but are not limited to:

- Aquaculture;
- Commercial uses;
- Navigation;
- Non-water dependent uses;
- Over-water structures;
- Public access;
- Recreation;
- Resource extraction such as fishing;
- Shoreline development and armoring;
- Transportation infrastructure; and
- Utility lines.

Some of the above listed activities and structures may be more difficult to restrict than others (e.g., navigation). Site-specific circumstances as well as applicable laws and policies will ultimately determine what activities can be excluded, how they can be excluded, and to what degree.

### Discussion Questions

#### Primary questions -

1. What are the primary threats MCAs are abating currently? What threats are MCAs capable of abating but are not being used as such?
2. How can MCAs address threats that are not place-placed or local, such as sea-level rise and some sources of pollution (non-point source run-off)? Are other mechanisms needed to address in concert with MCAs or along (such as zoning, enforcement, education, regulation, and community involvement).

#### Follow-on questions if time/desire allows -

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<sup>29</sup> A classification system of direct threats can be found below.

3. How do MCAs affect, initiate, or codify protection from the threats?
4. How do we measure whether MCAs are actually abating the threats?
5. Are there threats that can undermine the effectiveness of MCAs?
6. How do we take advantage of the CMP threat classification scheme to improve the effectiveness of MCA strategies?
7. What are other issues related to abating threats with MCAs that we should be aware of and work to resolve?
8. Using the classification system, which threats are we primarily concerned about in the ocean and coastal environment? Are they the standard ones consistently being discussed: resource use/over-fishing, development/habitat destruction, pollution, and global climate change?

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### Summary Findings

MCAs can address threats that are not place-based. For example:

- Pollution from cruise ships may be addressed through agreements with the cruise ship companies.
- Pollution from non-point sources may be addressed through agreements with landowners within watersheds.
- Over-fishing and destructive fishing practices may be addressed through MSC certification/agreements.
- Sea-Level Rise may be partially adapted through agreements such as those in the Philippines that protect mangroves.
- Loss of local control over resources may be addressed through agreements between local communities and state governments.

MCAs allow conservation organizations to act without other supporting mechanisms or outside requirements, such as legislation.

MCAs can address urgent threats, but NGOs need to change their financial structures to be able to respond as quickly as private commercial investors.

## IUCN/Conservation Measures Partnership - Proposed Classification of Direct Threats

UCN-CMP. 2006. Unified Classification of Direct Threats, Version 1.0.

<http://www.iucn.org/themes/ssc/sis/classification.htm>

### **1 Residential & Commercial Development**

Threats from human settlements or other non-agricultural land uses with a substantial footprint

#### **1.1 Housing & Urban Areas**

Human cities, towns, and settlements including non-housing development typically integrated with housing

#### **1.2 Commercial & Industrial Areas**

Factories and other commercial centers

#### **1.3 Tourism & Recreation Areas**

Tourism and recreation sites with a substantial footprint

### **2 Agriculture & Aquaculture**

Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture

#### **2.1 Annual & Perennial Non-Timber Crops**

Crops planted for food, fodder, fiber, fuel, or other uses

#### **2.2 Wood & Pulp Plantations**

Stands of trees planted for timber or fiber outside of natural forests, often with non-native species

#### **2.3 Livestock Farming & Ranching**

Domestic terrestrial animals raised in one location on farmed or non-local resources (farming); also domestic or semi-domesticated animals allowed to roam in the wild and supported by natural habitats (ranching)

#### **2.4 Marine & Freshwater Aquaculture**

Aquatic animals raised in one location on farmed or non-local resources; also hatchery fish allowed to roam in the wild

### **3 Energy Production & Mining**

Threats from production of non-biological resources

#### **3.1 Oil & Gas Drilling**

Exploring for, developing, and producing petroleum and other liquid hydrocarbons

#### **3.2 Mining & Quarrying**

Exploring for, developing, and producing minerals and rocks

#### **3.3 Renewable Energy**

Exploring, developing, and producing renewable energy

### **4 Transportation & Service Corridors**

Threats from long narrow transport corridors and the vehicles that use them including associated wildlife mortality

#### **4.1 Roads & Railroads**

Surface transport on roadways and dedicated tracks

#### **4.2 Utility & Service Lines**

Transport of energy & resources

#### **4.3 Shipping Lanes**

Transport on and in freshwater and ocean waterways

#### **4.4 Flight Paths**

Air and space transport

### **5 Biological Resource Use**

Threats from consumptive use of "wild" biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species

#### **5.1 Hunting & Collecting Terrestrial Animals**

Killing or trapping terrestrial wild animals or animal products for commercial, recreation, subsistence, research or cultural purposes, or for control/persecution reasons; includes accidental mortality/bycatch

#### **5.2 Gathering Terrestrial Plants**

Harvesting plants, fungi, and other non-timber/non-animal products for commercial, recreation, subsistence, research or cultural purposes, or for control reasons

#### **5.3 Logging & Wood Harvesting**

Harvesting trees and other woody vegetation for timber, fiber, or fuel

#### **5.4 Fishing & Harvesting Aquatic Resources**

Harvesting aquatic wild animals or plants for commercial, recreation, subsistence, research, or cultural purposes, or for control/persecution reasons; includes accidental mortality/bycatch

### **6 Human Intrusions & Disturbance**

Threats from human activities that alter, destroy and disturb habitats and species associated with non-consumptive uses of biological resources

#### **6.1 Recreational Activities**

People spending time in nature or traveling in vehicles outside of established transport corridors, usually for recreational reasons

#### **6.2 War, Civil Unrest & Military Exercises**

Actions by formal or paramilitary forces without a permanent footprint

#### **6.3 Work & Other Activities**

People spending time in or traveling in natural environments for reasons other than recreation, military activities, or research

**7 Natural System Modifications**

Threats from actions that convert or degrade habitat in service of “managing” natural or semi-natural systems, often to improve human welfare

**7.1 Fire & Fire Suppression**

Suppression or increase in fire frequency and/or intensity outside of its natural range of variation

**7.2 Dams & Water Management/Use**

Changing water flow patterns from their natural range of variation either deliberately or as a result of other activities

**7.3 Other Ecosystem Modifications**

Other actions that convert or degrade habitat in service of “managing” natural systems to improve human welfare

**8 Invasive & Other Problematic Species & Genes**

Threats from non-native and native plants, animals, pathogens/microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity following their introduction, spread and/or increase in abundance

**8.1 Invasive Non-Native/Alien Species**

Harmful plants, animals, pathogens and other microbes not originally found within the ecosystem(s) in question and directly or indirectly introduced and spread into it by human activities

**8.2 Problematic Native Species**

Harmful plants, animals, or pathogens and other microbes that are originally found within the ecosystem(s) in question, but have become “out-of-balance” or “released” directly or indirectly due to human activities

**8.3 Introduced Genetic Material**

Human altered or transported organisms or genes

**9 Pollution**

Threats from introduction of exotic and/or excess materials or energy from point and nonpoint sources

**9.1 Household Sewage & Urban Waste Water**

Water-borne sewage and non-point runoff from housing and urban areas that include nutrients, toxic chemicals and/or sediments

**9.2 Industrial & Military Effluents**

Water-borne pollutants from industrial and military sources including mining, energy production, and other resource extraction industries that include nutrients, toxic chemicals and/or sediments

**9.3 Agricultural & Forestry Effluents**

Water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include nutrients, toxic chemicals and/or sediments including the effects of these pollutants on the site where they are applied

**9.4 Garbage & Solid Waste**

Rubbish and other solid materials including those that entangle wildlife

**9.5 Air-Borne Pollutants**

Atmospheric pollutants from point and nonpoint sources

**9.6 Excess Energy**

Inputs of heat, sound, or light that disturb wildlife or ecosystems

**10 Geological Events**

Threats from catastrophic geological events

**10.1 Volcanoes**

Volcanic events

**10.2 Earthquakes/Tsunamis**

Earthquakes and associated events

**10.3 Avalanches/Landslides**

Avalanches or landslides

**11 Climate Change & Severe Weather**

Threats from long-term climatic changes which may be linked to global warming and other severe climatic/weather events that are outside of the natural range of variation, or potentially can wipe out a vulnerable species or habitat

**11.1 Habitat Shifting & Alteration**

Major changes in habitat composition and location

**11.2 Droughts**

Periods in which rainfall falls below the normal range of variation

**11.3 Temperature Extremes**

Periods in which temperatures exceed or go below the normal range of variation

**11.4 Storms & Flooding**

Extreme precipitation and/or wind events

## Critical Issue: Legal Circumstances

### Are the legal circumstances amenable?<sup>30</sup>

Marine Conservation Agreements (MCAs) can be constructed using a variety of legal tools, ranging from private purchase and sale agreements to public leases to community agreements. An assessment of the available legal mechanisms should indicate what types of agreements are useful *and* enforceable. Typically, local counsel in the places where these projects will be implemented should assist the development of agreements. Nevertheless, one should be aware of the available tools as well as the strengths and weaknesses of each. Flexibility and creativity will most likely be necessary, as legal mechanisms intended for a different purpose may need to be adapted for conservation objectives.

MCAs are often based on an ongoing *quid-pro-quo* – incentives in exchange for conservation. Theoretically, an agreement can continue for as long as the law allows and as long as the parties to the agreement consider it in their interest to conserve the resources. Conversely, an agreement may face termination due to legal constraints on term or when the parties decide it is no longer in their best interest. While some believe the latter point is a weakness of private agreements, it may also be a strength. It could open the door to conservation in places where resource owners would not initially consider formal, government-sanctioned, legal protection through legislation or rules. Having flexibility in how long an agreement can last also provides conservationists the possibility of adjusting their portfolio of conservation areas as science develops a better understanding of the most important geographic locations to allocate funding. The major challenge of continuing a private agreement is developing and continuing an arrangement that will be appealing to the resource owner *and* the conservationist over time. Legal mechanisms allow the parties to formalize that agreement.

#### *Legal Mechanisms*

The most straightforward means to formalize a conservation agreement is to use a standard contract or lease. The primary advantages of these instruments are that they can be readily tailored to the specific needs of the conservation agreement, and are relatively inexpensive and straightforward to implement. In the event that terms are breached, the judicial system is available to settle the issue. Naturally, a contract or lease is only as good as the practical legal means to enforce it, and it is often the case that judicial systems are weak in many parts of the world. However, an important strength of conservation agreements in weak legal contexts is that, by design, compliance is motivated by the benefits provided under the agreement rather than the threat of legal retribution. Thus, as with any agreement, it is crucial to select well the parties with whom the agreement is made, and ensure that the incentives offered will have a lasting appeal to secure lasting compliance.

On public lands the principle mechanism for conservation agreements is the *concession* or natural resource lease. Terrestrially (and in marine environments) the largest land areas in the world are owned by governments and they often seek to put them under private management, principally for natural resource exploitation such as logging and mining (and aquaculture). In many areas it is possible to use these same legal agreements to acquire resources for purposes of conservation. The basic idea is to pay governments a competitive fee as if entering an agreement to exploit commercial resources, usually in the form of a tax on either area or volume of resources, and to manage the area for conservation. If conservation is established as a public benefit, conservation organizations may not have to pay the government for the concession. In some countries it may be illegal to do this, requiring concessionaires to use (*i.e.*, exploit) the resources or lose their rights to them. In other countries, it may be permissible explicitly or with new interpretations of existing laws. Moreover, in many cases protection over substantial durations can be achieved through long lease periods and renewal clauses. Concessions vary in length, but are often decades long with automatic renewal if the terms of the agreement are met to the satisfaction of the parties.

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<sup>30</sup> Largely adapted from: Conservation International. 2007. Draft - Conservation Incentive Agreements: An Introduction and Lessons Learned to Date. Guidance Manual. Washington, D.C. pp 51.

A major advantage of concessions is that they open the possibility of conservation across vast areas of public lands that might otherwise never be considered for protection. They can also be faster to implement and more flexible than conventional protected areas, which may take years, if not decades, to create in many countries. However, the option of re-zoning public lands or marine areas as formal protected areas should not be overlooked in the context of a conservation agreement. Conservation agreements may actually be the first step towards formal government-sponsored legal protection. When it is possible to negotiate for formal legal protection, it may be prudent to seize the opportunity.

On private lands, legal mechanisms in addition to standard contracts that can be used in the context of a conservation agreement include purchase and sale agreements, easements and government registrations of conservation status. In these cases, the private resource owner agrees to sell or conserve the resource in exchange for an incentive, and potentially buttresses that agreement by creating an additional legal protection for the resource. As described previously, conservation easements allow a landowner to make a legal declaration to give up “development rights” to property without losing ownership of it. This has the advantage of allowing the landowner to continue using the property, as long as they do not exploit the resources protected by the easement. A third party, like a conservation group or land trust, will accept the responsibility of monitoring the easement and can rely on the judicial system to enforce it. Easements have the additional advantage that they attach to the property, so change of ownership does not affect the conservation status. Easements are well developed in the U.S., where the government offers a financial incentive in the form of a tax deduction or tax credit, and are beginning to grow in popularity in some countries in Latin America. However, the often weak tax collection systems in many developing countries will limit the usefulness of this approach. (As long as you pay for the easement or use rights weak tax collection is not an issue).

In some countries, resource owners can transfer property ownership to a foundation incorporated for the purpose of conservation, with specified guidelines for conserving the property in its articles of incorporation. The foundation directors may include the resource owners, as well as others involved in the conservation agreement. The original resource owners may continue using the resources within agreed upon limits. The articles of the foundation may also prohibit the sale of the resources. This approach has the added advantage of scalability, for example allowing multiple landowners in a particular area to participate in a single foundation, as well as communal landowners. Motivations to participate in such schemes might include a desire to protect the conservation status of an area from government action, to achieve the minimum area needed for ecological purposes or for nature-based enterprises, tax advantages, or conservation incentives offered by third parties.

