

## FINAL PROJECT REPORT

Award NA04NMF4630336, FY2005 NOAA General Coral Reef Conservation

### **Project title: Managing overfishing and destructive fisheries on coral reefs in the Republic of the Marshall Islands, a US Freely Associated State**

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May 20, 2006

This is the final project report, discussing outcomes of project activities taking place in the Marshall Islands from October 2004 to May 2006. These activities continue. An end-of-project financial report is also attached. Six and 12 months progress reports were submitted to NOAA. This has been phase 2 of a long term project, with phase 1 taking place from October 2002 to March 2004, supported by an earlier NOAA CRC grant.

#### Project objectives and background.

The specific goal of this project has been to help eliminate destructive fishing and overfishing associated with the trade in live reef food fish (LRFFT) in the Republic of the Marshall Islands (RMI). The overall goal is the conservation and sustainable use of RMI's coral reef ecosystems and resources.

Project tasks were grouped under three objectives concerned with:

- 1) community-based fisheries management planning and awareness,
- 2) government LRFFT observer training, regulation and monitoring programs, and
- 3) school and college awareness programs promoting marine conservation.

More specific project objectives, work products and associated tasks are described in the box below as proposed in the original project document. Outcomes of each objective are discussed.

For additional background to the LRFFT and how it was practiced as a destructive fishery in the RMI from 1997 to 2003 refer to earlier phase 2 progress reports and also the International Marinelifelife Alliance (IMA) project's Phase 1 Final Report to NOAA 2004. Eight of RMI's 34 atolls and islands were fished by a foreign LRFFT company between 1997 and 2003. An earlier live fish operation was closed down having been caught using cyanide. Data collected since 1997 by the Marshall Islands Marine Resources Authority (MIMRA), analyzed and reported on by IMA in 2004 (Phase 1 Final Report to NOAA) and summarized in the table below shows that since 1997 the Chinese owned company fished most years at Enewetak where the fish cages were located and also moved its crew of Filipino fishermen to a different RMI atoll each year. This was achieved through agreements with island mayors, local councils and MIMRA. The LRFFT fishing in the RMI ended in 2003.

*MIMRA/IMA estimates of number of LRFFT fish, per island (preliminary data; lacking for 2003)*

# of years	RMI Atoll	1997	1998	1999	2000	2001	2002	Tot.no. of fish	% @ island	#/year, per island
1	<b>Maloelap</b>	12,500						12,500	5	12,500
4	<b>Enewetak</b>	22,700	25,690	36,060			30,575	115,025	46	28,756
2	<b>Ailuk</b>		3,990				11,490	15,480	6	7,740
1	<b>Namu</b>			21,000				21,000	8	21,000
1	<b>Aur</b>				11,000			11,000	4	11,000
2	<b>Ujelang</b>					27,499	6,295	33,794	14	16,897
1	<b>Likiep</b>					15,094		15,094	6	15,094
1	<b>Mili</b>						26,218	26,218	10	26,218
	<b>Tot. # fish</b>	35,200	29,680	57,060	11,000	42,593	74,578	250,111		17,401
<b>Islands fished</b>	8	2	2	2	1	2	4			

The LRFFT is a destructive fishery. There are a number of well-documented reasons for this. Perhaps the most important are the vulnerabilities of the reef fish species targeted. Populations of humphead wrasse (HHW), giant grouper, coral trout and various other groupers cannot withstand the intensive fishing pressures of the LRFFT, quickly becoming depleted and overfished, with fishing companies moving to new islands and reef systems (fueled also by local conflicts). This pattern can be seen in the table above, with the company operating in the RMI from 1997 to 2003 moving to a new island each year, also heavily fishing Enewetak Atoll in four of the six years. Enewetak is where the main cages were located, accumulating sufficient fish for shipments live to Hong Kong.

In the Philippines, Vietnam and Indonesia, cyanide is often used by this trade to stun fish, also destroying the reef and non-target organisms. This is a highly destructive practice and without an observer program in the RMI it was never possible to check whether the hook and line method claimed was in fact being used. HHW are difficult to catch in large quantities with hook and line; cyanide in squeeze bottles applied by hookah divers being the preferred method in SE Asia. In the RMI, the fishing company consistently used Filipino fishermen and the local Marshallese were infrequently involved, so there was little local monitoring of fishing operations. Fishing started generally in November each year with shipments subsequently coinciding with Chinese New Year (especially the *red* coral trout, red *bringing good luck*), running through April followed by a final shipment for the year to Hong Kong (in some years continuing throughout the year). Groupers spawn during this period in the RMI and the LRFFT fishery is notorious for destructively targeting spawning aggregations leading to overfishing and grouper population collapse.

With some 30 Filipino fishermen employed by the Chinese company and a number of Chinese supervisors, there was very little economic benefit accruing to the RMI over six years. Marshallese fishermen were only involved on each new island for the first few weeks, soon dropped in favor of the Filipino fishermen – reported for Enewetak and recently Ailuk where the fishery operated in 1998 and 2002. Lump sum payments of some \$9,000 were made to the Mayor (and sometimes council) of each island at the time of shipment, with an undisclosed payment later after the sale in Hong Kong. From IMA data gathered in Hong Kong during phase 1 this project estimated live fish shipments from the RMI were sold wholesale in Hong Kong for \$1 million a year. At least 19 shipments were made from RMI over the six years having a wholesale value of around \$6 million. The RMI received very little – estimated as \$200,000 or more. Fees were also paid to MIMRA.

Local people on islands targeted in the RMI reported reduced subsistence catches after the LRFFT had paid a visit. In addition to heavy fishing of target grouper species and HHW, it was recognized during phase 1 of this project there was also intensive fishing of other fish species and shark to feed the caged groupers. People reported use of (illegal) long lines and nets in Enewetak lagoon. High mortalities were also a problem from skin diseases (observed during LRFFT trials in Fiji) - brought on simply by handling live fish while placing them in wells on the small fishing dories or transferring them to the flow-through wells on the mother and transport vessels – and also embolisms in fish brought to the surface quickly from deep water.

All-in-all, therefore, this fishery is viewed internationally by many as highly destructive and undesirable. Locally in the RMI it was also considered undesirable, causing conflicts on each island where it was permitted. In Enewetak, the Mayor at the time - also the chief or Iroij - was seen as the only person benefiting. The Enewetakese were against it, complaining of overfishing and inequitable benefit distribution. The mayor got voted out of office the year the trade ended (2003). MIMRA also imposed a national moratorium that year. A new MIMRA Director came into office two years later. Recently during Ailuk Atoll community fishery management planning meetings held in May 2006 the question was asked by the Iroij (also acting Mayor) whether grouper populations would ever recover (the LRFFT operated there in 1998 and 2002). Overfishing was a problem expressed by the Ailuk community yet only 5 - 600 people live on an atoll which has a lagoon area of 70 square miles surrounded by some 60 miles of ocean reef where *all* families still use traditional canoes. It is feasible that heavy fishing pressure on Ailuk from the LRFFT in 1998 and 2002 precipitated overfishing. A similar problem was reported on Enewetak in 2002, 3 and 5.

With the LRFFT as a back-drop together with the threat of additional local commercial fishing (from the MIMRA fishbases), this project and local partners have continued and expanded promotion of local fishery management plans to try to help solve or prevent overfishing, to eliminate destructive fishing, and to encourage implementation of conservation areas to sustain subsistence fisheries and coral reef biodiversity.