Again, legal mechanisms are a means to formalize conservation agreements; they are not an end in themselves. Unless the parties are selected well, the incentives designed properly and monitoring is conducted, the legal mechanism alone will not likely ensure conservation. Public or private legal mechanisms are varied, and some creativity is generally required to identify an appropriate mechanism for a given application.

#### **Discussion Questions:**

1. What are the major international, national, and local laws affecting the ability to undertake MCAs?
2. What are the major legal obstacles preventing MCAs from being implemented?
3. What is the necessary legal framework to implement a MCA (i.e., identifiable, transferrable, and defensible rights)?
4. What are the formal and informal land and sea tenure scenarios (i.e., who owns and controls the lands and resources) which dictate the nature of MCAs, to include public, private, communal, tribal, usufruct, traditional, and customary rights, among others.
5. What are the legal factors limiting the ability of land and resource owners from transferring their ownership and rights to a private conservation organization?

6. What are the important contractual/agreement clauses, terms, and considerations for MCAs (such as parties, duration, purpose, liability, payment, enforcement and arbitration, geographic area, rights and responsibilities).
7. What are the formal and informal enforcement mechanisms available to organizations through MCAs?
8. Are there public trust issues (or similar common law rights and doctrines) outside the U.S. that may impact MCAs?
9. What are the perceived obstacles related to historical practices and interpretations?
10. What are the best means to address the actual legal and policy obstacles to MCAs versus the perceived obstacles based on historical practice and interpretation?
11. What are the legal options to overcome some residency requirements for property acquisitions in some areas?
12. Can these mechanisms be applied to communal or cooperative land holdings?
13. What are the major legal differences between contracting with a government entity and a private or local/communal entity?

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### **Summary Findings**

High-level law and policy analyses should be undertaken for geographies where MCAs are a new strategy. The international, national, state, and local laws affecting MCAs are complicated and varied, and thus require a specific geographic look.

New interpretations of existing laws that were originally enacted to serve purposes very different from MCAs may backfire if policymakers feel the laws have been manipulated to serve an illegitimate purpose. As such, NGOs must be careful when making legal interpretations and assertions.

There can be differences between the intent and interpretation of laws and the application of laws. In some cases, there may be legal opportunities to apply MCAs, but the historical application of laws makes it prohibitive. In other cases it may not be legally acceptable to apply MCAs, but historical irreverence for laws may make it possible. In either case, NGOs must be mindful of the intent, interpretation, and application of laws and policies at all levels of government.

## Critical Issue: Socio-economic Factors

### Do socio-economic factors matter? <sup>31</sup>

A common challenge in setting up and managing marine conservation projects throughout the world is the difficulty of competing against fisheries and other marine resource sectors that offer tangible economic benefits such as employment and revenues to both governments and local stakeholders. Unless decision-makers and stakeholders face social and economic incentives that appropriately reward them for conservation, conservation will likely not be achieved.

Given this, a principle criterion for selecting a conservation agreement project is *value*. How do the costs of a potential marine conservation agreement applied at a particular site compare with other sites of similar ecological importance, and to other possible conservation approaches? Are donors willing to cover these costs? An economic evaluation helps answer these questions.

#### *Understanding Context*

An economic evaluation begins with an assessment of the alternatives available to resource owners or users. Some resource owners may be predisposed to conserving the resources but lack the financial ability to do so. Their perception of alternatives may focus on varying levels of conservation management or may include some limited resource use. Others may view the resource in purely economic terms, and weigh their alternatives in terms of potential returns from exploiting it – this relates to the direct use values of Total Economic Value.<sup>32</sup> Although global demand for conservation derives from several components of Total Economic Value, the financial value to resource owners is rarely associated with anything other than direct use. Accordingly, the relevant components of direct use value are usually the only part of TEV that need to be addressed by compensation packages provided under conservation agreements.

An incentive to conserve the resource will need to be attractive in the context of the resource owners' or users' perceived alternatives, or opportunity cost. The opportunity cost of conservation refers to the benefits foregone by conserving a resource rather than putting it to its next best use. For example, if the next best use is fishing, the opportunity cost of conservation is the income foregone by not fishing an area. A distinction between real and perceived opportunity cost may be relevant here – even if the known opportunity cost of conserving an area is low (for instance, if we know that potential income from fishing is negligible due to high transportation costs), the resource owners may believe the value to be high and demand generous compensation. Alternatively, resource owners may be unaware of the high opportunity cost, creating an opportunity to get a 'good deal' but raising the risk that the true opportunity cost reveals itself at a later date and that the agreement then requires expensive renegotiation or falls apart. In short, the feasibility assessment must explicitly address the question of resource owners' perceptions of opportunity cost, and consider the impact of those perceptions on the potential for reaching an affordable, equitable, and durable agreement.

Fundamentally, the private agreement approach acknowledges that conservation may impose two kinds of costs on resource owners: an opportunity cost related to foregone income from resource use (which can range from zero in extremely remote areas devoid of economically viable resources, to extremely high such as in the case of areas with high-value mining potential), and the cost of conservation

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<sup>31</sup> Largely adapted from: Conservation International. 2007. Draft - Conservation Incentive Agreements: An Introduction and Lessons Learned to Date. Guidance Manual. Washington, D.C. pp 51, and from: Niesten, E and H. Gjertsen. 2008. Revised Methodology for Economic Incentives Project. Project Proposal.

<sup>32</sup> Natural habitat and biodiversity represent several forms of value, which together comprise Total Economic Value, or TEV (Barbier 1991; Pearce & Moran 1994). Many components of TEV, such as indirect use values associated with environmental services like watershed protection and biodiversity maintenance, are not reflected in market prices that influence resource use – hence the 'missing market'. For instance, since market prices for forested areas typically do not reflect their value as biodiversity habitat, this value is often disregarded by decision-makers, leading to insufficient habitat protection (Niesten *et al.* 2004a).

management. For an agreement to be attractive to resource owners, the incentives offered usually will have to be at least as great as the sum of these two costs.

In some cases an appropriate incentive will be limited to financial assistance for conservation management, helping resource owners to achieve their conservation goals. In other cases, resource owners may depend on the financial returns from exploiting the resource and will perceive economic losses from conservation.

*Assessing Potential Incentives/Compensation under the Agreements*

A number of considerations should go into identifying appropriate incentives, and in all cases that process should be built upon stakeholder consultation. An assessment of investment opportunities, their costs and practical implications, and potential partner organizations that can assist in their implementation will be instrumental in constructing a viable and effective compensation package.

In most cases a private agreement will include funding or technical assistance that is directed towards conservation management. Any conservation agreement should ensure that there is adequate funding for proper monitoring and enforcement of the site. Many communities appreciate the income, training, and responsibility that can come from local employment in these activities.

Estimating the costs of management is highly dependent on site-specific factors such as local threats to the site. In contrast to parks, private conservation agreements directly benefit the owners and users of the site, so the local pressure to exploit resources is mitigated. However, there may be external threats such as poaching that also need to be monitored and managed. The presence of enforcement personnel and demarcation of conservation areas go a long way towards ensuring successful management. An estimate of these needs, as a function of external threats, is probably a fair basis for developing management costs. However, the addition of other monitoring expenses, e.g., remote sensing and population sampling, can increase a management budget by multiples. The level of desired scientific monitoring will therefore be an important factor in assessing the overall cost of management.

When incentives include social and economic investments, it will be important to assess which investments are actually possible given technical capacity, available infrastructure, and funding. It is also important to consider the kind of impact that different investments will have in terms of building a stronger and more sustainable agreement. Direct cash payments, for example, may be simplest and most appropriate where resource owners are completely integrated into local cash economies, whereas social service investments may be more appropriate in contexts involving non-cash economies and where social services are lacking. Common social and economic investment options include education, health, and enterprise development. The range of possible social and economic incentives is quite broad given the variety of potential contexts, making partnerships with organizations that specialize in social and economic projects an important and attractive option in many projects.

In summary, the economic evaluation of a potential site considers the affordability of a conservation agreement, in terms of the incentives required and project financing prospects. However, such analysis can only provide an initial indication, as ultimately negotiation will determine the incentives needed to reach an agreement. An assessment of the resource owners' and users' alternatives will greatly inform one's negotiating position, and help to determine whether an agreement is likely to be affordable in the first place. Factors that will affect the negotiation may reach beyond a financial analysis and include the ability of a conservation group to coordinate other players to assist in developing an incentive package that meets stakeholder objectives. Finally, practitioners must recognize that in some situations, the opportunity cost of conservation may simply be too high, or funding prospects too weak, to make a conservation agreement affordable. In these instances, other strategies will be required. Nevertheless, regardless of the strategy selected, an understanding of the opportunity costs and incentives driving biodiversity loss will benefit the design of appropriate interventions.

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### **Discussion Questions and Findings**

1. Under what conditions are socio-economic assessments necessary versus unnecessary before entering into a MCA?

While projects should not spend their entire budgets on assessments, these are needed – it's more a matter of how deep the assessments go.

Conclusion: The question should be changed to when an assessment doesn't need to go deep? For example, a cursory assessment (or not assessment at all) is likely appropriate in an area with no people, where there are all the conditions are perfect for having an MCA. But, project managers should always consider law of unintended consequences, e.g. future conditions, downstream communities, excluded people (like in Chile). Conversely, where there are more market failures or more people, then deeper economic assessments are needed.

2. What are the critical issues to account for and/or avoid when undertaking a project-specific socio-economic assessment?

Socioeconomic assessments don't need to include the kitchen sink. Instead, they should be targeted, such as:

- Defining appropriate benefit packages as well as getting a baseline for human well-being outcomes.
- Determining property rights and use of resources, and whether they are enforced.
- Determining how illegal activity fits into designing agreements.
- Determining market failures.

Manage expectations - do trial and make it transparent to community that we are at assessment level so we may want to do long term agreement but it depends on trial and funding available

Get good assessment team

3. What are the distinctions between and differences in applicability of economic evaluations versus property appraisals when determining the value of incentives (i.e., land/resource values, lease payment values)?

What you need to measure depends on context and what you are purchasing or leasing. Rarely do we need to do a total economic valuation (focus on opportunity cost)

Economic evaluations: value of resources (could be use and non-use).  
Property appraisals: value of land (market price).

The answer depends on the strategy: In a leasing system, need to value opportunity cost to stakeholders. In purchasing land, need to value price of land.

4. What socio-economic characteristics of local communities make them especially good candidates for MCA projects?

- Clear property rights.
- Quality of governance.
- Enforceability: social norms, social cohesion, someone in community can make and enforce rules, strong government.
- Stability with migration—don't want this to act as magnet.
- Local champion.
- Economic opportunities: limited economic opportunities can make it cheap since there is nothing else to do, also this will be better than other approaches; many economic opportunities means you may just need to purchase rights and they can go do something else.
- Prior experience with conservation project.
- Bad experience with extractive companies.
- Size, cohesion of resource user group.

5. What incentives are most commonly applied under MCAs (i.e., direct payments, social services, physical infrastructure, employment)?

ALL OF THE ABOVE

6. What are the conditions under which specific socio-economic incentives appear to be most successful?

Needs to fit in bigger picture strategy of project goals (i.e., the benefits package is in line with goals of project, such as training, education, or equipment that also benefits project). What does the community want/demand?

Direct payments:

- Accountability (money is used for what it supposed to).
- Well organized, transparency, governance systems to report back on how cash payments have been spent (i.e.. are they distributed how they are supposed to?).
- Cash economy, urban, large.
- With restrictions (i.e., don't want them to be able to buy chainsaws; make sure regulations are in place so that other destructive things won't happen).

Social services:

- When it is identified as a need by community (e.g. because local government is not providing).
- Income, education, health, then think about sanitation, transportation, etc.

Physical infrastructure:

- Having something that lasts that people will associate with conservation.
- Early investment is visible, but over long term you'll want something that can be turned on and off depending on compliance.
- Can have co-investment from community (e.g., labor provided).

Employment

- There are usually some conservation-related jobs.
- Propose in communities where there might not be other options (in some places employment benefits from these types of jobs are not better than other jobs).
- Otherwise very situation-specific.

Other incentives that could be applied:

- Helping with certification

- Taxation systems (tax relief, but this can create distortions—may or may not have positive side effects)
- Relief from regulations (but may want “no net loss”)
- Helping establish management rights
- Helping with enforcement
- Empowerment/status/pride (i.e., those that report to Navy, policymakers)
- Creating access to policymakers, development orgs, etc.
- Cultural preservation (empowerment to protect sacred land, reviving conservation traditions such as sasi)
- Formalizing property rights through recognition given by an agreement
- Helping community to organize to be able to enter into an agreement

To date, the situations that have the most successful MCAs have organizations that put people on the ground for a long time, maybe indefinitely.

- But this may not help to scale up, is there a way to do this more efficiently?
- Depends on context (in some contexts, e.g. US, may not need this).
- Can we have institutionalized entity that will help us scale up

7. What are other socio-economic factors affecting MCAs that we should be aware of and work to resolve?

- Threats that lie beyond community (e.g. mining companies)
- Governance: corruption, policy, local and national
- State of resource—to what extent there is a crisis
- How high do benefits need to be relative to cost of living
- To what extent does MCA provide an incentive for everyone to get organized and for everyone to come to the table and make it happen

### **Recommendations (Strategy to scale up)**

#### 1. Standardization

- Using a best-practices model (manual with clear steps, give easy recipe for field staff to follow, standards of implementation (ethics and methods))
- Standardizing language we use
- Clear, simple model/message

#### 2. Monitoring outcomes (conservation and socioeconomic)

- Be able to demonstrate impacts, learn/adapt from experience, sell the tool (e.g., clear statistics that show improvements in what trying to protect and improvements in human well-being)
- Find the right way to articulate how these projects have conservation and human well-being impacts (access other sources of funding)
- Disseminate this information to stakeholders and the public

#### 3. Collaboration of implementing organizations

- Develop information tools/message/marketing of tool

#### 4. Attractive benefit packages

- Allows method to sell itself

#### 5. Get development community on-board

- Approach as collective unit promoting this approach
- Access additional funding opportunities and delivery mechanisms for benefits
- Look at development strategies—how do they reach so many people in such a short time

6. Establish field implementation units

- Centralized unit in appropriate geographical units that can provide services to MCAs on the ground (economies of scale)

**Outstanding issues:**

- Necessary vs. sufficient conditions
- This marine conservation approach vs. another

## **Critical Issue: Funding**

### **Is funding available?**<sup>33</sup>

Initial and long-term costs for planning, negotiating, acquiring, and implementing Marine Conservation Agreements (MCAs) should be estimated at the earliest possible time. Recognizing the ever-changing nature of estimates and that true project costs often differ from estimations, organizations should include contingency funds and plans as part of their MCA project plans. Once estimations are developed, organizations must examine project affordability, which involves assessing donor interest and allowable funding mechanisms.

Donors may be aid agencies, bi- and multi-lateral development banks, foundations, individual philanthropists, and corporations. Their interest in a site will depend on a number of factors, and each donor will have specific restrictions on the use of their funds.

Aid agencies and development banks (e.g., USAID, World Bank, and Inter-American Development Bank) can be good partners and donors for conservation agreements. Their mandate for projects in a given country will vary, and generally will be guided by priorities established in consultation with the host-country government. As a result, a coordinated project with one of these institutions will also involve engagement with government, and may be restricted in geography and themes (e.g., health, education, agriculture) that are priorities for that government. A common restriction with aid and development funding is a short time horizon for project implementation. A typical funding cycle may be four to five years, meaning the project must be initiated and completed within that period, and adapting this type of finite funding into a long-term MCA may require creativity. However, many development-oriented institutions value conservation outcomes and long-term impacts but are not well positioned to secure either on their own, and therefore may welcome joint implementation of MCAs.

Private philanthropists and foundations present a great variation of interests and restrictions for their funding. The range begins with donors that support concrete, short-term projects to those willing to fund process-oriented initiatives lasting for many years. Geography also plays an important role, with most foundations today selecting specific regions to focus their funding.

Corporations are broadly involved in conservation initiatives. A quick survey of multi-national corporate partnerships with conservation groups reveals an impressive host of voluntary initiatives by Bristol-Meyers Squibb, 3M, BP Amoco, Budweiser, ConocoPhillips, ChevronTexaco, Disney, ExxonMobil, Intel, McDonald's, Ford Motor Company, Mitsubishi, Newmont Mining, Rio Tinto, Shell, Starbucks, Wal-Mart and many others. Their interests range from public relations to community engagement and biodiversity impact mitigation. Corporations will typically focus their philanthropy in regions where they operate, and increasingly seek to integrate voluntary conservation initiatives within a Corporate Social Responsibility (CSR) strategy.

An important issue is securing a long-term source of funding for MCAs. As mentioned, aid and development institutions tend to make commitments with short timeframes, foundations may vary from one to many years, and corporations follow in this regard. One solution is to continuously raise funds, but another more robust solution is to create a trust fund with enough money to endow the funding needs of the MCA. As a rule of thumb, an endowment should be twenty times the size of the annual funding need, which may present a fundraising challenge.

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<sup>33</sup> Largely adapted from: Conservation International. 2007. Draft - Conservation Incentive Agreements: An Introduction and Lessons Learned to Date. Guidance Manual. Washington, D.C. pp 51.

**Discussion Questions:**

Primary questions -

1. If we look out over the next ten years at doing MCAs at scale, what types of MCAs are we talking about? Where are they? And how much will they cost individually and collectively if we want to do this at a meaningful scale?
2. What are the potential sources of funding (segment the market of available funding)? What is the potential magnitude from the various segments? What are the interests and constraints of the various segments? Is there a role for private capital in MCAs (such as BBOPs, payment for ecosystem services, recreation concessions)?
3. What does a high level funding plan for the whole MCA sector look like?

Follow-on questions if time/desire permit -

4. What are common funder issues and priorities that need to be accommodated for MCAs? Which funders (donors, funds, foundations, grants, etc.) are appropriate, willing, and immediately able to support MCAs in which localities?
5. Are endowments the best strategy to meet long-term funding needs associated with project implementation? If so, what are the immediate opportunities to establish such endowments?
6. How should one go about financing a particular MCA project? What tools or strategies are available for organizations to estimate the short and long-term costs associated with MCAs? What project elements should be considered in cost estimations that are frequently left out?

<b>Discussion Leaders</b>	<b>Discussion Participants</b>
Mark Spalding (TOF)	Lisa Genasci (ADMF)
Jennifer Morris (CI)	Greg Fishbein (TNC)
	John Cook (TNC)
	Lynne Hale (TNC)
	John Adams (UBS)

**Summary Findings**

A “punch list” is needed to develop funding strategy:

- What are elements of MCAs?
- What are short term funding needs? (acquisitions)
- What are medium term funding needs? (endowments)
- How do we set up sustainable financing? (continuous streams of funding)

Short-term Funding (smaller magnitude)

- Private family foundations
- Public foundations
- Bi-lateral and multilateral agencies
- Corporate donations (what is business case?)
- Individuals
- National Government
- Regional and Local Governments

Public Finance

- Tax incentives
- Public finance and insurance programs
- Finance analysis (what are values of ecosystem services)
- Legal rules for finance
- Compelling 2% contribution from revenue stream

Sustainable Finance

- Given scale of problem, and scale of development we need to do Jujutsu (i.e., make their efforts work in our favor).
- Harness the \$40 trillion investment stream in next 20 years. Business investment in development are a potential big funding stream:
- 1 to 10,000 ratio is estimated current expenditure by conservation
- 1% models (2% may be the ideal) = collective cost of \$400 billion ?
- But much of this is downstream, not all of it can be captured. Thus \$1 to \$2 billion per year would be very respectable.
- Individual projects costs depends.

Avenues to propose Sustainable Finance

- Associations WBCSD
- Certification schemes (top down)
- Elimination of subsidies (reverse MCAs)
- Performance bonds
- Fair market value payments for ecosystem services (e.g. permit auctions)
- Carbon offsets

Next Steps

- Need to meet to talk about sustainable finance only
- Think about mixed use
- Look at WRI, COVC etc. efforts to collect data on value of ecosystem services
- Look at CCIF et. al. cost analysis of MPAs
- Applied integrated environmental accounting

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## Critical Issue: Organizations and Stakeholders

### Are organizations and stakeholders ready? <sup>34</sup>

Whether organizations and stakeholders are ready to directly engage in ocean and coastal conservation or whether they are ready for others to directly engage within areas they have interest in are critical questions that should be answered prior to implementing Marine Conservation Agreements (MCAs).

The viability of MCAs depends critically on the positions of a wide range of organizations and stakeholders. Organizations and stakeholders of concern are any groups or people who are directly or indirectly affected, either positively or negatively, by the conservation agreement; or, any groups or people who can affect the outcome of the agreement - either by contributing to or hindering its success. This might include any number of actors who do not appear immediately obvious. By way of example, typical organizations and stakeholders affected by conservation agreements may include any of the following:

- Conservation organizations entering into the agreements;
- People, communities, businesses and/or governments owning land or assets of interest in or adjacent to the site;
- Community, indigenous and/or users groups living in or near the site;
- Government agencies responsible for protected areas, natural resources, public services and/or regulatory decision-making;
- Local or international non-governmental organizations working in community development, conservation, human rights, indigenous rights, etc.;
- Multi and bi-lateral donors contributing to the MCA and/or with existing projects in the area;
- Natural resource companies (e.g., fishing, mining, and oil companies);
- Business groups representing the interests of the private sector; and
- Religious organizations.

Once organizations and stakeholders are identified, they can be grouped into those that will be directly involved in the conservation agreement, and those that either can impact or be impacted by the agreement. Those who will be involved in the agreement include the conservation organization(s), land or resource "owner(s)", and in some cases users of the resource who are not owners (e.g., fishermen in open-access fisheries). Questions regarding organizational capacity and property rights will often arise in this component of the assessment:

- Is the conservation organization willing to commit to long-term, local involvement?
- Does the conservation organization have the necessary expertise, experience, and capacity related to the ocean and coastal environment?
- Who owns the resource or habitat area?
- Who makes use of the resource, regardless of formal ownership?
- Are informal, or customary, use and ownership rights involved?

In many instances where property rights are unclear or insecure, agreement design will have to pay particular attention to the balance between incentives and investment in enforcement capacity.

For organizations and stakeholders who will be directly involved in the agreement, an essential characteristic to assess is whether they can be a reliable party to an agreement. If a party to the agreement is a community, government, or other organization, the quality of their representation, their internal decision-making processes, and stability will be important factors. Questions to ask in this regard might include:

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<sup>34</sup> Largely adapted from: Conservation International. 2007. Draft - Conservation Incentive Agreements: An Introduction and Lessons Learned to Date. Guidance Manual. Washington, D.C. pp 51.

- Has a system of representation and decision-making been in place for a number of years, or is it fairly recent?
- Does decision making appear orderly or sporadic and inconsistent?
- Does leadership change often due to fundamental issues that cannot be resolved within the stakeholder group?

One example of this might be a rural community of colonists composed of various ethnic or religious groups that recently settled in the same area. Another could be a government that appears unstable or unable to maintain consistent legislation that would affect a conservation agreement. If the prospective parties are individuals, their reputation from other dealings may offer clues about their reliability. In all cases, if prospective parties to an agreement do not appear reliable with respect to governance considerations, it is an indication that a successful, long-term conservation agreement may be difficult to achieve. If conservation at a site is extremely important and local stakeholders are *not* sufficiently organized to establish an agreement, a decision may be made to assist in building local capacity.

For stakeholders who will be affected by, but not be directly involved with, a conservation agreement, an assessment of whether the affects can be managed responsibly is necessary. Early consultation with indirect stakeholders, such as local communities, will provide insight on how obstacles may be addressed.

For those stakeholders who can impact the conservation agreement, specific strategies must be in place to ensure that their issues are understood and managed. In some cases, this will include various agencies/ministries within a government. For this reason, it will be essential to understand how relevant levels of that government operate and which agencies/ministries must be engaged. Stakeholders that can impact an agreement may also include NGOs, activist organizations, trade groups, or others with social, economic, or environmental issues in the area. They too will need to be understood and engaged as necessary.

**Discussion Questions:**

1. What are the specific resources, skill sets, and commitments that organizations and partners need to implement MCAs?
2. How can organizations and partners obtain resources and skill sets that are needed but not possessed or immediately available?
3. How can organizations and partners determine the commitments (in duration and locality) needed to implement MCAs and whether they possess the ability to make the necessary commitments?
4. What specific organizations are positioned now to take advantage of immediate MCA opportunities in which locations?
5. How do we ensure other conservation organizations and stakeholders in affected areas understand, accept, and will not be negatively impacted by MCAs?
6. What are the essential criteria that determine whether parties to a potential MCA are reliable?
7. What are the essential criteria that determine whether indirect stakeholders are ready for a MCA in their area?

<b>Discussion Leaders</b>	<b>Discussion Participants</b>
Bob Stokes (GBF/REA)	Mary Pope Hutson (LTA)
Marci Bortman (TNC)	Joseph Taylor (Atlas)
	Sibylle Riedmiller (CHICOP)
	John Claussen (CCIF)
	Bill Aalbersberg (USP)
	Tetha Creusa (WWF)

## **Summary Findings**

### Project Level Assessment, both Internal and External Review

- Internal Review
  - Make sure MCA is in alignment with mission
  - Perform internal skills analysis
    - Internal governance
    - Commitment level
    - Identify potential training needs
  - Overcome deficiencies through partnering, self-training
  - Evaluate Experience
    - What skill set is needed?
      - Relationship/manager builder
      - Strong leader
      - Culturally pragmatic
  - Evaluate Risk Tolerance for MCA
    - Develop both Short Term and Long Term Goals
    - Be prepared to be adaptive
- External Review
  - Identify stakeholders and their role (direct and indirect)
  - Continually refine list of stakeholders
  - Determine best means of communication (develop community support)
  - Understand potential for conflict (indirect stakeholders and others in arena)
  - Assess reliability of partners

### Strategic Level Assessment: Need to develop resources people can share

- Best Practices/Common Framework
- Organizational Assessment Tool
- Case Studies
- Leadership/Learning Network
- Professional Network-Technical Capabilities (GIS, Legal, Financial)

## Next Steps: Communication

Different forms of Marine Conservation Agreements (MCAs) are used in many places around the world by different organizations under varying circumstances. However, MCA strategies are not well known, understood, accepted, or universally applied. An improved, collaborative approach among NGOs will serve to increase the potential application and effectiveness of MCAs, but outreach must be a major component of the collaboration. An MCA strategy communications plan is needed.

### Communications Plan for MCA Strategy

- I. **Communications Goal**
  - a. Educate decision-makers and implementers.
  - b. Change perceptions of appropriate roles, possibilities, and “uses.”
  - c. Encourage and facilitate implementation.
  
- II. **Opportunities & Challenges**
  - a. Strategy is not widely known, understood, accepted, or applied.
  - b. Legal framework is often uncertain.
  - c. Funding is often not available for “acquisition” by NGOs or for long-term stewardship.
  - d. Relevant NGOs may not have expertise, staffing, or resources to engage directly in ocean and coastal conservation activities.
  