## **Specific project objectives, tasks and work products** *as in the original project document*

### **Task 1: Community-based fisheries management planning and awareness**

*Specific Objective One: On Enewetak, Majuro and other islands, IMA will continue to provide assistance to Island Council, community and other stakeholders in reaching an agreement about the presence of a foreign live fishing operation that is fishing live groupers and Napoleon Wrasse on Enewetak reefs and neighboring atolls. And, if the councils decide to allow fishing to continue, IMA will help community stakeholders implement grassroots management controls and surveillance in partnership with Marshall Islands government agencies to control any overfishing of the coral reefs and destructive fishing impacts deriving from the fishery.*

Objective 1 states that with the project's help the Enewetakese will complete an agreement about the fishery in 2004 and then proceed with:

- Drawing up and implementing community plan and surveillance procedures to control destructive practices (also involving MIMRA and linked to Objective 2 outcomes).
- Refining and adopting regulations locally such as minimum and maximum size limits and spawning protection to limit overfishing, also seeking permanent protection for the Napoleon Wrasse which is now endangered (involving MIMRA and linked to Objective 2 outcomes).
- Documenting local consensus and gaining government ratification of the plan (work product - wp1)
- Developing Enewetak Council bylaws (if appropriate) supporting the plan (wp2)
- Before and after monitoring of the plan (wp3)
- Assisting in identifying incentives and alternative income opportunities

### **Task 2: Government LRFFT observer training, regulation and monitoring programs**

*Specific Objective Two: Following the Island Council's agreement about continuing the fishery, IMA will work with MIMRA to design a simple management plan and regulations for the live fish operation on Enewetak and other atolls to control destructive fishing and overfishing associated with the fishery, also providing training in improved data collection and monitoring by local MIMRA fishery observers, and a funding plan for boosting observer coverage in the Marshall Islands.*

- Outline and computation of fisheries management controls (including food fish issues)
- LRFFT regulations and guidelines drafted (wp4)
- Observer program planned, tested
- Government funding plan for MIS (wp5)
- Improved LRFFT monitoring data – from both the Marshall Islands and Hong Kong (wp6)

### **Task 3. School and College awareness programs promoting marine conservation**

*Specific Objective Three: IMA will continue to work with CMI, the Office of Education and Enewetak schools to promote the teaching of marine conservation in schools and colleges, and to help reinforce understanding about overfishing and destructive fishing.*

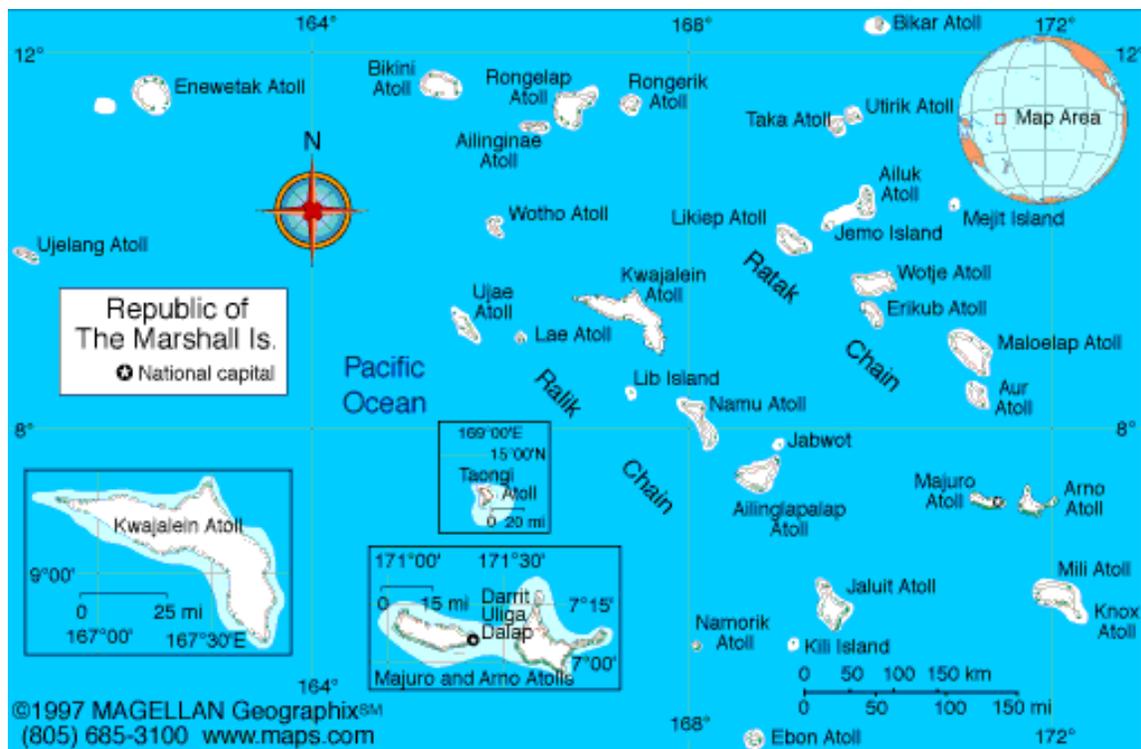
- School lesson plans on overfishing, destructive fishing (wp7)
- College science and after school programs
- Marine park survey data (wp8)
- Coastal Clean-up ICC, data

Evaluation of project tasks.

**Project goal**

The overall goal of achieving conservation and sustainable use of RMI's coral reef ecosystems and resources, as well as the project goal of helping to eliminate destructive fishing and overfishing associated with the LRFFT have both been measurably advanced by this project. These are long term goals. Sustainable use of nearshore resources – the overall goal - can be achieved in the RMI through partnerships between communities, traditional leaders and local governments who have local ownership and management responsibilities, and national level partners such as MIMRA, RMIEPA, MIVA (Visitors Authority) and HPO (Historic Preservation Office) with overall regulatory responsibility, together with CMI (College of the Marshall Islands) and NGOs such as the Marshall Islands Conservation Society (MICS) and NRAS (Natural Resources Assessment Survey) supporting scientific assessment, education, capacity building and outreach. Over the course of this project (which supported the project PI's participation) these partners have been helped to work together initially as the MEIC group and subsequently as the Coastal Management Advisory Council (CMAC).

CMAC recently underwent a strategic planning process assisted by The Nature Conservancy (TNC) Micronesia Program, identifying strategic objectives to address overfishing, coastal management issues such as erosion or solid waste on Majuro, and protection of RMI's natural heritage (biodiversity and culture). TNC was encouraged to participate through RMI's participation in PIMPAC (Pacific Island MPA Community) of which NOAA has been an instrumental supporter. CMAC is thereby gradually improving its effectiveness particularly in helping local governments and communities on outer atolls understand, address and protect against overfishing. CMAC processes and consultations have so far been initiated (after local government requests for assistance) on Arno, Mejatto<sup>1</sup>, Likiep, Majuro, Bikini, Mili, Rongelap, Namu, Enewetak and Ailuk - with MIMRA/CMAC in the lead on fisheries issues (Japan's OFCF project lead on Majuro and Arno). EPA is prioritizing Majuro, Ebeye, Jaluit and Wotje Atolls where populations are highest and coastal management issues need addressing. CMAC aims to complete such integrated community engagement and processes on 26 of RMI's inhabited coral atolls (34 in total) by 2014.



<sup>1</sup> Mejatto and Ebeye are both islets on Kwajalein

The project PI has been instrumental in the formation and building-up of CMAC. Phase 1 of this project was accomplished with the PI working for IMA out of Honolulu spending only short periods in the RMI. Following the break-up of IMA, in August 2004 the project PI moved full time to Majuro working in part for CMI as a coastal management and marine science instructor and, through the support of this phase 2 project, as adviser, founder and director of MICS.

As a result, more has been achieved towards the wider goal of helping the RMI achieve conservation and sustainable use of coral reef ecosystems and resources.

This phase 2 project has also been successful in regards to the project goal of eliminating destructive fishing and overfishing associated with the LRFFT – at least in the short term. In part due to the PI's presence and awareness raising about the LRFFT on Majuro with MIMRA, CMAC and other entities, as well as on outer islands with leaders, communities and educators, there has been no further reappearance of the LRFFT since fishing stopped in early 2003. Now, under the new, more informed MIMRA leadership of Glen Joseph, staff (including Florence Edwards, Albon Ishoda and Terry Keju – all participants in CMAC) seem to have an increasingly improved understanding of what might make coastal fisheries sustainable in the RMI. Glen recently stated to the project PI that coastal fisheries in RMI would be reserved for subsistence and artisinal uses and that commercial fishing driven by either foreigners or Majuro-based business-people would not be permitted; challenging CMAC to implement this policy (CMAC has been mandated by the MIMRA Board to make recommendations about coastal fisheries).

This is a considerable improvement and more consistent with a sustainability objective. Some credit can be taken by the project for maintaining a position openly critical of the LRFFT and using the LRFFT as an example to raise awareness about commercial fishing on coral reefs and vulnerabilities of coral reef fish assemblages. Glen is also supportive of the PI and CMI's proposal to ban commercial fishing and export of the HHW, while stressing that local cultural use of HHW – similar to turtle take – would still need to be permitted.

Now that CMAC has undertaken and drafted its strategic plan, it is ready to tackle more focused action such as a policy on HHW (see draft white paper attached), also identifying and placing grouper spawning aggregations off limits which needs to be considered for all islands. Such controls will help provide long term protection against the destructive impacts of both the LRFFT and other forms of commercial fishing. An outright ban on the LRFFT would be ideal.

However, an important strategy with MIMRA, local governments and Marshallese in general is not being perceived as *telling them what to do*. This presents subtle challenges in terms of awareness raising about destructive fisheries, overfishing and the sustainability of coastal resources (the project PI has tended to be somewhat dogmatic – some politely say, *passionate* – about this, over the years!). Helping to bring about changes that are enduring and sustainable therefore requires a lot more time and care.

The big question for MIMRA, now, in the mind of the PI, is whether the fishbases established by MIMRA on some 8 outer atolls for local 'artisinal' fishermen to supply reef fish for sale on Ebeye and Majuro are sustainable. There is currently little monitoring of fishing effort or catch; data are lumped and of little use to management. Keeping these small scale ('inefficient') and within an atoll's capacity to produce reef fish sustainably seems to be a necessary strategy. CMAC will ultimately have a role evaluating sustainability and is gradually developing that capacity.

The PI and other members of CMAC are encouraging more of an integrated approach to the fishbases; MIMRA wants this, too, acknowledges that it has not happened so far with the introduction of fishbases; that attempts to establish MPAs and fishing ordinances have not been integrated with fishbase fishing activities. On Ailuk, then, the latest atoll requesting a fishbase and fisheries management plan, this integrated 'ecosystem' approach is being attempted. The PI is therefore asking NRAS (MPA assessment team), MIMRA and CMAC what combination of MPAs and fishing regulations can be introduced that can sustain subsistence fisheries (communities' preferred fish), artisinal fishbase activities (species preferred by Ebeye and Majuro consumers) and biodiversity ('natural heritage'). MIMRA proposes that value-adding (such as smoked fish shipped to Majuro) will increase local viability.

## **Objective one – community based fisheries management planning and awareness**

On Enewetak, Majuro and other islands, IMA will continue to provide assistance to Island Council, community and other stakeholders in reaching an agreement about the presence of a foreign live fishing operation that is fishing live groupers and napoleon wrasse on Enewetak reefs and neighboring atolls. And, if the councils decide to allow fishing to continue, IMA will help community stakeholders implement grassroots management controls and surveillance in partnership with RMI government agencies to control overfishing of coral reefs and destructive fishing impacts deriving from the fishery.

With the project's help the Enewetakese will complete an agreement about the fishery in 2004 and then proceed with:

- Drawing up and implementing community plan and surveillance procedures to control destructive practices (also involving MIMRA and linked to Objective 2 outcomes).
- Refining and adopting regulations locally such as minimum and maximum size limits and spawning protection to limit overfishing, also seeking permanent protection for the napoleon wrasse which is now endangered (involving MIMRA and linked to Objective 2 outcomes).
- Documenting local consensus and gaining government ratification of the plan (work product - wp1)
- Developing Enewetak Council bylaws (if appropriate) supporting the plan (wp2)
- Before and after monitoring of the plan (wp3)
- Assisting in identifying incentives and alternative income opportunities

Following consultations about the LRFFT on Enewetak with the community in June 2002 and April 2003, the PI traveled again to Enewetak in May 2005 at the request of Enewetak and Ujelang Local Government (EULG) and MIMRA, this time to undertake an assessment of trochus and make recommendations to the council and EULG on trochus harvesting and management (see *Six Months Progress Report* for details). The visit enabled reconfirmation of both the status of the LRFFT in Enewetak and of the community's view about the LRFFT activities. The community reaffirmed their views about not wanting any further LRFFT activity on Enewetak. This determined the project's implementation of activities under objectives 1 and 2.

At the time of planning phase 2 there was uncertainty about whether the LRFFT operators would start fishing again in 2003 onwards, and uncertainty as to whether or not MIMRA and Enewetak would encourage the company to come back, or whether another foreign company would apply to start fishing. The project was therefore designed for transformational purposes: should the company start fishing again then an observer program and management plan was to be developed with controls on fishing spawning aggregations, HHW, sizes etc. However, the company did not start fishing again, the community continued its opposition to any further LRFFT activity, the MIMRA moratorium held, and awareness increased generally about the destructive nature of this trade and the preference that it should never be permitted again. The project has also held strongly to the position, here and elsewhere in the Pacific, that given this is a destructive trade then a 'management plan' for the trade effectively encourages the trade to continue, which is not what people want or what these reef fish can support sustainably. Correct interpretation of the precautionary approach should be to no way to encourage this trade.

Instead, on Enewetak the project attempted to further develop awareness and community-based regulations or local ordinances for fisheries from within a trochus harvesting and management plan – which would also help the community to address wider issues. The community and council had wanted to begin harvesting trochus and through MIMRA requested MICS (the project PI) to undertake a resource assessment and develop harvesting and management recommendations. A plan was therefore drafted to support sustainable harvesting and management of trochus together with recommendations on giant clam (*Tridacna gigas*) management which are under threat from overharvesting. Both trochus and giant clams require closed areas if harvests are to be sustained, so the idea was introduced to the Enewetak Council and the awareness of council members raised about the function of closing areas of reef to protect breeding stocks of target species and to sustain fisheries including subsistence reef fish and to protect the food security of Enewetakese in the future.

The next step that was hoped for was for the Project PI to be invited back to help the council monitor the harvest of trochus and at the same time continue supporting the Enewetak Council with the adoption and implementation of the plan. Unfortunately, however, there was disagreement within the EULG office about who was going to be responsible for marketing – buying and selling - the trochus and there was no further progress. To continue past this point a number of key things are needed: the involvement of MIMRA and CMAC in Enewetak to help the community, council and EULG proceed with a community-based plan, and also a means of communicating with the folks on Enewetak so that continuous support can be given. These are the next steps. Now that CMAC has completed its strategic plan the framework is there for CMAC assistance to Enewetak. In addition, MICS is developing an Environmental Radio Network which will use single side band HF radio to support community-based management planning, outreach and capacity building on participating outer islands. GEF Small Grant Program funding has been secured to pilot the radio network on five islands to begin with, starting this summer once the funds have arrived, expecting to include Enewetak, Likiep, Ailuk and others. To begin with the MICS network will be coordinated from a hub at CMI. MICS has secured funding (Global Greengrants Funding and New Zealand Head of Mission Fund) to support two Marshallese project coordinators (male and female). This support will be offered to Enewetak.