- III. **Audiences**
  - a. Ocean & Coastal Environmental NGOs
  - b. Ocean & Coastal Management Agencies
  - c. Ocean & Coastal Conservation Funders
  - d. Ocean & Coastal International Bodies
  - e. Ocean & Coastal Land & Resources Owners/Users (public and private)
  - f. Ocean & Coastal Communities
  - g. Ocean & Coastal Businesses
  - h. General public

IV. **Outcomes**

Priority	Audience	Outcomes	Timeframe
1	NGOs	Identify NGOs globally that are willing to consider MCAs are part of their ocean and coastal conservation strategy	Within 1 year
		10 NGOs will assess opportunities for MCAs where they work	Within 1 year
		2 new major MCA efforts will be undertaken	Within 2 years
2	Agencies	Relevant agencies will willingly cooperate with and authorize when necessary 2 new major MCA efforts	Within 2 years
3	Funders	Receive funding for MCA outreach effort	Within 6 mos.
		Receive funding for 2 new major MCA efforts	Within 1 year
4	Bodies	International bodies will formally and explicitly recognize MCAs as a legitimate and significant marine protected areas strategy	Within 1 year
		International bodies will designate existing spatially-explicit MCA projects as category I-IV Protected Areas	Within 3 years
5	Owners /Users	Relevant land and resource owners/users will willingly cooperate with and authorize when necessary 2 new major MCA efforts	Within 2 years
6	Communities	Relevant communities will willingly cooperate with, authorize when necessary, and support 2 new major	Within 2 years

		MCA efforts	
7	Businesses	Relevant businesses will willingly cooperate with and support 2 new major MCA efforts	Within 2 years
8	Public	The general public will understand that not all areas of the ocean and coast are publicly owned or protected and that private organization can, are, and should directly acquire or direct the protection of these areas	Within 5 years

**V. Actions**

No.	Due Date	Action	Audience	POC	Budget Needs
1	8/08	Develop and distribute MCA workshop publication	NGOs Agencies Funders Bodies	TNC/Udelhoven	\$10,000
2	8/08	Develop and launch a network of interested organizations and agencies	NGOs Agencies Funders	TNC/Udelhoven	\$5,000
3	10/08	Hold workshop at World Conservation Congress	NGOs	TNC/Udelhoven CCIF/Claussen CI/Rice	\$10,000
4	12/08	Update and advertise on-line toolkit	NGOs Agencies	TNC/Udelhoven CCIF/Claussen CI/Rice WWF/Cox	\$10,000
5	12/08	Produce toolkit manual and CD	NGOs	TNC/Udelhoven	\$5,000
6	12/08	Identify amenable partner NGOs and authorizing land/resource owners/agencies	NGOs Agencies Owners/Users	TNC/Udelhoven CCIF/Claussen	\$5,000
7	01/09	Develop MCA proposal for funding and project launch	NGOs Agencies Funders	TNC/Udelhoven CCIF/Claussen CI/Rice WWF/Cox	\$5,000
8	Spring/09	Hold at least one local practitioner's workshop	NGOs Agencies Communities	TNC/Udelhoven CCIF/Claussen CI/Rice WWF/Cox	\$20,000
9	Summer/09	Publish article in IUCN PARKS magazine – '09 Governance Issue	NGOs Agencies Funders Bodies	TNC/Udelhoven CCIF/Claussen CI/Rice WWW/Cox	\$5,000
10	Summer/09	Publish article in one-peer reviewed science journal	NGOs Agencies Bodies	TNC/Udelhoven	\$5,000
11	Summer/09	Get media publicity about one major MCA project	Funders Businesses Public	TNC/Udelhoven	\$5,000
12	12/09	Publish articles business newsletters/magazines (aquaculture, ecotourism)	Businesses	TNC/Udelhoven	\$2,500
13	12/09	Publish article in one lay-magazine	Public	TNC/Udelhoven	\$2,500
14	12/09	Complete country-level law & policy assessments	NGOs Agencies	TNC/Udelhoven	\$10,000
				<b>TOTAL</b>	<b>\$100,000</b>

**VI. Measures**

<b>Audience</b>	<b>Outcomes</b>	<b>Measure</b>
NGOs	Identify NGOs globally that are willing to consider MCAs are part of their ocean and coastal conservation strategy	20 willing NGOs distributed throughout world are identified
	10 NGOs will assess opportunities for MCAs where they work	10 documented assessments are completed
	2 new major MCA efforts will be undertaken	2 new MCA projects are underway
Agencies	Relevant agencies are willing to cooperate with and authorize when necessary 2 new major MCA efforts	No agency roadblocks are encountered for 2 new MCA projects
Funders	Receive funding for MCA outreach effort	Funding received; outreach underway
	Receive funding for 2 new major MCA efforts	Funding received; new MCA projects underway
Bodies	International bodies will formally and explicitly recognize MCAs as a legitimate and significant marine protected areas strategy	International guidance and motions includes MCAs
	International bodies will designate existing spatially-explicit MCA projects as category I-IV Protected Areas	Existing MCAs recognized in MPA databases
Owners /Users	Relevant land and resource owners/users are willing to cooperate with and authorize when necessary 2 new major MCA efforts	No owner/user roadblocks are encountered for 2 new MCA projects
Communities	Relevant communities will willingly cooperate with, authorize when necessary, and support 2 new major MCA efforts	No community roadblocks are encountered for 2 new MCA projects
Businesses	Relevant businesses will willingly cooperate with and support 2 new major MCA efforts	No business roadblocks are encountered for 2 new MCA projects
Public	The general public will understand that not all areas of the ocean and coast are publicly owned or protected and that private organization can, are, and should directly acquire or direct the protection of these areas	Public funding for public-private ocean and coastal conservation efforts has increased.

**VII. Key Messages**

- a. Ocean and coastal waters provide ecosystem services that humans need to survive.
- b. Ocean and coastal waters are not all publicly owned or effectively conserved.
- c. Non-governmental conservation organizations can, should, and do acquire and direct rights and responsibilities over ocean and coastal ecosystem services for the benefit of the public.
- d. Private Marine Conservation Agreements are effective tools NGOs can use to:
  - Protect specific ecosystem services,
  - Create integrated systems of marine management in conjunction with government MPAs and laws, and
  - Change marine management paradigms by working closely with governments, communities, the private sector, and the public.

**VIII. Communications Goal**

- a. Educate decision-makers and implementers.
- b. Change perceptions of appropriate roles, possibilities, and “uses.”
- c. Encourage and facilitate implementation.

**IX. Opportunities & Challenges**

- a. Strategy is not widely known, understood, accepted, or applied.
- b. Legal framework is often uncertain.
- c. Funding is often not available for “acquisition” by NGOs or for long-term stewardship.
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**X. Audiences**

- a. Ocean & Coastal Environmental NGOs
- b. Ocean & Coastal Management Agencies
- c. Ocean & Coastal Conservation Funders
- d. Ocean & Coastal International Bodies
- e. Ocean & Coastal Land & Resources Owners/Users (public and private)
- f. Ocean & Coastal Communities
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**XI. Outcomes**

Priority	Audience	Outcomes	Timeframe
1	NGOs	Identify NGOs globally that are willing to consider PMCAs are part of their ocean and coastal conservation strategy	Within 1 year
		10 NGOs will assess opportunities for PMCAs where they work	Within 1 year
		2 new major PMCA efforts will be undertaken	Within 2 years
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12	12/09	Publish articles business newsletters/magazines (aquaculture, ecotourism)	Businesses	TNC/Udelhoven	\$2,500
13	12/09	Publish article in one lay-magazine	Public	TNC/Udelhoven	\$2,500
14	12/09	Complete country-level law & policy assessments	NGOs Agencies	TNC/Udelhoven	\$10,000
				<b>TOTAL</b>	<b>\$100,000</b>

**XIII. Measures**

<b>Audience</b>	<b>Outcomes</b>	<b>Measure</b>
NGOs	Identify NGOs globally that are willing to consider PMCAs are part of their ocean and coastal conservation strategy	20 willing NGOs distributed throughout world are identified
	10 NGOs will assess opportunities for PMCAs where they work	10 documented assessments are completed
	2 new major PMCA efforts will be undertaken	2 new PMCA projects are underway
Agencies	Relevant agencies are willing to cooperate with and authorize when necessary 2 new major PMCA efforts	No agency roadblocks are encountered for 2 new PMCA projects
Funders	Receive funding for PMCA outreach effort	Funding received; outreach underway
	Receive funding for 2 new major PMCA efforts	Funding received; new PMCA projects underway
Bodies	International bodies will formally and explicitly recognize PMCAs as a legitimate and significant marine protected areas strategy	International guidance and motions includes PMCAs
	International bodies will designate existing spatially-explicit PMCA projects as category I-IV Protected Areas	Existing PMCAs recognized in MPA databases
Owners /Users	Relevant land and resource owners/users are willing to cooperate with and authorize when necessary 2 new major PMCA efforts	No owner/user roadblocks are encountered for 2 new PMCA projects
Communities	Relevant communities will willingly cooperate with, authorize when necessary, and support 2 new major PMCA efforts	No community roadblocks are encountered for 2 new PMCA projects
Businesses	Relevant businesses will willingly cooperate with and support 2 new major PMCA efforts	No business roadblocks are encountered for 2 new PMCA projects
Public	The general public will understand that not all areas of the ocean and coast are publicly owned or protected and that private organization can, are, and should directly acquire or direct the protection of these areas	Public funding for public-private ocean and coastal conservation efforts has increased.

**XIV. Key Messages**

- a. Ocean and coastal waters provide ecosystem services that humans need to survive.
- b. Ocean and coastal waters are not all publicly owned or effectively conserved.
- c. Non-governmental conservation organizations can, should, and do acquire and direct rights and responsibilities over ocean and coastal ecosystem services for the benefit of the public.
- d. Private Marine Conservation Agreements are effective tools NGOs can use to:
  - Protect specific ecosystem services,
  - Create integrated systems of marine management in conjunction with government MPAs and laws, and
  - Change marine management paradigms by working closely with governments, communities, the private sector, and the public.

## **Next Steps: World Conservation Congress**

The Nature Conservancy's proposal for a Learning Opportunity Event related to Marine Conservation Agreements (MCAs) at this year's World Conservation Congress in Barcelona was accepted by IUCN. The event will be 4 hours long (9 AM - 1 PM) and is currently scheduled for Wednesday, October 8th. To the extent possible, practical, and desirable, TNC will partner with CCIF, CI, and WWF for this event as the logical immediate follow-up to the June workshop. The event's current general description is attached below; individuals are identified from TNC, CCIF, CI, and WWF, but these are considered tentative until everyone has agreed to roles.

The event's target audience is marine and coastal NGOs. The goal is to walk participants through the PMCA process with their local project areas in mind. One possible structure of the event is:

- Hour 1: Introductions and Feasibility Analysis
- Hour 2: Stakeholder Engagement
- Hour 3: Building the Agreement
- Hour 4: Implementation

<b>Title and Description of LEARNING OPPORTUNITY #995 during the IUCN World Conservation Congress (5–14 October 2008)</b>
<b>A Private Sector Approach for Practitioners – Conservation Agreements in Support of Marine Protection</b>
Descriptive Summary
Private marine conservation agreements are underutilized tools that complement government-established protected areas and regulations to sustainably deliver ocean and coastal ecosystem services. For centuries, private, for-profit entities throughout the globe have acquired rights to marine areas for purposes such as marinas, utility lines, gravel mining, aquaculture, and oil extraction. We're now using these strategies to enable non-profit conservation organizations to obtain similar rights to marine areas for purposes that improve and protect the environment. This learning opportunity session will guide participants through the essential steps for their project areas: 1) Learning the Basics; 2) Decision-making; 3) Acquisition; and 4) Implementation.
Extended Summary
Over the past several years, private organizations have entered into agreements (such as leases, licenses, easements, concessions, and deed transfers) with public, community, and private parties to protect lands and resources lying within ocean and coastal waters. These agreements define specific geographic areas, harvested species, and access capacity for acquisition or protection. Private conservation agreements have protected important marine biodiversity and ecosystems while positioning private organizations as legitimate stakeholders with decision-making management agencies. Conservation agreements position organizations as "stakeholders with capital" and enable conservationists to advance broader ocean management strategies such as zoning and ecosystem-based management.
Participants will review recent experiences, lessons learned, economic considerations, and land-sea tenure requirements related to conserving ocean and coastal biodiversity through private agreements. Participants will use the information and processes from an on-line toolkit ( <a href="http://www.leaseown.org">www.leaseown.org</a> ) to help them develop and plan their own projects. Participants will build the skills necessary to recognize opportunities and needs, differentiate between policy and perception, identify needed collaborations, and

apply legal mechanisms used elsewhere to new geographies. The event will identify actions that need to be taken, stakeholders that need to be involved, and how to work with event participants in the future to develop and implement specific projects.