Now that CMAC – the interagency group responsible for advising the MIMRA Board and local governments about coastal fisheries, etc – has been formed, empowered through a strategic plan and is ready to raise the necessary funding to implement programs on outer islands, there is a more effective program available to help local governments address overfishing and other issues. In addition, and above all, through this CMAC process MIMRA’s awareness has been growing about what constitutes sustainability in coral reef fisheries. This has been crucial – a stumbling block in the past, for example with MIMRA permitting LRFFT and other fisheries that would quickly lead to overfishing, and also a critical turning point for achieving protection and sustainable management of coral reef ecosystems in future in the RMI. So, now that these improvements in awareness and capacity have taken place, MIMRA is better able to provide the leadership and strong partnerships with communities and others such as NGOs to help bring about sustainability and address the issues of overfishing, protection of coral reef biodiversity, etc.

These improvements also mean that conceptually within this project objectives 1 and 2 can be combined since the mechanism is now available for communities, council (Enewetak) to work together with MIMRA (and other agencies, NGOs etc) within a collaborative environment that supports discussion about sustainability, effective placement of MPAs, non-destructive commercial activities, regulations discouraging the LRFFT or protected HHW, etc. This was not so available before and the project was ‘forced’ to address community and MIMRA separately since to begin with the community was against the LRFFT whereas MIMRA and EULG were supportive of the LRFFT continuing in the RMI. It seems reasonable for the project to accept some credit and be considered successful, in part, for helping to bring about these positive developments and building and strengthening the partnerships that have made it possible; providing support in the field and organizational advice at the opportune time, etc.

The community process started by the project on Enewetak will therefore continue under CMAC and is discussed further under objective 2.

### ***Objective two - government LRFFT observer training, regulation and monitoring programs***

*Following Island Council’s agreement about continuing the fishery, IMA will work with MIMRA to design a simple management plan and regulations for live fish operation on Enewetak and other atolls to control destructive fishing and overfishing associated with the fishery, providing training in improved data collection and monitoring by local MIMRA fishery observers, and a funding plan for boosting observer coverage in RMI.*

- *Outline and computation of fisheries management controls (including food fish issues)*
- *LRFFT regulations and guidelines drafted (wp4)*
- *Observer program planned, tested*
- *Government funding plan for MIS (wp5)*
- *Improved LRFFT monitoring data – from both the Marshall Islands and Hong Kong (wp6)*

Again, with the community firmly against the LRFFT, no return visits from the foreign LRFFT fishing company, and growing awareness in MIMRA about the destructive nature of the trade and the non-sustainability of intensive commercial fisheries that target reef fish (versus protection of coastal fisheries for subsistence purposes), this objective as crafted was no longer appropriate. An observer program for the LRFFT was no longer necessary. A transformation strategy was no longer required. More appropriate would be regulations preventing the LRFFT from ever starting again or at least controlling its destructive aspects. Legislation protecting the HHW was therefore proposed and MIMRA asked MICS to draft a white paper about the HHW and present it within CMAC. The draft white paper is attached and the next step is to present it to CMAC.

As discussed above much of the project has been spent helping CMAC emerge and become established organizationally, most recently having undertaken a strategic plan with TNC’s support (see attachment 2). In addition, the much improved partnership with and capacity within MIMRA has enabled a broadening of the project mission to not just focus on the LRFFT issues but also help MIMRA and CMAC address overfishing in general and work with local government and communities to help establish MPAs and appropriate fisheries ordinances, etc.

Most recently, an integrated CMAC approach has been made possible on Ailuk atoll. The CMAC community-based management process currently involves the following steps (now transitioning from *fisheries* to a broader *coastal* platform):

- Receive requests for assistance from local government, council or community. Secure initial funding
- Undertake consultation, awareness and workshops with community, council, traditional leaders and groups (women, youth etc); each group electing a representative to community management committee; and identifying coastal issues of concern to community and solutions (using problem tree)
- Prepare draft (fisheries) coastal management plan
- Secure additional funding

- Undertake scientific and resource assessments including identification of MPAs or conservation areas
- Present results back to the community
- Complete management plan
- Prepare local ordinances to address fisheries and other issues
- Develop alternative livelihood opportunities (including aquaculture, recycling)
- Undertake training, further awareness and capacity building
- Develop monitoring plan

In addition to completing management plans already started for a number of islands including Arno, Majuro, Likiep and Enewetak, and expanding the process to new islands, there is some expectation that data gathering and analysis for MIMRA's fishbases may be possible through CMAC. This will be important to be able to track the impact, effort and pressure from the fishbase operations and to ensure an integrated approach on each atoll. Through CMAC and working together on Ailuk a stronger partnership is emerging between the project PI and the coastal fisheries manager (Florence Edwards) enabling her to express some of the data collection and management constraints and - with growing involvement of MICS – the opportunity to work towards solving those constraints such as not lumping all the sales and catch data but starting to break down by species, also supporting additional staff or contracted positions to monitor sustainability and integration with MPAs, inspection and surveillance under the management plans, etc.

MICS is also making progress working with EPA within CMAC to help address other coastal management issues such as solid waste, sea wall construction, erosion, aggregate mining and coastal issues relating to possible sea level rise, etc. The project PI through MICS has provided the lead in undertaking 4 environmental impact assessments during the past year for local companies and government concerned with aggregate mining, quarrying, reservoir construction and identification of the next solid waste landfill location.

### ***Objective three - school and college awareness programs promoting marine conservation***

*Specific Objective Three: IMA will continue to work with CMI, the Office of Education and Enewetak schools to promote the teaching of marine conservation in schools and colleges, and to help reinforce understanding about overfishing and destructive fishing.*

- *School lesson plans on overfishing, destructive fishing (wp7)*
- *Marine park survey data (wp8)*
- *College science and after school programs*
- *Coastal Clean-up ICC, data*

An important evolution occurring throughout the period of this phase 2 project was the transition of the project PI from working with IMA as Pacific Program Director to becoming the executive director of the Marshall Islands Conservation Society (MICS) as well as a researcher/instructor at the College of the Marshall Islands (CMI) resident full time within the RMI. (The PI's family home is still Honolulu). IMA essentially disbanded its programs and the President, Vaughan Pratt returned with family to the Philippines. The PI has continued this project and MICS has continued the mission to help combat destructive fisheries, overfishing and habitat destruction within the RMI.

As a result, objective three has been highly successful. The project PI has prepared lesson plans and taught classes at CMI in Integrated Coastal Management, Environmental Science, Aquaculture, Science for Teachers, Certificate in Conservation, and (next semester) Introduction to Marine Science...in each class maximizing student exposure and awareness about destructive fisheries and overfishing. Over 50 adult students and teachers from all islands (including Enewetak) have attended the semester-long courses at CMI.

In September, in partnership with MICS, a short course will be offered to local managers and field workers on MPAs - targeting local governments and developing the skills needed to undertake community-based management planning for coastal resource sustainability. This will be made available in Marshallese (through MICS translators) also regionally to others in Micronesia through PIMPAC and other partners (such as TNC). This course builds on CMI's Certificate Program in Marine Conservation.

As mentioned above MICS has strategically identified two priority areas for awareness and capacity building in the RMI: solid waste and recycling, and the Environmental Radio Network which will partner with all islands to help address all coastal issues. Donor support for these projects is growing, currently supporting two local Marshallese MICS project coordinators.

In conclusion, as a result of this project and the support of NOAA - at a critical time - considerable progress has been made with raising awareness and developing broad capacity for conservation of coral reef ecosystems and protection against destructive fishing and overfishing in the RMI. This work continues. The project PI very much appreciates NOAA's support.

DRAFT WHITE PAPER to be presented to CMAC/MIMRA seeking HHW commercial fishing ban.  
The Napoleon Wrasse Dean Jacobson and Steve Why, 3 April 2006

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The largest wrasse and one of the largest of all reef fish, *Cheilinus undulatus* is known as the Humphead, Maori or Napoleon wrasse (herein called the Napoleon). They grow to over 200 cm, and over 190 kg in weight, but fish larger than 100 cm are rare.

Considered an increasingly rare and endangered fish, included in Appendix II of the CITES convention, the Napoleon Wrasse is highly valued by the life fish trade (see photo below of a Hong Kong restaurant tank) and is therefore overexploited in many parts of the Indo-Pacific.



The Napoleon can crush hard objects using pharyngeal mills (crushing plates back in their throats, similar to those of parrot fish), eating mollusks (including heavy-shelled trochus, cowries), sea hares, urchins, cushion stars, crabs, lobsters and fish (including gobies, box fish and moray eels). They also crush chunks of coral rock to reach animals burrowing within. It is one of the only predators of the poisonous crown of thorns sea star (COTS).

Napoleon Wrasse form spawning aggregations, with one male mating sequentially with a number of females (as many as 7 or 8 fish have been seen forming a tight group on Majuro). In some localities elsewhere in the Indo-Pacific (i.e. Palau), over a hundred fish may congregate to spawn, with 10-15 females per male fish. A courting male has a caudal (tail) fin cocked up and a pointed anal fin. They can spawn daily for long periods of the year.

Larval fish move to the reef when they grow to approx. 1 cm in size. They can live for over 30 years, and can grow to 2 meters (six feet) in length. The smallest sexual mature female was 52 cm total length, and the smallest male was 29 cm, while the smallest mature, ripe male was 59 cm in length. Sexual maturity occurs after five years of growth. Some females become transformed into males, as is typical of wrasses, and some males develop directly into males without ever producing eggs.

Evidently, large groups of Napoleons are becoming increasingly rare, not surprisingly considering how valuable this species is to the live fish trade. Huge aggregation in the GBR (ribbon reefs and north of Jewell Reef) have disappeared. Smaller groups (10-20) are known from New Caledonia, Yadua, Fiji, and the Solomon Islands.

Napoleons are often caught using illegal or destructive techniques (including cyanide because they are difficult to catch with hook and line. In many region (Cook Islands, Pohnpei, elsewhere) they are a food reserved for royalty.

Tons were taken from Enewetak between 1998 and 2003, and exported to Hong Kong; high mortality (perhaps due to the use of cyanide) was reported during transit. Over 800 Napoleons were exported from Likiep in 2001 (prior to the live fish operation being closed down by a local vote) and again there is evidence of the use of cyanide. Numbers throughout the Pacific have declined since the 1970s due to the use of underwater flashlights by spear fishers; this decline intensified due to the Taiwan/Singapore/Hong Kong live fish trade. In 2000-2001, the most common size of live Napoleons in Hong Kong fish tanks was 35 cm, with a minimum size of 15 cm (!) and a maximum size of 80 cm. SCUBA increases the fish's vulnerability. All commercial fisheries result in rapid depletion of fish; in some areas the species is entirely extirpated (no fish remain to repopulate reefs). Currently many small fish are captured and grown out in mariculture operations. While some atolls in the RMI have suffered serious overfishing from the live fish trade, Napoleon populations still exist on numerous atolls, including Majuro. This is perhaps one of the few remaining healthy Napoleon populations in the world.

Perhaps no other reef fish is more vulnerable to overfishing. It is slow growing, matures late, it remains in a small reef locality close to its spawning site, so it is easily relocated after initial discovery; it sleeps in an accessible cave on an outer reef dropoff, and is easily captured at night. Yet this species has a special relationship with the reef, being the most important predator of crown of thorns seastars. On Ebon atoll, a crown of thorns outbreak has recently destroyed most of the lagoon patch reefs. The fact that the local human population has had to resort to nighttime spearfishing due to reduced fish catch, and the additional fact that Napoleons are very rare on Ebon may be not be a coincidence. Napoleon wrasse may be a vital natural control of the coral-eating COTS seastar. There are therefore abundant and important reasons for protecting this magnificent, vulnerable fish.

Republic of the Marshall Islands  
Coastal Management Advisory Council  
(CMAC)

Strategic Plan & Team Charter  
2006

Prepared by:

Bill Raynor and Alex Mas, The Nature Conservancy

With thanks to:

**Karen Schaefer, MA - HRM**  
TNC Organization Learning Manager

## Coastal Management Advisory Council (CMAC)

### Background

The Coastal Management Advisory Council (CMAC) is a team of people from a range of organizations and backgrounds – all with a common interest in the conservation, development and management of the irreplaceable coastal and marine resources of the Republic of the Marshall Islands. The team functioned for several years as M<sup>2</sup>EIC, an ad-hoc working group with a focus on community-based fisheries management. During this time, the group developed experience and capacity to carry out resource management activities, and also realized that these skills and knowledge could be utilized in other areas of need including conservation, focused management, and coastal zone management. CMAC was officially established in 20\_\_ pursuant to Article \_\_\_\_\_ of the MIMRA Act of 1997 and Marshall Islands Marine Resources Authority Fisheries Policy adopted on \_\_\_\_\_.

The CMAC currently consists of representatives from the following agencies and organizations:

- Marshall Islands Marine Resources Authority (MIMRA) – all relevant sections
- RMI Environmental Protection Agency (EPA)
- Ministry of Internal Affairs (IA)
- College of the Marshall Islands (CMI)
- Marshall Islands Visitors Authority (MIVA)
- Office of Environmental Planning and Policy Coordination (OEPPC)
- Historic Preservation Office (HPO)
- Marshall Islands Conservation Society (MICS)
- Majuro Chamber of Commerce (COC)
- Youth to Youth in Health
- Alele Museum

### Future Direction

On May 15-17, 2006 CMAC conducted a strategic planning workshop in Majuro, facilitated by staff from The Nature Conservancy. The team identified the overall goal for CMAC to be ***integrated natural resource management for the Republic of the Marshall Islands*** and committed to working collaboratively on four major thematic areas:

- 1) Preserving our Natural Heritage - *Kejebrok jolet kein ad jen dritto ro ji*
- 2) Reducing Coastal and Land Degradation - *Jorran in ene im lojet*
- 3) Reducing Over-fishing & Illegal Fishing - ???
- 4) Securing Sustainable Finance -????

The team also established a Team Charter to document their common understanding of team performance agreements and expected end results. Research has shown that the top success factor in high performing teams is having a clear direction – a sense of why the team exists and what it is trying to accomplish. The Strategic Plan and Team Charter that follow articulate this compelling vision for the future of the RMI Coastal Management Advisory Council.