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## Participant List

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<a href="#">Center for Global Conservation Alternatives</a>	Sarah	De Belen
<a href="#">Chumbe Island Coral Marine Park</a>	Sibylle	Riedmiller
<a href="#">Conservation &amp; Community Investment Forum</a>	John	Claussen
<a href="#">Conservation International</a>	Heidi	Gjertsen
<a href="#">Conservation International / Global Marine Partnership Fund</a>	Chris	Jameson
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<a href="#">Conservation International</a>	Sebastian	Troeng
<a href="#">Conservation International</a>	Patricia	Zurita
<a href="#">Conservation International / Global Conservation Fund</a>	Jennifer	Morris
<a href="#">Conservation International / Global Conservation Fund</a>	Christopher	Stone
<a href="#">Conservation Law Foundation</a>	Peter	Shelley
<a href="#">IslandWood</a> - Guest Speaker	Mark	Jordahl
<a href="#">IUCN - Global Marine Program</a>	Elizabeth	De Santo
<a href="#">Land Trust Alliance</a>	Mary	Pope Hutson
<a href="#">Locally-Managed Marine Area Network</a>	Etika	Rupeni
<a href="#">Marine Stewardship Council</a>	Brad	Ack
<a href="#">Misool Ecoresort / Blue Sphere Media</a>	Shawn	Heinrichs
<a href="#">National Audubon Society</a>	Debi	Osborne
NAZCA Institute for Marine Research	Soledad	Luna
<a href="#">NOAA Office of Habitat Conservation</a>	Tom	Bigford
<a href="#">Pontificia Universidad Catolica de Chile</a>	Miriam	Fernandez
Private Donor	Richard	Leeds
Private Donor / Hill Development	Lyda	Hill
Private Donor / Hill Development	Nancy	Lewis
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<a href="#">Restore America's Estuaries / Galveston Bay Foundation</a>	Bob	Stokes
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<a href="#">The Nature Conservancy – Conservation Strategies Division</a>	Greg	Fishbein

<a href="#">The Nature Conservancy - Eastern US Region</a>	John	Cook
<a href="#">The Nature Conservancy - East US Region/Long Island NY</a>	Marci	Bortman
<a href="#">The Nature Conservancy - East US Region/Massachusetts</a>	Kate	Killerlain-Morrison
<a href="#">The Nature Conservancy – Global Marine Team</a>	Mike	Beck
<a href="#">The Nature Conservancy – Consultant/Contractor</a>	Susan	Bernstein
<a href="#">The Nature Conservancy – Global Marine Team</a>	Lynne	Hale
<a href="#">The Nature Conservancy – Global Marine Team</a>	Jay	Udelhoven
<a href="#">The Nature Conservancy – Meso-American Caribbean Region/Costa Rica</a>	Julisa	Edwards
<a href="#">The Nature Conservancy – Meso-American Caribbean Region/Insular Caribbean</a>	John	Myers
<a href="#">The Nature Conservancy – Meso-American Caribbean Region/Mexico</a>	Susan	Anderson
<a href="#">The Nature Conservancy – Pacific Northwest US Region/California</a>	Michael	Bell
<a href="#">The Nature Conservancy – Pacific Northwest US Region/ Washington State</a>	Jacques	White
<a href="#">The Nature Conservancy – Pacific Northwest US Region/ Washington State</a> - Guest Speaker	David	Weekes
<a href="#">The Ocean Foundation</a>	Mark	Spalding
<a href="#">UBS Financial Services/Arbor Group</a>	John	Adams
<a href="#">University of S. Pacific - Fiji</a>	Bill	Aalbersberg
<a href="#">US Fish &amp; Wildlife Service</a>	Chris	Darnell
<a href="#">Walton Family Foundation</a>	Scott	Burns
<a href="#">Washington State Dept. of Natural Resources</a>	Rich	Doenges
<a href="#">Washington State Dept. of Natural Resources</a> - Guest Speaker	Doug	Sutherland
<a href="#">World Wildlife Fund</a> - Indonesia	Tetha	Creusa Hitipeuw
<a href="#">World Wildlife Fund</a> - Mexico	Steve	Cox
<a href="#">World Wildlife Fund</a> - Mexico	Enrique	Sanjurjo

## **Participant Biographies**

### **Dr. Bill Aalbersberg**

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Professor Aalbersberg directs the Institute of Applied Science at the University of the South Pacific. His research interests are in natural products, food environmental chemistry and appropriate methods in community resource management.

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Brad Ack joined the MSC team in September 2007, after serving 5 years as head of the Puget Sound Action Team with the State of Washington. Prior to this Brad served 10 years as the Director of Programs for the Grand Canyon Trust, during 5 of those years he was also the Managing Director of the Grand Canyon Forests Foundation. Prior to that post, Brad spent five years as a Senior Program Officer at WWF working throughout Latin America. Brad holds a M.Sc. degree from Georgetown University and has over 20 years of experience working in environmental policy, conservation and sustainable development across the Americas in the non-profit and governmental sectors.

### **John S. Adams**

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John S. Adams, CFP, is a Certified Investment Management Analyst (CIMA). He specializes in providing multi-strategy, fee-based asset management to foundations, endowments and high net-worth individuals. As director of The Arbor Group at UBS, John leads a team providing Investment Management Consulting Services. A frequent contributor of articles for the Conservation Finance Alliance newsletter, John has also provided seminars on foundation and endowment asset management for conservation organizations. He has presented for African trusts, in Brazil for the Redlac conservation trusts and for the TNC Parks in Peril program.

### **L. Susan Anderson, Ph.D.**

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June 16 – 19, 2008

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Dr. Anderson has been involved with research and conservation in Mexico and Central America for over 30 years and is an expert on the biotic regions of northern Mexico. She has worked the Conservancy's Mexico Division since 1988, building the program since it's infancy. Susan has worked to share Conservancy tools in Africa and elsewhere in Latin America. She has also worked closely with TNC state programs on ecoregional planning along the US/Mexico border and to match other areas of expertise with conservation needs in Mexico. Prior to joining The Nature Conservancy, Dr. Anderson worked as a researcher in Costa Rica and was an ecologist for the National Park Service evaluating the environmental impacts of Glen Canyon Dam. She has worked with U.S. federal and state agencies to direct support and funding towards conservation, research, and institution building in Mexico. BA (Environmental Biology) University of California, Santa Barbara; Ph.D. (Ecology and Evolutionary Biology) University of Arizona. Dr. Anderson is fluent in Spanish.

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Mike Beck is a Senior Scientist with the Global Marine Initiative of The Nature Conservancy and a research associate at the University of California Santa Cruz. He works in the interface between marine science and policy. His present work includes research on (i) marine regional planning, (ii) the nursery role of nearshore habitats such as kelp forests, (iii) tools for ecosystem-based management and land-sea integration, (iv) the conservation and restoration of nearshore habitats including shellfish reefs and beds, and (v) marine proprietary rights including the lease and ownership of submerged lands.

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Michael is responsible for the Conservancy's marine work in the Central Coast ecoregion. Most recently, Michael currently leads the Conservancy's negotiations with commercial trawlers in a successful program to buy trawling permits and use these assets to catalyze a change in the industry to more sustainable harvest practices to protect the rich biodiversity of the ocean habitats off California's Central Coast. Michael has worked for the Conservancy for nine years, four of which were with the New Jersey program, where he was involved in protecting the state's famous Pine Barrens. Previously, he was producer and host of a local television show in Steamboat Springs, Colorado; before that, he served in the Peace Corps in Uruguay. He has also conducted research on the economic viability of small-scale fisheries in La Paz, Baja Sur, Mexico. Michael holds a B.S. in biology from Saint Anselm College in Manchester, New Hampshire.

**Susan Bernstein**, Consultant  
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Susan Bernstein is the designer of leaseown.org and reefresilience.org, websites for conservation practitioner tools developed by the Global Marine initiative of The Nature Conservancy. In recent years, with The Conservancy's Eastern Conservation Science team, she developed and introduced CD and web versions of conservation assessment reports and data for six ecoregions in northeast and mid-Atlantic North America. For many years, Susan enjoyed a stimulating career with one of the Internet's originators, BBN (Bolt Beranek and Newman) in Cambridge, Massachusetts, in R&D, product development, technology consulting, network and educational technologies. She earned her Bachelor's degree from

June 16 – 19, 2008

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McGill University, her PhD from Columbia University, and began her professional life as an educational research psychologist. At present, she applies her know-how to environmental conservation projects.

**Tom Bigford**, Director, Habitat Protection Division  
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Tom Bigford lead the Habitat Protection Division in NOAA Fisheries headquarters in Silver Spring, MD., whose focus is on protecting ocean, coastal, and riverine habitats from avoidable threats, concentrating on habitats that support harvested and protected species and those with intrinsic ecological value. As a headquarters office, they oversee policy, budget, and other broad issues. Their partners in NOAA offices nationwide get involved with individual projects, state partnerships, and other such opportunities.

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For over a decade, Dr. Bortman has been working at The Nature Conservancy (TNC) on Long Island. At TNC, she serves dual roles as the Director of Conservation Programs and as Marine Conservation Project Director. Dr. Bortman's responsibilities include leading marine, coastal and maritime forest stewardship and restoration activities on Long Island with a specific focus on estuarine conservation related to habitat restoration, compatible resource use and public policy strategies to mitigate threats, water quality protection, and advancement of broad-scale ecological protection of critical Long Island lands and waters. Dr. Bortman played a key role in TNC's acquisition of 13,000 acres of underwater land in Great South Bay.

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John D. Claussen is a Director and Founder of CCIF with almost 10 years of experience managing international economic development and conservation finance programs throughout the Asia Pacific. He has worked with partners such as the World Bank, International Finance Corporation, The Nature Conservancy, Conservation International, WWF, World Conservation Society, IUCN, regional NGOs, and a variety of private companies and foundations. His work focuses on designing financing and operational plans for conservation programs, conducting business feasibility assessments, and designing economic development and microfinance programs that are supportive of conservation programs. He has conducted cost modeling and finance planning for more than ten protected areas and has been involved in the design of a number of conservation fund strategies. Mr. Claussen is also a Partner at Starling Resources, an environmental consulting firm in Indonesia. He also advises a number of Private Foundations in the United States. He previously worked for a decade in the private sector designing and implementing environmental and efficiency initiatives in a variety of industries, including: chemicals, supply chain/logistics, energy, automotive, and semiconductors. Mr. Claussen holds a BS degree in Biology from Valparaiso University in Indiana.

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John C. Cook, Managing Director of The Nature Conservancy's Eastern US Conservation Region, joined TNC in 1981. In addition to his current post, John was the Director of the Northeast/Caribbean Division, encompassing seven states and four country programs, as well as Director of the Florida State Chapter, Director of Resources at the Worldwide Office and Director of Special Projects including the Gray Ranch, New Mexico and The Malpai Borderlands Group, Arizona. As Managing Director of the Eastern US Conservation Region, he holds the administrative oversight of over 400 TNC staff in fourteen U.S. states. John holds a BA in English and Biology (Colgate University 1972) and an MS in Science Education (Cornell University 1973).

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Steve Cox is Vice President at WWF-US and Director of Marine Programs at WWF-Mexico, bringing 27 years of international development and conservation experience to his current roles as WWF-US lead for its work in the Gulf of California. Since joining WWF in 2004, Mr. Cox has also served as Chief of Staff to WWF CEO Carter Roberts and Acting Senior Vice President for Markets, Institutions and Policy. Mr. Cox has also held senior executive positions with The Nature Conservancy, the World Resources Institute, the Ford Foundation, INCAE, and Acceso, a non-profit consulting firm that he founded in Costa Rica. He has been a consultant to the Global Environment Facility, the World Bank, the United Nations, CARE, the Oscar Arias Foundation, the Inter-American Institute of Human Rights, and the Pew Charitable Trusts; has been a guest lecturer at Columbia, Duke, the University of Minnesota, and Notre Dame; and has served on several non-profit boards. He has spent more 16 years in residence in Latin America (Mexico, Costa Rica, Brazil, Peru, and Guatemala), and is fluent in Spanish and Portuguese. He has a BA in Latin American Economic Development from Berkeley and a master's degree in public policy from Harvard. He is the proud father of two teenage daughters.

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As a Biologist with the U.S. Fish and Wildlife Service, Chris helps implement the Service's Coastal Program and administers the National Coastal Wetland Conservation Grant Program. Previous to working for the Service, Chris was a Coastal Program Analyst at the California Coastal Commission, where he worked on enforcement issues. Prior to the Commission, Chris worked as a Legislative Analyst at the Coastal States Organization. Chris started his career as the Endangered Species Program Specialist at the National Wildlife Federation. Chris attended Antioch New England Graduate School and Guilford College.

June 16 – 19, 2008

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Sarah has worked on environmental issues in both economics and in the non-profit legal sector. She has worked at Resources for the Future and the Center for International Environmental Law in Washington, D.C. Her areas of expertise are international and environmental law and economics. She holds a J.D. and LL.M. from New York University, a Master's degree in Environmental Economics from the University of Maryland in College Park, and a Bachelor's degree in Economics from the University of Pennsylvania.

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Elizabeth completed her PhD in Geography and Law at University College London, examining offshore marine conservation in the North-East Atlantic. She holds Master's Degrees from the London School of Economics (History of International Relations) and Duke University (Environmental Management) and lived in the UK from 2001-2007. Elizabeth's background was originally in Marine Zoology and Evolutionary Biology, and after earning her BA from Connecticut College she worked at the American Museum of Natural History in New York. She has also held internships and voluntary positions at the Texas A&M University Marine Mammal Laboratory, the Mystic Marinelife Aquarium and the Woods Hole Oceanographic Institution. Prior to moving to the UK, Elizabeth worked for the World Environment Center in New York, facilitating exchanges between the UN, industry representatives and environmental NGOs. Her areas of expertise include MPAs, Marine Policy/Law, Institutional Effectiveness and Interaction, Multilateral Environmental Agreements, Environmental Security and Governance in the European Union and former Soviet Union. Bio unavailable

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Rich Doenges has been employed by the Washington State Department of Natural Resources as the Division Manager of its Aquatic Resources Division since 2006. Prior to his current position, he directed farmland preservation programs for Skagit County in Washington State and Lancaster County in Pennsylvania for nearly eight years. His work managing natural resource projects and programs has taken him from Sri Lanka to Ethiopia to LaConner. Rich is an East Coast Husky with a B.S. in Natural Resources from the University of Connecticut and a Masters in Forest Science from the Yale School of Forestry. He resides in Olympia with his wife, two young sons and one knuckle-headed yellow Lab-mix.