## CMAC Strategic Plan

*“Never doubt that a small group of committed people can change the world; indeed, nothing else ever has!”  
- Margaret Mead*

### Preserving our Natural Heritage -- *Kejebarak jolet kein ad jen dritto ro ji*

**Objective 1: By 2012, establish and implement monitoring mechanisms in the RMI to measure how humans and changes in the environment impact our biodiversity.**

[Lead: CMI-NRAS; Cost: \$40,000/year]

*Strategic Actions:*

- 1.1. Support community monitoring of marine targets (e.g., COT, coral bleaching, disease, fish kills, evidence of cyanide, etc.) [Lead: CMAC w/ potential partners – World Teach Network, Environmental Radio Network; Cost: \$???]
  - **Action Step 1.1.1:** Education, awareness and training before and during monitoring
- 1.2. Support community monitoring of terrestrial targets (e.g., bird populations/die offs, plant disease outbreaks, etc.) [Lead: \_\_\_\_; Cost: \_\_\_\_]
  - **Action Step 1.2.1:** Education, awareness and training before and during monitoring
- 1.3. Expert team trained from C.P. (?) once/year – permanent photo transects in outer islands, fish census in the eight most populated atolls (Kwajalein, Majuro, Jaluit, Wotje, ???) [Lead: EPA, MIMRA; Cost: \$???]
- 1.4. Develop a central natural resources database for RMI [Lead: \_\_\_\_; Cost: \_\_\_\_]
- 1.5. Gather remote sensing data for all islands [Lead: EPA; Cost: \$???]

**Objective 2: By 2012, have 25% of the Marshall Islands managed under local management schemes with integration of biological and local knowledge.**

[Lead: CMAC; Cost: \$100,000/year]

*Strategic Actions:*

- 2.1. Integrate climate change resilience into the network of conservation areas by enhancing traditional *mo*. [Lead: CMAC, TNC; Cost: \$???]
  - **Action Step 2.1.1:** Education, awareness and training (reciprocal)
- 2.2. Develop a procedure for the establishment and support of local privately owned marine and terrestrial conservation areas [Lead: EPA, CMAC approves conservation criteria and advisory role; Cost: \$???]

## Reducing Coastal and Land Degradation -- *Jorran in ene im lojet*

**Objective 3: By \_\_\_\_\_, fully integrate all coastal management issues into every fisheries management plan.** [*link to completion date of fisheries management plans*]

### *Strategic Actions:*

- 3.1. Definition of outer island coastal management issues into framework
  - **Action Step 3.1.1:** List of issues [Lead: CMAC; Cost: \$0, agency time]
  - **Action Step 3.1.2:** Gather data from past community surveys [Lead: MIMRA, EPA; Cost: \$0, agency time]
  - **Action Step 3.1.3:** Publicize and distribute framework [Lead: EPA, CMAC; Cost: \$2,000]
  
- 3.2. Formalize incorporation of coastal issues into Outer Islands
  - **Action Step 3.2.1:** Community consultation [Lead: MIMRA; Cost: \$0, agency time]
  - **Action Step 3.2.2:** Survey of coastal threats (solid waste, etc.) [Lead: MIMRA, EPA; Cost: \$0, agency time]
  - **Action Step 3.2.3:** Community consultation II [Lead: MIMRA; Cost: \$0, agency time]
  - **Action Step 3.2.4:** Implementation of coastal resource management plan [Lead: MIMRA, EPA; Cost: \$0, agency time]
  - **Action Step 3.2.5:** Monitoring of coastal issues [Lead: CMAC; Cost: \$???
  
- 3.3. Develop education on outer island coastal issues
  - **Action Step 3.3.1:** Conduct awareness workshop, training [Lead: EPA, supported by CMAC; Cost: \$???)
  - **Action Step 3.3.2:** Contest/marketing of coastal issues (radio, local, and school) [Lead: EPA, supported by CMAC; Cost: \$???)
  - **Action Step 3.3.3:** Presentation of monitoring results [Lead: MIMRA, EPA, CMAC; Cost: \$0, agency time]
  - **Action Step 3.3.4:** Community activities (e.g., beach clean-ups, etc.) resulting from plan [Lead: CMAC; Cost: \$???)

**Objective 4: By 2008, reduce inputs of plastics, Styrofoam and toxic waste into the coastal zone by 50%, with full elimination by 2010.**

### *Strategic Actions:*

- 4.1. Promote local and international recycling, composing all waste reduction effort [Lead: \_\_\_\_; Cost: \_\_\_\_]

- 4.2. Facilitate elimination of plastic, Styrofoam, and toxic wastes from private coastal landfills
- **Action Step 4.2.1:** Proposal for EPA/local government/community ban [Lead: EPA, MICS, OEPPC, MIVA; Cost: \$???
  - **Action Step 4.2.2:** Education on the impacts of plastics, toxins, and Styrofoam on reef tourism and health [Lead: \_\_\_; Cost: \_\_\_]
  - **Action Step 4.2.3:** Monitoring of dumps and plastics, etc. in coastal zone [Lead: EPA, MICS, CMI; Cost: \$???
  - **Action Step 4.2.4:** Encourage ban of plastics and Styrofoam importation [Lead: CMAC; Cost: \$???

**Reducing Over-fishing & Illegal Fishing –**

**Objective 5: By 2014, local communities using sustainable management practices in harvesting marine resources in all 24 inhabited atolls (5 new atolls every 2 years).**

*Strategic Actions:*

- 5.1. Work with local governments to identify and implement sustainable management practices
- **Action Step 5.1.1:** Respond to request from local governments [Lead: MIMRA, EPA, CMAC; Cost: \$???
  - **Action Step 5.1.2:** Undertake awareness visits [Lead: MIMRA, EPA, MIVA, CMAC, Local government and communities; Cost: \_\_\_]
  - **Action Step 5.1.3:** Community engagement and consultations [Lead: \_\_\_; Cost: \_\_\_]
  - **Action Step 5.1.4:** Identify atoll Fisheries Management committee [Lead: \_\_\_; Cost: \_\_\_]
  - **Action Step 5.1.5:** Draft management plan [Lead: \_\_\_; Cost: \_\_\_]
- 5.2. Undertake resource assessments in partnership with local governments/communities
- **Action Step 5.1.1:** Carry out resource assessments [Lead: NRAS, MIMRA, HPO; Cost: \_\_\_]
  - **Action Step 5.1.2:** Conduct second community engagement [Lead: \_\_\_; Cost: \_\_\_]
  - **Action Step 5.1.3:** Identify MPAs, fishing regulations [Lead: \_\_\_; Cost: \_\_\_]
  - **Action Step 5.1.4:** Finalize management plan [Lead: \_\_\_; Cost: \_\_\_]
- 5.3. Assist with the development of local ordinances [Lead: \_\_\_; Cost: \_\_\_]
- 5.4. Assist local communities to develop alternative income projects [Lead: \_\_\_; Cost: \_\_\_]

**Objective 6: By \_\_\_\_, help prevent illegal, unreported and unregulated (IUU) and destructive fisheries within the five mile zone around all atolls. [Lead: \_\_\_; Cost: \_\_\_]**

**Objective 7: By 2014, all atolls have successful alternative livelihoods in place and contributing to the local economies.** [Lead: \_\_\_; Cost: \_\_\_]

### Securing Sustainable Finance –

**Objective 8: By 2008, develop and implement sustainable funding mechanism(s) to support integrated resource management in perpetuity.**

#### *Strategic Actions:*

- 8.1. Undertake finance study for the RMI and identify options by 2007 [Lead: CMAC/ TNC; Cost: \$20,000]
- 8.2. Implement recommendations for the development of local conservation finance mechanisms by 2008 [Lead: CMAC; Cost: \$40,000]
- 8.3. Work with outside donors to raise the “gap” between local funding resources and total funding needs of integrated resource management in the RMI by 2008 [Lead: CMAC; Cost: \$40,000]
- 8.4. Develop a national-level funds management mechanism (e.g., trust fund, RMI sub-fund under MCT, etc.) by 2008 [Lead: CMAC; Cost: \$???