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Miriam Fernandez' research program concentrates on macro and meso scale patterns of biological diversity, physical processes determining diversity, human activities affecting diversity, and conservation planning. Besides the traditional analysis of causal factors on ecosystem dynamics, her work has focused on the relative importance of life history attributes, specifically reproductive strategies (e.g. parental care) and larval developmental mode (e.g. length of planktonic life) in shaping patterns of biological diversity. They have been able to identify the main regions of Chile where marine protection actions need to be focused, and from there my studies are scaling-down to (1) define specific areas within those large regions that need to be preserved based on local diversity patterns, (2) assess the potential of those sites to produce eggs, larvae and juveniles to seed other areas, and (3) support local organizations to establish marine protected areas in central Chile (e.g. Marine Sanctuary in Navidad, Marine Protected Area in Juan Fernandez). She has also worked on applied issues of management of marine species

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Greg Fishbein is the Director of the Nature Conservancy's Conservation Finance and Planning Group ("CFP"). CFP supports TNC conservation programs worldwide on the implementation of large, complex conservation transactions, and advises TNC senior management and the Board on strategic corporate projects. Greg's work includes large scale forest transactions, carbon market transactions, business planning for major TNC conservation initiatives, and development of TNC's organizational strategic plan. Prior to joining the Nature Conservancy in 2002, Greg was a Partner at Mercer Management Consulting in Boston where he advised government and private clients on the privatization of state-owned enterprises in South America, South Africa and China. Greg also served as an aide to Senator Daniel Patrick Moynihan on international trade legislation and other economic policy issues. Greg holds a BA in Economics from Dartmouth College and an MBA from the Wharton School of Business

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In 2006, the partners of ADM Capital, an investment advisor with a ten-year track record of managing distressed assets, established a foundation to fund innovative approaches to equity and environmental conservation in Asia. ADMCF now offers strategic support to organizations working with marginalized youth as well as to groups addressing environmental conservation in a manner that is sustainable and sensitive to local cultures. The foundation has also established itself as a vehicle for philanthropic giving from financial community or other social investors, allowing ADMCF to leverage its own donations.

June 16 – 19, 2008

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Previously, Lisa worked with a Cambodian non-profit and before that she was a financial journalist for the Associated Press, CNN and others in New York, Rio de Janeiro and Hong Kong. She has a Masters in human rights law from Hong Kong University and a BA from Smith College.

**Heidi Gjertsen**, Economist (Consultant)

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Heidi Gjertsen is an economist and is currently researching cases of economic incentives in marine management areas for Conservation International. Gjertsen worked for four years at the National Marine Fisheries Service Southwest Fisheries Science Center, where she conducted research on the economics of sea turtle conservation in the Pacific. She has taught conservation economics courses at Scripps Institution of Oceanography and University of San Diego-California. Gjertsen received a Ph.D. from Cornell University in August 2003 in the department of Applied Economics and Management. Her dissertation included empirical work on the design and performance of marine protected areas in the Philippines.

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Lynne Zeitlin Hale joined The Nature Conservancy in 2003 as the Director of the Marine Initiative. In this role she leads the Conservancy's efforts to substantially expand its programs in and impact on coastal and marine conservation. Prior to joining the Conservancy she served for over 15 years as the Associate Director of the Coastal Resources Center at the University of Rhode Island, an organization dedicated to developing strategies for the effective governance of coastal environments in the U.S. and worldwide. She currently serves as the Co-Chair of the Scientific Advisory Committee of the Inter American Institute for Global Change Research. Lynne is an expert in coastal ecosystem management with more than 25 years of experience. She played a leadership role in the design and implementation of integrated coastal management programs in the United States (Rhode Island and Alaska), Latin America (Ecuador, Mexico), Asia (Sri Lanka, Thailand, Indonesia), and Africa (Kenya, Tanzania), as well as globally oriented outreach and training programs. Previously, as the Senior Coastal Technical Adviser for the Alaska Native Foundation, she worked on coastal and marine-resource issues that impact native Alaskan communities. Coastal issues and topics on which she has worked include: community-based and co-management of marine resources; national coastal policy and plan development; tourism development planning; mariculture; shorefront development and hazard mitigation; marine protected areas; and coral reef management including impacts of bleaching. Ms. Hale is particularly interested in the impacts of and necessary adaptations to global change in coastal and marine areas. Ms. Hale has an M.S. in biological oceanography from the University of Rhode Island - Graduate School of Oceanography and a B.A. in Zoology from the University of Pennsylvania.

**Shawn Heinrichs**, President and Executive Producer

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Shawn is a passionate scuba diver, cinematographer, and marine conservationist, tirelessly committed to protecting the environment he cherishes. As an independent filmmaker and founder of Blue Sphere Media, a production company specializing in underwater and adventure films, he has a unique opportunity to influence our collective mind set and globally fuel the blue movement. His award-winning work has been featured in broadcast, promotional and conservation productions around the world. In addition, he is a published conservation photo journalist. Shawn has a special affinity for pelagics including sharks, rays and marine mammals. Much of his work focuses on these threatened creatures, as a film maker and a conservationist. Two key areas of his focus include ending shark finning and establishing marine protected areas. Shawn fieldwork places him at the heart of endangered species trade, capturing rarely seen footage of these destructive networks. In furtherance of his passion, Shawn serves as the conservation moderator for [www.wetpixel.com](http://www.wetpixel.com), the internet's leading underwater photo/video forum, and is an international advisory board member of WildAid, a organization focused on ending trade in endangered and threatened species, and Shark Savers, a grassroots organization committed to saving sharks through awareness and education. Shawn is also a seasoned professional that brings deep expertise to the business of conservation. He is a lifelong entrepreneur with over 15 years of professional experience in finance, business development, sales and operations. During his career, he co-founded several successful businesses in the digital media, software and entertainment industries, helping grow an interactive agency he co-founded to achieve "Top 15 Independent Agency" in America. Shawn's entrepreneurial and business networking skills have proved to be an invaluable asset in his conservation and film pursuits. His passion and work take him to the corners of the planet to film and conserve the Ocean's most impressive creatures.

**Lyda Hill, President**  
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Creusa Hitipeuw started work in Indonesia in the early 1960s as a Program Office of WWF International, under the auspicious of the Ministry of Forestry, c.q. the Directorate for Forest Protection and Nature Conservation. WWF started many terrestrial conservation initiatives in Sumatra, Borneo, Sulawesi, and Papua. In the first half of 1980s, WWF Indonesia Program in collaboration with the government developed researches for marine conservation planning. Marine conservation program implementation started to take place in WWF Indonesia Program in early 1990s. WWF-Indonesia's ultimate goal is to stop and eventually reverse environmental degradation and to build a future where people live in harmony with nature.

**Mary Pope Hutson, Executive Vice President**  
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Mary Pope M. Hutson is Vice President and coordinates all of LTA's day-to-day operations. She joined LTA in 2002. Prior to this she served as Executive Director of the Lowcountry Open Land Trust based in Charleston, South Carolina. During her four and a half years managing land protection, development, and administration, the trust protected nearly 9,000 of the 25,000 acres of coastal habitat it safeguards. As the first woman appointed to the South Carolina Department of Natural Resources Board, Mary Pope focused

on marine resources and habitat conservation issues and helped start the coordinating body of land trusts now known as the South Carolina Land Trust Network.

**Chris Jameson**, Manager  
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Chris has worked with Conservation International since 2001. Initially supporting the Philippines Regional Program, then doing strategic planning and support for the African Regional Programs, he is currently part of the Conservation Funding Division within the Global Marine Conservation Fund. The Fund will work with partners to develop strategic investment plans for 10 new Seascales and provide grants to partners working to achieve marine conservation outcomes. Chris received his undergraduate degree from the U of MN; served in Niger, West Africa as a wildlife biologist with the US Peace Corps; and attended the U of MI for graduate school.

**Mark Jordahl**, Naturalist and Group Facilitator  
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Mark Jordahl teaches Natural History and Ecology in the IslandWood graduate program, and facilitates teambuilding and other programs for corporate and organizational clients. He is one of the founding staff at IslandWood. From 2004 to 2005, Mark took leave to do his masters research in Murchison Falls National Park, Uganda, and continues to lead trips there to help people make the connection between conservation and poverty.

**Kate Killerlain Morrison**, Marine Program Director  
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Kate Killerlain Morrison is Marine Program Director for The Nature Conservancy's Massachusetts Chapter. Kate serves as US Co-Chair to the Gulf of Maine Council's Habitat Conservation SubCommittee and provides policy and communications support to the Eastern US Regional Office. Prior to working with the Conservancy, Kate was an Ocean Policy Analyst at the Massachusetts Office of Coastal Zone Management, working on ocean management/planning and regional ocean governance. Kate was also a Legislative Assistant in the Washington State Legislature. She has a Master's in Marine Affairs from the University of Washington (Seattle, Washington) and a BA in Environmental Policy from Eckerd College (St. Petersburg, Florida).

**Nancy Lewis**  
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**Soledad Luna**

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Soledad Luna holds a Master's degree in Aquatic Tropical Ecology from the University of Bremen. She has worked as researcher at the NAZCA Institute (2006-present), development of a coral reef bioerosion model at the Environmental Research Center (UFZ, Leipzig, jun.-sept. 2006), assistant researcher at the Center of Tropical Marine Ecology (ZMT, Bremen, jun.-aug. 2004), consultant for the Tropical Eastern Pacific ecoregional evaluation for SIMBIOE/TNC (jan.-aug. 2003), researcher at the Applied Ecology Institute at the San Francisco de Quito University (ECOLAP, 1999-2002), volunteer, scholarship recipient and assistant researcher at the Charles Darwin Foundation (jun.-aug. 1995, 1996-1997, sept.-dic. 1998).

**Kevin McAleese**, Program Director

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**Jennifer Morris**, Vice President/Managing Director

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Jennifer Morris is currently Vice President and Managing Director of two funds at Conservation International (CI): the Global Conservation Fund and Verde Ventures. The Global Conservation Fund is a \$100 million fund dedicated to the creation and long term financing of protected areas in CI's priority countries. Jennifer has been leading the Global Conservation Fund since the summer of 2006. Verde Ventures is currently an \$11 million fund investing in conservation-oriented small and medium sized enterprises in 12 countries. Jennifer has been managing Verde Ventures since 2000. Prior to Verde Ventures, Jennifer played a key role in assisting local CI partners in Africa, Asia and Latin America to analyze, structure and develop community-based businesses and credit instruments for the development of rural micro and small enterprises which support conservation. Jennifer worked as the Wild Products Manager at CI where she managed market and product development for 11 products produced by CI local partners in 7 countries, across multiple industries. Prior to joining CI, Jennifer was a business development consultant with a micro-finance institution and has lived and worked in Africa, Asia and Latin America. Jennifer has a BA in Political Science from Emory University and a Masters in International Affairs with a business development and micro-finance focus from Columbia University's School of International and Public Affairs.

**John Myers**, Conservation Strategies Manager

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John Myers is the Conservation Strategies Manager for The Nature Conservancy's Insular Caribbean Operating Unit. In this role he works closely with Conservancy colleagues in science, philanthropy and government relations to develop and implement a compelling strategic vision and tactics that advance the organization's mission in the Caribbean. John holds a BA in government from Skidmore College in New York and a MA in international policy studies from the Monterey Institute of International Studies in California. A former Peace Corps Volunteer in Bolivia and Fulbright Scholar in Colombia, John currently co-chairs the US-Cuba bilateral commission on protected areas.

**Dr. Eddy (Eduard) Niesten**, Director  
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Dr. Niesten is Director at CI's Conservation Economics Program. His work includes implementation of conservation projects using incentive-based approaches, and research to promote awareness and understanding of such approaches. Dr. Niesten currently works on a broad portfolio of incentive agreement initiatives in Africa, Asia, and South America. Dr. Niesten's research focuses on the theme of property rights and incentives for conservation, comparing strengths and limitations of various conservation approaches. He received his PhD in Applied Economics from Stanford University. Before joining CI, he worked as Senior Consultant at WEFA and as Associate with Hardner and Gullison Associates.

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Debi Osborne is Director of Real Estate for the National Audubon Society, overseeing property acquisition and managing Audubon's conservation real estate portfolio, including Audubon Centers, sanctuaries and other properties nationwide totaling more than 150,000 acres in thirty states. Prior to joining Audubon in April 2006, Debi worked for the Trust for Public Land for seventeen years establishing the Chesapeake & Central Appalachian Office and managing land conservation projects in six states. Debi has a Master's degree in City and Regional Planning from Harvard University and undergraduate degrees in Social Ecology and Urban Geography from the University of California, Irvine.

**Sibylle Riedmiller**, Project Director  
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Sibylle Riedmiller studied Social Sciences at the Universities of Heidelberg, Hamburg and Berlin. Ms. Riedmiller's postgraduate work was in Social Development Planning. From 1973-1998, she worked with UNESCO, German Aid agency GTZ and others, as project manager and consultant in planning, managing and evaluating education and social development projects, mainly curriculum reform, primary school agriculture, and village water management. Ms. Riedmiller has maintained a long-term residence in Chile, Peru and since 1982, Tanzania. From 1991, she has served as the Founder-Owner and Project Director of Chumbe Island Coral Park Ltd (CHICOP), a private island nature reserve on Chumbe Island,

June 16 – 19, 2008

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Zanzibar (Tanzania). Since 2004, Ms. Riedmiller has been the Coordinator of the Tanzanian Dynamite Fishing Monitoring Network.

**Etika Rupeni**, Regional Program Manager  
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Conservation and Development Program Manager with over 15 years (1993 to 2006) experience in Fiji and the South Pacific. Significant experience in designing and implementing marine conservation programs and undertaking targeted advocacy in relation to forests, marine, freshwater, climate change, species protection and sustainable tourism. Also have experience in implementing projects in areas such as health, education and micro-enterprise. Strong communications and networking skills, with considerable experience in developing program supportive networks and partnerships arrangements both in public and private sectors. Good project management skills, with experience of implementing and managing GAA, private sector and major foundation programs of work. Ten years experience (1984 to 1992) in international relief program work, training program design and implementation. Extensive experience of working in third world countries such as Central America, Caribbean and East Coast of Africa, as well as in the US and European countries. Excellent negotiating and liaison skills at all levels including community, national and regional levels. Extensive experience in promoting messages in the media and a respected voice in conservation in Fiji and the region. Maintained a good network of contacts in Fiji, the South Pacific and with international conservation organisations. Field training in Reef Check/AIMS, freshwater survey and mangrove surveys, as well as community-based development tools, such as Participatory Rural Appraisal, Participatory Learning and Action, WWF Project Cycle Management and Learning Framework for Locally Managed Marine Areas.

**Enrique Sanjurjo**, Environmental Economist  
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Environmental economist with more than 10 years of professional experience on designing, evaluating and negotiating environmental public policies in Mexico. He worked on the Mexican Environmental Ministry on the design of incentive based conservation tools as an advisor for the under-minister of planning (1996-1999) and for the under-minister of environmental promotion and regulation (2002-2004). He also worked for the National Institute of Ecology at several projects including the economic valuation of coastal wetlands and the design of incentive based tools for wetland conservation and environmental flows maintenance (2004-2007). Since October 2007, he is working for WWF-Gulf of California and he is focused on: sustainable fisheries and incentive based conservation tools for marine and coastal ecosystems.

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Peter Shelley has been an environmental attorney with Conservation Law Foundation, Inc. (CLF) and the Commonwealth of Pennsylvania for 31 years. He has also served as an adjunct professor at the

University of Maine Law School. He successfully led the legal efforts to cleanup Boston Harbor and military hazardous waste pollution on Cape Cod and brought the first litigation to halt overfishing under federal fisheries law. Mr. Shelley has also worked to promote community-based marine resource management in the Gulf of Maine, founding the Northwest Atlantic Marine Alliance. Recently, he has worked to develop a large area conservation program for the Phoenix Islands in Kiribati.

**Dr. Andrew Smith**, Director  
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Dr. Andrew Smith is the Director of the Pacific Coastal Marine Programs for TNC. Responsibilities include providing strategic direction, technical advice and management assistance to coastal and marine programs in the Pacific, including Palau, Micronesia, PNG, and Solomon Islands. Works closely with TNC field teams, local communities, state and national governments, NGOs, and regional agencies to develop and help implement marine resources and coastal management projects, with a current emphasis on establishing networks of MPAs and applying ecosystem approach to nearshore fisheries. Marine biologist with 26 years of experience in tropical marine resource and coastal management, specializing in areas where customary use rights and marine tenure issues predominate.

**Mark J. Spalding**, President  
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Mark J. Spalding is President of The Ocean Foundation. He concurrently serves as the Executive Director of the St. Kitts Foundation and the Fundación Bahía de Loreto A.C. He is the chair of the Council of the National Whale Conservation Fund. Mark is an active participant in the marine working group, Gulf of California group, and coral reef group of the funders' organization, the Consultative Group on Biological Diversity. He serves on the International Bering Sea Forum. He has consulted for the Alaska Conservation Foundation, San Diego Foundation, the International Community Foundation, the William and Flora Hewlett Foundation, Fundación La Puerta, and a number of family foundations. He designed and managed the Orca Fund. He has served as a member of the Environmental Grants Advisory Committee of FINCOMUN (Tijuana's Community Foundation). In addition, he has helped design some of the most significant ocean conservation campaigns in recent years. He brings his extensive experience with the legal and policy aspects of ocean conservation to the Foundation's grantmaking strategy and evaluation process.

**Bob Stokes**, President  
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Bob is a 1990 graduate of Yale University and a 1994 graduate of the University of Texas School of Law. He practiced environmental law in the public interest field for 10 years before taking over as President of the Galveston Bay Foundation in June, 2004. Bob also serves as the chair of the Board of Restore America's Estuaries and on the boards of Houston Wilderness and Earth Share of Texas.

**Christopher Stone**, Grant Director  
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Chris Stone has been employed by Conservation International (CI) for nine years, with a career focus on project design, program development and conservation grant-making. As the Grant Director of CI's Global Conservation Fund (GCF), Mr. Stone has helped oversee the strategic allocation of over \$20 million in project grants over a five-year period. Prior to his position at GCF, Mr. Stone was the Director for Development Agency Relations at GEF, where he was responsible for the development of project proposals for submission to the Global Environment Facility, US Agency for International Development, and other public funding agencies.

**Doug Sutherland**, Commissioner of Public Lands  
Washington State Department of Natural Resources

As the elected Commissioner of Public Lands, Doug Sutherland manages the Washington State Department of Natural Resources (DNR) and administers a \$625 million, two-year budget. Doug chairs the state Board of Natural Resources, which sets policy for the management of state trust lands. These lands include some 3 million acres of publicly owned forests, agricultural and grazing lands, and commercial properties.

State lands raise millions of dollars each year to fund the construction of public schools, colleges, universities, and other government institutions, as well as county and state services. In fiscal year 2007 alone, the lands managed by DNR produced more than \$209 million in revenue for trust beneficiaries. The Department of Natural Resources also manages approximately 2.6 million acres of aquatic lands, which include shorelines, tidelands, lands under Puget Sound and the coast, and navigable lakes and rivers and natural lakes, generating nearly \$35 million per biennium. Doug oversees the largest fire department in the state, protecting 12.7 million acres of non-federal land including private, state-owned, and tribal land from wildfires. He chairs the state Forest Practices Board, which sets regulations concerning private timber harvests, forest road building, and other forest operations.

DNR monitors cleanup and restoration efforts from mining operations, and assists communities by providing scientific information about earthquakes, landslides, and ecologically sensitive areas. Doug Sutherland is the 12th Commissioner of Public Lands since statehood in 1889, and the fourth Commissioner to manage the Department of Natural Resources which was created in 1957. Doug began his first four-year term in January 2001 and was reelected to a second four-year term January 2004.

**Dr. Joseph Taylor, CEO**  
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Joseph Taylor is the CEO of Atlas south sea pearl. His area of expertise is in the artificial propagation and husbandry of south sea pearl oysters (*Pinctada maxima*). With 15 years of working in Indonesia, he has had considerable experience in establishing relationships with remote communities in Indonesia that allow commercial pearling operations to proceed.

**Sebastian Troeng**, Senior Director  
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Sebastian's responsibilities include supporting regional marine programs in Brazil, Gulf of California, Madagascar, Melanesia and Pacific Islands, and seascapes in the Eastern Tropical Pacific and the Coral Triangle. He also coordinates program administration and development, and directly supervises three staff members. Sebastian who is originally from Sweden joined CI in 2006. He holds a Bachelors degree in biology, a masters degree in marine environmental protection from the UK and a doctoral degree in animal zoology from University of Lund, Sweden. Sebastian has worked with marine research and conservation for the past 15 years in Greece, Fiji, Australia, Indonesia, Sri Lanka, Costa Rica and Panama. Before joining CI, Sebastian worked for other environmental NGOs including Wetlands International and most recently he was Scientific Director for Caribbean Conservation Corporation, coordinating the longest ongoing sea turtle research and conservation program in the world in Tortuguero, Costa Rica. He has published extensively on sea turtle migrations, conservation and the economic benefits of non-extractive use of sea turtles. Sebastian enjoys scuba diving to observe spectacular marine biodiversity.

**Jay Udelhoven**, Senior Policy Advisor  
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Jay Udelhoven joined The Nature Conservancy's Global Marine Team in September 2005. He came to the Conservancy with 15 years of experience in natural resource management, planning, protection, and research at the local, state, federal, and international levels throughout the United States and parts of Africa. His work with the Global Marine Team focuses on developing and assisting with the implementation of market-based marine conservation strategies. His current activities include assessing the opportunities for conservation leasing and ownership of lands and resources lying within ocean and coastal waters. Jay has a Master of Environmental Policy from the University of Denver, Colorado and a Bachelor of Science in Natural Resources from the University of Wisconsin-Madison.

**David Weekes**, Director  
Washington Chapter, The Nature Conservancy

David Weekes became the State Director of The Nature Conservancy's Washington Chapter after heading the Conservancy's Ohio program for six years. While in Ohio, David played a lead role in international conservation, helping to establish a strong partnership between the Ohio chapter and the nonprofit conservation organization, Programme for Belize. As vice president of the Conservancy's Midwest Division, Weekes also oversaw the work of six states and the Great Lakes Program. Prior to his position in Ohio, Weekes served as the director of development for the Conservancy's Florida chapter and as the director of external relations for the national office. He holds a master's degree in administrative science from Johns Hopkins University and attended an executive education program at Harvard University's School of Business.

**Dr. Jacques White**, Director of Marine Conservation  
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Jacques White grew up in Olympia, Washington near Puget Sound. He received a Ph.D. in Marine, Estuarine and Environmental Science from the University of Maryland and has done estuarine and oceanographic research along three major U.S. coastlines. He currently works for The Nature Conservancy in Seattle Directing the Marine Conservation Program, and serves on the Steering Committee for the Puget Sound Nearshore Ecosystem Restoration Project and the Ecosystem Coordination Board for Governor Christine Gregoire's Puget Sound Partnership.

**Patricia Zurita**, Senior Director Conservation Stewards Program  
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Patricia Zurita manages the Conservation Stewards Program , a 5 year initiative to test and implement conservation agreements, with CI since 2005. Before that Patricia was leading the Policy and Economics Unit of the Andes Program with CI leading the implementation of conservation agreements and other incentive and economic initiatives in the 5 Andean countries. From 2000 until 2002 she worked with the Economics Program of the World Resources Institute assessing and building markets for nutrient reduction in the US as well as assessing market opportunities for watershed protection payment systems in Panama and Viet Nam. Patricia holds a Master on Environmental Management from Duke University.

## **Participant Organizations**

### **Atlas South Sea Pearls**

Atlas south sea pearl is a publically listed company on the Australian stock exchange. Atlas owns and operates pearling ventures across Indonesia including Bali, Lombok and Raja Ampat (Papua). Atlas has become one of the largest producers of southsea pearls with a strong reputation for quality. The company is recognised as having a strong social and environmental focus within the business.

### **ADM Capital Foundation**

ADMCF was established to make use of AM+DM Capital's financial structures, risk management and local contacts fro the not-for-profit world and thus seeking to align financial investment with philanthropic objectives. ADMCF now works with strategic partners in Hong Kong, Vietnam, China, Indonesia, Cambodia and India to foster growth in a whole organization for significant and sustainable impact.

### **Blue Sphere Media, Inc**

Blue Sphere Media's mission is to bring a voice to creatures of the oceans, to educate people on the beauty of this secret world and to take a stand in protecting the largest and most diverse ecosystems on the planet.

### **Center for Global Conservation Alternatives, Inc.**

The Center for Global Conservation Alternatives, Inc. is a tax-exempt non-profit organization incorporated in the state of Maryland. Our mission is to protect endangered species and their habitat, and preserve biodiversity worldwide, through the use of economic incentives. Through our work at the Center, we seek to increase the benefits of direct payments projects for endangered species and for communities around the globe. Our website provides a comprehensive list of existing projects as well as those currently being developed. By providing a centralized location for these projects, we hope to raise the visibility of their benefits, as well as assist in connecting donors with projects to ensure lasting protection for the species involved. Our goal is to work with existing projects to expand their scope, and help develop and implement new projects on a continuous basis. The results of such projects will be available for the information of both donors and researchers.

### **Chumbe Island Coral Park Ltd.**

Coral reefs in Tanzania are under serious threat from destructive fishing, overexploitation, pollution and sedimentation from coastal development. Based on an investment proposal and management agreements with the Government of Zanzibar, Chumbe Island Coral Park Ltd. has, from 1991, turned uninhabited Chumbe Island into a self-financing park, that includes a Reef sanctuary, Forest reserve, historical monuments, a Visitors centre and small Ecolodge, all developed with state-of-the-art eco-technology. The company objectives are non-commercial, while operations follow commercial principles. Income of the eco-lodge supports conservation, research and environmental education programs for local fishers, schoolchildren, teachers and other visitors.

### **Conservation International**

CI believes that the Earth's natural heritage must be maintained if future generations are to thrive spiritually, culturally, and economically. Our mission is to conserve the Earth's living heritage – our global biodiversity – and to demonstrate that human societies are able to live harmoniously with nature. Our work is based on cutting-edge science, comprehensive partnerships, and concern for human well-being. With these three principles guiding us, we safeguard valuable species, preserve the most important landscapes and seascapes, and support communities that care for and rely on Earth's natural resources. To reach these goals, we focus on three strategies: dedicating ourselves to innovation, raising awareness about conservation, and maintaining business-like effectiveness. CI works in 42 countries around the world protecting biodiversity in Hotspots, High Biodiversity Wilderness Areas and Priority Marine Areas. CI has been implemeting conservation agreements since 2002 and has expanded its application to 18 countries around the world testing the tool in wide array of ecosystems, legal systems and partnerships.

### **Conservation and Community Investment Forum**

The Conservation and Community Investment Forum (CCIF) is a non-profit group that provides consulting services to support the design and management of solutions which contribute to conservation, economic development, and sustainable use of natural resources. CCIF specializes in applying the tools and strategies of the private sector to address urgent conservation issues worldwide. An important area of focus for CCIF in the past five years has been in working directly with our partners to analyze and design effective management plans and long term financing strategies for marine protected areas. CCIF is based in San Francisco, California and has a regional off in Bali, Indonesia.

### **Conservation Law Foundation**

Conservation Law Foundation is New England's leading environmental advocacy organization. Since 1966, CLF has worked to protect New England's people, natural resources and communities. CLF has four program areas: Clean Energy & Climate Change, Clean Water & Healthy Forests, Healthy Oceans and Healthy Communities and Environmental Justice. CLF works to promote renewable energy and fight air and water pollution; build healthy fishing communities and protect marine habitat; fight sprawl, promote public transit and defend public health. Conservation Law Foundation is a nonprofit, member-supported organization with offices in Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

### **Foundation of the Peoples of the South Pacific International**

Foundation of the Peoples of the South Pacific International (FSPI) is a network of the Pacific non-governmental organizations and overseas affiliates working in partnership across the Pacific. FSPI is a network of the Pacific non-governmental organizations and overseas affiliates working in partnership across the Pacific. It is the largest, most experienced secular civil society network in the Pacific with affiliates in Fiji, Kiribati, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, East Timor, United Kingdom, Australia and the United States. FSPI has a proven 47 years history and extensive experience in implementing projects and programs in the region through our governance, natural resource management, health, mainstreaming rural development, disaster management and communication and advocacy. Our main business is service delivery at the grassroot/community level aimed at improving quality of life. FSPI's mission is to "work with Pacific communities through people-centred programmes to foster self-reliance within a changing world" in resource management of marine and terrestrial eco-systems, health, education, community participatory governance and democracy and alternative livelihoods.