### Strengths, Weaknesses, Opportunities & Threats (SWOT) Analysis

*Team members were asked to evaluate the internal strengths and weaknesses of CMAC and the external opportunities and threats existing outside of CMAC that they need to be aware of, take advantage of, or avoid.*

#### *Strengths (Internal):*

1. Ability to come together
2. Diversity of backgrounds
3. Mandate is holistic and integrated
4. Bottom-up approach
5. Community engagement (but not fully utilized especially thru partner orgs)
6. Government involvement/commitment
7. Open dialogue
8. Technical – biological sciences, traditional knowledge, GIS, policy

9. Cultural sensitivity
10. Steps towards integration of Western and traditional approaches
11. RMI/national government driven
12. End product will have legal backing
13. Already institutionalized
14. Good baseline information about biodiversity

***Weaknesses (Internal):***

1. Have not promoted our work regionally and beyond
2. Fundraising strategies
3. Limited fundraising capacity (e.g., full-time grant writer)
4. Lack of procedures and coordination of others
5. Information flow & data sharing
6. Programmatic transparency on funding & activities
7. Poor coordination between international opportunities & local implementation
8. Involvement of other local NGOs (e.g., WUTMI, YTYIH, WAM)
9. No in-situ fisheries data

***Opportunities (External):***

1. Grants are available from NOAA, Secretariat, DOI, TNC(?), GEF, PIMPAC, UNESCO, UNDP, EU, NSF, FAO, etc.
2. Training from TNC, SOPAC, PIMPAC, etc.
3. International scientific support
4. Micronesian challenge – access to funding & technical assistance
5. Joint projects with SPC, regional organizations
6. International conventions (1,2,3,4,5)
7. Indirect – tourism, promotions
8. Functioning ecosystems
9. Traditional knowledge
10. Vision 2018 – government commitment
11. Aquaculture – interest and projects
12. Traditional leaders & local governments
13. Community groups
14. NGOs
15. Compact (1)
16. Some pilot projects to provide jobs/economic incentives for conservation
17. Sites in consideration for World Heritage status

***Threats (External):***

1. Competition for grants
2. Poaching, illegal fishing

3. Misperception by outsiders
4. Shark fishing (legal fishing)
5. Lack of enforcement
6. Lack of commitment by communities & government
7. Lack of security and monitoring
8. Abuse by tourists in future
9. Corruption
10. Lack of jobs (35% unemployment)
11. Lack of capacity and awareness
12. Solid waste
13. Global warming, sea level rise, erosion, typhoons
14. Bleaching, COT
15. Unsustainable development
16. Dredging
17. Micronesian Challenge could become a threat if top-down
18. External donor-driven mandates

## CMAC Team Charter

*“If you don’t know where you’re going, any road will get you there.”  
- Alice in Wonderland*

### **I. Team Purpose:**

Empowering the local communities of the Marshall Islands for the preservation and sustainability of our coastal resources

*The team purpose is a comprehensive statement which defines the reason for the team’s existence. A clear purpose: focuses energy on a common end, allows for coordinated action, facilitates team decision making, clarifies the relationship between individual roles and team goals, promotes a sense of partnership and trust, and provides a framework for setting goals.*

### **II. Team Vision:**

An RMI Coast Management Advisory Council (CMAC) guided by multi-level commitment, respect, adaptability, strong leadership and country-driven priorities, with enhanced local and scientific expertise within the CMAC to serve [or meet] the needs of communities for [in] integrated resource management

*The research of Collins and Porras illustrated that visionary companies, those with a core ideology based on enduring values and purpose, outperformed their competitors over a 60 year period. One of*

*the differences between peak performers and average performers in all fields, from athletics to business leaders, is that peak performers have a clear vision of a future desired state. A vision is a results-oriented picture of the team operating in an ideal way sometime in the future. It provides the context for defining the team purpose and clarifying the team goals. A compelling vision is one that everyone on the team can commit to and seek to achieve. It provides the drive and motivation to constantly move forward.*

### **III. Team Decision Making and Authority**

*Decision making is the process the team uses to make decisions. Authority defines the scope of the team's responsibility in decision making; knowing the boundaries of decision making in the beginning can eliminate much frustration down the road.*

#### **Decision making:**

CMAC will use consensus as the primary and preferred method of decision making, with a 2/3 majority vote as a back-up method.

#### **Authority:**

CMAC participating members have the authority to set meetings, plan events, and carry out any activities allowed within their individual job descriptions. Once a Memorandum of Understanding has been signed by all participating organizations approving the Strategic Plan, all CMAC participating members will also be empowered to implement activities in the Plan. Any activities not included in the Strategic Plan must be recommended to the respective organizations for approval.

### **IV. Team Member Roles**

*Team member roles define individual responsibilities for the successful operation of the team on a regular basis. Work related roles are assigned per project. Team effectiveness is considered the responsibility of each team member.*

#### **Executive Committee:**

- Comprised of the Chairman, Vice-Chairman, Secretary and Treasurer, each elected for two-year terms, each representing a different organization, and each empowered to lead a CMAC meeting.

#### **Chairman:**

- Facilitates the group process & does not impose his/her will
- Charismatic voice of the program – builds commitment

- Schedules, plans, coordinates team activities and meetings
- Ensures that the agenda is created and distributed before meetings
- Monitors progress toward goals and outcomes, and leads team evaluation
- Stays the course and honors the process – no back-room deals
- Provides or obtains necessary resources
- Clarifies decision-making process, boundaries or givens
- Provides appropriate direction, structure, training
- Ensures follow-up to action plans
- Fill gaps – does real work beyond decision-making
- Shifts leadership role as appropriate

**Vice-Chairman:**

- Empowered to perform all duties of the Chairman if he/she is unavailable

**Secretary:**

- Captures the critical elements of discussion on each agenda item
- Records decisions made
- Records action items assigned
- Distributes the results of meetings to team members and other key stakeholders within the time frame defined by the team

**Treasurer:**

- Provides management, oversight and reporting on CMAC finances
- Empowered to perform all duties of the Secretary if he/she is unavailable

**Team Members:**

- Operate by the team ground rules/norms
- Act as champion for their area of responsibility
- Promote a positive atmosphere
- Help the team stay on track
- Help to clarify and facilitate tasks, decisions and action plans
- Assume responsibility for special tasks or roles
- On occasion, accept and fulfill agreed-upon leadership roles

**V. Team Ground Rules/Norms**

*Ground rules/norms identify appropriate behaviors for team members. Norms provide guidelines for holding each other accountable for agreed-on team behavior.*

1. Everyone will respect what everyone else has to say, their role and their contributions
2. Everyone will participate and be allowed to speak without interruption
3. All members will be empowered to contribute to the process, regardless of “rank”

4. Everyone will complete their commitments on time and be on time to meetings
5. Meetings will be efficient, organized, follow agenda, and be limited to one hour in length whenever possible (with subcommittees delegated for detailed work)
6. Western science will be neither arrogant nor marginalized
7. Team will strive to use terms that are clearly understood and translatable in Marshallese
8. Team will pause after any discussion is opened, and raise hands before speaking
9. Team members will not assume they understand other team member's points of view
10. Everyone will strive to learn from each other in order to present holistic assistance to the outer islands (e.g., sustainable livelihoods – need to learn the best recommendations)
11. Everyone will be passionate and committed to CMAC's work
12. Team members be mindful of the culture
13. Team members will be willing to assist other team members in need
14. All participating organizations will be equal at the CMAC table
15. All team members will be included in all communications

## VI. Team Communication Strategies

*Communication strategies ensure timely sharing of information among team members, stakeholders and organizations – across geographical, organizational, cultural and time boundaries.*

### **Meetings:**

- Kept short, organized and respectful of people's time (see Team Ground Rules/Norms)
- Subcommittees will be established to complete more detailed work
- Meetings will occur twice per month: once for the full team and once for the Executive Committee (with all members welcome as observers)
- Meeting minutes will be sent to all team members within two days of meeting

### **E-Mail:**

- Meeting announcements
- Follow-up re-enforcement
- Weekly information sharing

## VII. Team Evaluation

The team evaluation process is established early in the formation of the team – during the chartering process. A baseline evaluation, using the attached form, was administered on the first day of the strategic planning workshop and then again after this Charter had been created to understand what the team had done well in creating the Charter and immediate areas of improvement that are needed. At this stage the survey is not intended to be a diagnostic instrument of team performance, but rather as the basis for discussion of team development.