### **Galveston Bay Foundation**

The Galveston Bay Foundation's mission is to preserve, protect, and enhance the natural resources of Galveston Bay and its tributaries. Its program areas include advocacy, conservation, education, and research. Under conservation, it has been involved in habitat restoration for nearly twenty years and has worked to restore wetlands, sea grasses, and oyster habitat. GBF's East Bay Shoreline Protection and Wetlands Restoration Project recently received a Gulf Guardian 1<sup>st</sup> Place Partnership Award and a Department of Interior Cooperative Conservation Award. GBF is also involved in land acquisition and owns nearly 3000 acres of land.

### **Global Conservation Fund**

The Global Conservation Fund (GCF) is the first major fund designed to quickly mobilize financial resources to finance the creation, expansion, and long-term management of protected areas in the world's biodiversity hotspots, high-biodiversity wilderness areas, and important marine regions. GCF, established in 2001, is based at Conservation International (CI). With generous initial capitalization from a \$100-million grant from the Gordon and Betty Moore Foundation, GCF has already succeeded in helping protect more than 196 million acres (74 million hectares) of the world's biologically richest area. GCF works with a variety of partners to continue and expand this important work. In coordination with these groups, GCF provides much-needed financial and strategic assistance to help local communities, nongovernmental organizations, and governments ensure long-term protection and management of threatened lands.

The unique strength of GCF is its ability to act quickly and work closely with partners to provide sustainable, long-term support for areas rich in biodiversity. The desired outcome for all GCF projects is a newly created or expanded protected area supported by an adequately capitalized long-term financing mechanism.

#### Strategy and Guiding Principles

In pursuing its mission, GCF applies a three-pronged strategy:

- Investment decisions are based on specific biological and technical criteria to ensure protection of highest priority places.
- Sustainable biodiversity protection is ensured through capitalization of long-term financing mechanisms.
- Additional financial resources are mobilized from a network of partners and other donors around the world.

To ensure that funds are effectively targeted, GCF adheres to the following principles:

- Direct funds to projects that can protect the world's most biologically important places.
- Evaluate projects based on the biodiversity value of the target area, level of threat, viability of project strategy, implementation capacity, cost-effectiveness and likelihood of long-term sustainability.

#### **IUCN – Global Marine Program**

The IUCN Global Marine Program's work is organized below under eight broad themes. As some of our work cuts across these themes, some project work may feature under more than one theme. The eight themes include: Climate Change Mitigation & Adaptation; Coastal Livelihoods; Conserving Threatened Species; Energy & Industry; Fisheries & Aquaculture; Managing Marine Invasive Species; Marine Protected Areas; and Ocean Governance.

#### **Land Trust Alliance**

The Land Trust Alliance (LTA) promotes voluntary private land conservation to benefit communities and natural systems. We are the national convener, strategist and representative of more than 1,600 land trusts across America. LTA's goals are to:

- Dramatically expand the pace of land conservation;
- Build strong land trusts;
- Defend the permanence of conservation easements; and
- Ensure that the work of land trusts is as strategically directed as possible.

#### **Marine Stewardship Council**

The Marine Stewardship Council (MSC) is a global, independent, nonprofit organization that has developed the world's leading environmental standard for certifying sustainable and well-managed wild capture fisheries. The MSC program encourages and supports the responsible management of seafood resources. Our goal is to reverse the global decline of fish stocks, deliver improvements in marine conservation and safeguard fisheries-related livelihoods. The MSC promotes products from MSC-certified fisheries to consumers, retailers and seafood suppliers as the best environmental choice in seafood.

#### **Misool Eco Resort & Conservation Center**

The Misool Eco Resort & Conservation Center is located in the remote southern part of Raja Ampat, Indonesia. Our small resort is located on our own private island, Batbitim. We're nestled deep in a vast archipelago of uninhabited islands, 240 kilometers from the nearest resort and half a day's journey from the nearest village. Misool Eco Resort is strongly committed to a policy of environmental responsibility. MER has reached an agreement with our local hosts to create a Marine Protected Area (MPA). We have leased approximately 200 sq km of sea surrounding Batbitim. This includes many of Raja Ampat's finest dive sites. Within this area, all fishing, shark finning, harvesting of turtle eggs and shellfish are strictly prohibited. We also require all boats to practice reef-safe anchoring. The design of the resort has been meticulously engineered to minimize our environmental impact. In addition to salvaging driftwood and milling our own lumber, we've engineered our buildings with energy efficiency in mind. We've installed

waste water gardens to minimize our consumption, and we're experimenting with solar and wind power to augment our generators. Perhaps most importantly, MER is dedicated to safeguarding the local community in which we operate. Our labor force is drawn largely from Yellu, the closest village. We're proud to offer them favorable working conditions, health benefits, job training, and English lessons.

#### **National Audubon Society**

The mission of National Audubon Society ("Audubon") is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. Audubon is implementing its mission by engaging people through a national network of community-based nature centers and by working with local chapters, scientific and educational programs, and through advocacy to benefit wildlife at the local, state and national level.

#### **National Oceanic & Atmospheric Administration – Coastal Services Center**

The mission of the NOAA Coastal Services Center is to support the environmental, social, and economic well being of the coast by linking people, information, and technology. The NOAA Coastal Services Center works with various branches of NOAA and other federal agencies to bring information, services, and technology to the nation's coastal resource managers. The Center is a partner in over 100 ongoing projects geared to resolve site specific coastal issues.

#### **National Oceanic & Atmospheric Administration Fisheries – Habitat Protection Division**

Much of the National Marine Fisheries Service mandated role relates to commercial and recreational fish stocks or species imperiled with extinction, but we are actively engaged in habitats that are threatened, ecologically valuable, or otherwise deserving of special attention. NOAA's research and management expertise is applied in NOAA programs, in partnership with public and private partners, and in a mix of reactive and proactive activities. Marine conservation is a growing challenge, especially as new threats emerge and population health languishes for many species.

#### **NAZCA Institute for Marine Research**

NAZCA's principal mission is to create and continuously update baseline information on the marine biodiversity of Ecuador, propose and implement the tools for its adequate characterization and valuation in order to conserve it. The management efforts that NAZCA promotes include strategies which seek human welfare and that are, at the same time, compatible with conservation objectives. NAZCA's activities include: identification of priorities in marine conservation and investigation; development and implementation of management activities in high priority marine areas based on comprehensive ecological research and stakeholder involvement; and contributions to the legal and political framework of conservation along the Ecuadorian coast.

#### **Pontificia Universidad Catolica de Chile**

Organizational statement unavailable

#### **Restore America's Estuaries**

Restore America's Estuaries is a national 501(c)(3) nonprofit organization established in 1995. Our mission is to preserve the nation's network of estuaries by protecting and restoring the lands and waters essential to the richness and diversity of coastal life. Our sphere of work includes:

- On-the-ground restoration projects as part of a national campaign to restore one million acres of coastal and estuarine habitat by the year 2010.
- Production of an array of collaborative tools and resources to guide the restoration process, including *A National Strategy to Restore Coastal and Estuarine Habitat*, *Funding for Habitat Restoration Projects: A Citizen's Guide* and *Principles of Estuarine Habitat Restoration*.
- Uniting the national restoration community, key decision makers and local citizens through our biennial national conference and through our national outreach efforts.

In this new age of restoration, we commit ourselves to acting as the cohesive force and guiding beacon for coastal and estuarine habitat restoration across the country.

### **Sand County Foundation**

Central to the mission and methods of Sand County Foundation is a conviction that voluntary or incentive-driven conservation by private citizens connected to the land through their direct ownership provides more ecological benefits, at lower cost, with more lasting results than conservation by regulation or government directive. Sand County Foundation's mission is to advance the use of ethical and scientifically sound land management practices and partnerships for the benefit of people and the ecological landscape. Simply stated this means that we foster conservation citizenship by recognizing and supporting individual and community-driven conservation across North America, and in Africa.

### **The Nature Conservancy**

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNC is the largest environmental non-governmental organization in the world, working to protect ecologically important lands and waters for nature and people. Since our founding in 1951, we have:

- Protected more than 117 million acres of land and 5,000 miles of rivers worldwide;
- Initiated (and operate) more than 100 marine conservation projects globally;
- Established a membership base of more than 1 million;
- Established offices and field projects in all 50 states of the United States and more than 30 countries; and
- Addressed threats to conservation involving climate change, fire, fresh water, forests, invasive species, and marine ecosystems.

TNC's Pacific Island Countries program marine strategies include: Micronesia Challenge: Support MC jurisdiction governments establish a coordination structure, engage in the implementation of the region's PANs, develop EAF project and assist with sustainable financing plans; Coral Triangle (Melanesia): Provide effective leadership and support to the CT and related fundraising; implement the Kimbe Bay network design, complete the Bismarck Sea ERA, initiate the Solomon Archipelago ERA and two networks of MPAs and establishing EAF management frameworks and models; Sustaining Conservation: Improve the enabling frameworks by strengthening government and regional partnerships; strengthening capacity through application of learning and leadership development tools; and establishing a range of sustainable financing plans and mechanisms.

### **The Ocean Foundation**

The Ocean Foundation is a community foundation with a specialized practice. Our niche is providing high-end philanthropic advice for a community of donors who care about the coast and oceans. Our mission is to support, strengthen, and promote those organizations dedicated to reversing the trend of destruction of ocean environments around the world. Our goal is to grow the financial resources available to support marine conservation. We are a 501c3 non-profit, international public foundation.

### **UBS Financial Services**

The Arbor Group at UBS specializes in providing multi-manager investment consulting services worldwide for conservation trusts and endowment funds. This involves assisting organizations with Investment Policy, Asset Allocation, Independent Asset Manager Search, Performance Reporting and Board Review. The Arbor Group at UBS specializes in providing multi-manager investment consulting services worldwide for conservation trusts and endowment funds.

### **U.S. Fish and Wildlife Service**

The mission of the U.S. Fish and Wildlife Service Coastal Program is to protect and recover Federal Trust Species (i.e., threatened and endangered species, migratory birds, inter-jurisdictional fish, some marine mammals, and species of international concern) by supporting voluntary restoration and enhancement of high-priority coastal habitats. The Coastal Program works with its partners to provide financial and technical assistance to habitat restoration and protection projects through locally-based field coordinators in 22 coastal areas around the nation. The Coastal Program also administers the National Coastal

Wetlands Conservation Grant Program which assists States to protect and conserve their coastal wetlands.

**University of the South Pacific, Suva, Fiji**

The Institute of Applied Science assists Pacific island countries to sustainably manage their nature resources through the work of its analytical laboratory, regional herbarium, food unit, environment and natural products units.

**Washington State Department of Natural Resources**

Led by the elected Commissioner of Public Lands, DNR manages about 2.6 million acres of aquatic lands: many beaches, the bedlands under Puget Sound and the Pacific Coast, and navigable lakes and rivers. DNR works to protect these aquatic environments, provide opportunities for public use and recreation, support water-dependent businesses, and promote sustainable use of shellfish and other aquatic resources.

The rights maintained in trust for the people of Washington include the public rights of fishing, navigation and commerce. These rights apply to tidelands, freshwater shorelands, and the bedlands underlying navigable waters. The state's proprietary authority includes the resources attached to, or in, the aquatic lands (for example, seaweed, shellfish, rock, sand, minerals and oil), and to man-made structures in the water and air space above state-owned aquatic lands.

The state's role is analogous to that of a private owner managing the land for the benefit of his or her children, grandchildren, and all future heirs. The landowner must make sure that decisions made today do not harm - and if possible, enhance - his or her heirs' ability to enjoy and use the land in the future. The landowner must also earn enough revenue from the land to pay for the costs of managing it.

Revenue from leases and the sale of resources support DNR's management of state aquatic lands, and the management of aquatic land by other state agencies. It also provides for the purchase, improvement, and protection of aquatic lands, largely through grants to public entities.

**World Wildlife Fund**

For more than 45 years, WWF has been protecting the future of nature. The largest multinational conservation organization in the world, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally. WWF's unique way of working combines global reach with a foundation in science, involves action at every level from local to global, and ensures the delivery of innovative solutions that meet the needs of both people and nature.

WWF's mission is to conserve biodiversity and reducing human impact through:

- Promoting strong conservation ethics, awareness and actions in Indonesia society.
- Facilitating multi-stakeholders efforts to preserve biodiversity & ecological processes on ecoregional scale.
- Advocating for policies, law and law enforcement that support conservation.
- Promoting conservation for the well-being of people, through sustainable use of natural resources.

In WWF-Indonesia we prioritize our work in important centers of biodiversity known as the Global 200 ecoregions. We are currently running conservation programs in 23 sites in 16 provinces throughout Indonesia in a number of marine, freshwater and forest ecosystems. We strive to save the diversity of species by promoting sustainable conservation that can give continued social and economic benefits to local communities. We also work with various stakeholders to restore damaged ecosystems and mitigate various threats such as climate change and toxic chemicals. Some vital preconditions need to be in place for effective conservation to happen. These include empowered citizens, responsible governments and businesses and strong conservation policies. Unfortunately currently Indonesia is lagging behind on all three fronts. To this end, WWF-Indonesia works to promote:

June 16 – 19, 2008

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- Strong conservation policies at all levels, from the local, regional, national and international government levels, through our advocacy work. We do not stop with governments, since in today's world corporations can impact conservation negatively if they are not guided by strong corporate environment and social policies. Thus, through corporate engagement we encourage companies to strengthen their conservation policies and practices.
- Community empowerment, whereby local citizens are able to protect natural resources, be actively involved in determining how resources are managed, and protect their rights to receive benefits from sustainable use of these resources, is crucial for conservation in Indonesia to succeed.

In Mexico, WWF promotes natural resources conservation and human welfare. In the Gulf of California Program we work on promoting the sustainable use and protecting marine resources in order to improve the ecosystem quality and the sustainability of human communities.