# Team evaluation form

**Team Evaluation Period:** Every six months

## Scale

0 Don't Know/ Not Observed	1 Not at all	2 To a small degree	3 To some degree	4 To a large degree	5 To a full degree
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### CMAC Vision, Purpose, and Norms:

1. All team members can describe and are committed to the purpose of CMAC	0	1	2	3	4	5
2. Team members can describe a picture of success – how it will look and feel	0	1	2	3	4	5
3. Team members can express and are committed to the values of the team	0	1	2	3	4	5
4. Principles and values that guide how the team works together are clear	0	1	2	3	4	5
5. Behaviors that reflect the team's values are understood	0	1	2	3	4	5
6. Team norms and ground rules have been agreed on	0	1	2	3	4	5

### Team Member Roles:

7. Team Leadership roles are clear	0	1	2	3	4	5
8. Team members' special roles and expectations have been agreed on	0	1	2	3	4	5
9. Meeting roles have been considered – team leader, facilitator, secretary/scribe	0	1	2	3	4	5
10. Team meetings are planned – when, where, and how long	0	1	2	3	4	5
11. Minutes and documentation are planned for	0	1	2	3	4	5

# Team evaluation form

## Scale

0 Don't Know/ Not Observed	1 Not at all	2 To a small degree	3 To some degree	4 To a large degree	5 To a full degree
----------------------------------	-----------------	---------------------------	---------------------	---------------------------	-----------------------

### Goals, Objectives and Strategic Actions:

12. The team has developed SMART goals and objectives

0                      1                      2                      3                      4                      5

13. Strategic actions have been defined and prioritized

0                      1                      2                      3                      4                      5

14. Measurable outcomes have been agreed on

0                      1                      2                      3                      4                      5

15. Deliverables are clear

0                      1                      2                      3                      4                      5

### Communication Strategies:

16. Coordination with other organizations, agencies or teams is planned

0                      1                      2                      3                      4                      5

17. Coordination among team members is organized

0                      1                      2                      3                      4                      5

18. Communication systems among team members and other stakeholders have been developed

0                      1                      2                      3                      4                      5

### Decision Making, Authority and Accountability:

19. Limits on team's authority to make decisions are clear – what can be decided and what is recommended

0                      1                      2                      3                      4                      5

20. The approval process for decisions or recommendations is clear

0                      1                      2                      3                      4                      5

21. Decision-making methods have been explored and agree on

0                      1                      2                      3                      4                      5

22. Expertise and information to make effective decisions are available

0                      1                      2                      3                      4                      5

# Team evaluation form

## Scale

0 Don't Know/ Not Observed	1 Not at all	2 To a small degree	3 To some degree	4 To a large degree	5 To a full degree
----------------------------------	-----------------	---------------------------	---------------------	---------------------------	-----------------------

### Resources:

23. Necessary resources have been identified

0                      1                      2                      3                      4                      5

24. Budget availability/constraints have been initially explored

0                      1                      2                      3                      4                      5

25. Time demands on team members are understood and supported

0                      1                      2                      3                      4                      5

26. Necessary training/skill development is available for team members

0                      1                      2                      3                      4                      5

27. Access to relevant information is available

0                      1                      2                      3                      4                      5

Name: (optional) \_\_\_\_\_

CONCEPT PAPER

MPA short course for managers and field workers

CMI marine science in partnership with MICS, MIMRA, EPA and other CMAC members would like to be able to offer a short course in marine protected area (MPA) management designed for local and national government personnel, NGOs and community members in the Marshall Islands.

This course would be offered to all islands for 5-10 people to participate in a workshop-type setting over a 1 to 2 week period starting in September 2006 and be repeated every few months to meet demand. There would be no pre-requisites other than availability for a 1-2 weeks period and a letter from a local or national government, NGO or community group asking that a person might participate. The course would be offered in English and Marshallese supported by MICS translators. Regional participants would also be welcome through networks such as PIMPAC with participants meeting their own travel costs. Depending on support and the scope of course offered there may be course and travel expenses that could be covered through grant funding.

The MPA short course would teach the RMI CMAC approach developed for establishing conservation areas and marine protected areas in the Marshall Islands, also drawing on materials from Micronesia and elsewhere in the Pacific. Topics would include hands-on and theoretical learning about:

- The need for conservation areas – ecological, economic and food security
- Basic biology and structure of coral atoll ecosystems and human impacts
- Traditional management and cultural origins of conservation areas or *moo*
- Modern resource management problems and opportunities including fisheries, bio-diversity, threats, pollution, tourism, sustainability, community based management...
- Status of MPA establishment in the RMI and other Pacific Islands
- Facilitating stakeholder involvement: establishing a group and partnerships
- Community-based identification of needs, resource issues and problem solving
- Surveying marine and terrestrial resources: identifying potential conservation areas, mapping your island's resource use
- Establishing your purpose, making a plan, and creating a management plan
- Building local ordinances, policies and agreements to protect conservation areas
- Surveillance and monitoring
- Roles and responsibilities of stakeholders

- Enjoying and benefiting from your conservation area
- Presentations by CMAC members - MIMRA, EPA, MIVA, HPO w/others i.e. WUTMI
- Participant discussion of own needs and plans for own island
- How to get assistance – CMAC, environmental radio network, SGP and others

The course would use recently established MPAs and Conservation Areas on Majuro to present these concepts and procedures in hands-on settings, and also draw on the group’s experience from other atolls.

A certificate of completion will be provided and, for follow-up, participants will be encouraged further to participate in the CMAC process and utilize the environmental radio network offered by MICS, and the services of other participating groups. Also, study opportunities on MPAs are emerging in Micronesia and the Pacific through PIMPAC and others. Local course materials could also be developed to cover pollution, water quality, solid waste management, public awareness, composting, recycling...; partnering with the *skill-sets* and experience available in RMI in government and NGOs.

Comments and additional ideas are requested. Your support is welcome.

Presented for discussion, in consultation with CMAC.

Steve Why, MICS and CMI  
[stevewhy@coralatolls.org](mailto:stevewhy@coralatolls.org)

April 27, 2006

Glossary:

CMAC	Coastal Management Advisory Council, with active members – MIMRA, EPA, OEPPC, MIVA, HPO, CMI, MICS, NRAS
CMI	College of the Marshall Islands
HPO	Historic Preservation Office
MICS	Marshall Islands Conservation Society
MIMRA	Marshall Islands Marine Resources Authority
MPA	Marine protected area
NRAS	Natural Resources Assessment Surveys
OEPPC	Office of Environment Planning and Policy Coordination
PIMPAC	Pacific Islands MPA Community
RMIEPA	RMI Environmental Protection Authority
SGP	GEF Small Grants Programme
WUTMI	Women United together in Marshall Islands