

Awane Marine Park Strategy Effectiveness Review and initial management planning meetings report

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The Nature Conservancy helped to create a Conservation Action Plan for Awane Marine Park, Kosrae in July 2010. The plan was a result of a workshop with the Lelu Resource Management Council (RMC). It has been almost 2 years since the plan was created. The Nature Conservancy was asked again to facilitate a management planning with the Lelu Resource Management Council toward a creation of a management plan.

This request provided an opportunity for review of the strategies that were created in 2010 and to use the reviews to revise objectives from the action plan and to create additional objectives and actions that will be incorporated in the management plan that the RMC will produce.

Prior to the 4 day workshop, the RMC was asked to review the strategies and provide updates and the progress of each objective. The updates were used for the strategy effectiveness reviews (SEM).

Following the SEM reviews, the participants reviewed the Vision, the targets, threats, and contributing factors and made the necessary changes. Participants then focused on brain storming on the process to abate the top two high priority threats, the discussion focused on what they think should be done to reduce the threats. These information were used to create an objective that they further defined specific actions that are needed to achieve.

During the workshop, some issues arose that needed to be further clarified before some of the objectives and actions can be further defined:

- (1) Extent of the proposed conservation areas (boundary); if it will include private land, there needs to be further engagement with private land owners; once boundaries are established, process of nominating the site to Kosrae PAN can be initiated.
- (2) Coverage of this management plan; will it focus on the proposed conservation area and or the whole Lelu municipality?
- (3) Enforcement authority; if proposed site joins Kosrae PAN site then there will be authority for enforcement within the site, however, if management plan goes beyond the proposed site, need to further discuss how enforcement will be addressed outside of the proposed site.
- (4) Clarify if Municipality pass a municipal ordinance to control fishing within Lelu, is municipality able to enforce such ordinance, given that State owns the water?

(5) Linkage of the deputized officers to the enforcement of the proposed management plan?

I. Strategy Effectiveness Review

Strategy effectiveness review for strategies as proposed in the Awane Marine Park Conservation Action Plan. The purpose of this review is to determine the extent at which the strategies have been implemented and whether the objectives are still relevant and should be considered in the management planning process.

Strategy Effectiveness Measures		
△ = Indicator	Methods	Details
By 2011, education and awareness program is implemented in Lelu community that is supported by key government agencies & NGO's to increase awareness of Awane Marine Park.		
△ Change on perception regarding Awane Marine Park	Perception survey	Socio-economic survey to determine community/stakeholder perception of the marine park and associated natural resources
<p><u>Comments:</u></p> <ul style="list-style-type: none"> • Perception has not been documented. • Awareness program at the municipality has not been established; Lelu RMC still sees that awareness program needs to be established at the municipal level and linked with existing programs at the State level. • Lelu RMC has a good working relationship with KIRMA and KCSO who are doing awareness programs that can assist to increase general environmental awareness in the municipality; increasing awareness of key stakeholders regarding ecosystem values and conservation benefits of the proposed Awane Conservation Area is still needed. 		
By end of December 2011, enforcement capacity in Lelu municipality has been build to support enforcement of Awane Marine Park.		
△ Number of trained conservation officers with	Audit	Assessment of enforcement program to determine level of proficiency of conservation officers + necessary

required equipment and supplies to support their enforcement duties		financial, political, and community support for enforcement
<p><u>Comments:</u></p> <ul style="list-style-type: none"> No enforcement program, specifically for Awane, has been established; the municipality has existing municipal enforcement program that can assist enforcement. However, the State has jurisdiction over the waters and municipality lacks proper jurisdiction for enforcement. PAN Act has been established that will allow municipality to have enforcement authority, once the municipality established a clear delineated area for management and ratified by the State legislature under the PAN Act, municipality will have enforcement authority within the delineated area. Deputization program has been established under KIRMA and there are at least 8 deputized officers who are residence of Lelu, who will have enforcement authority, purely on voluntary basis. 		
By 2012, establish and implement regulations on timber and fruit bat harvesting.		
 Regulations in place	Audit	Check if appropriate regulations on timber and fruit bat are in place and implemented
<p><u>Comments:</u></p> <ul style="list-style-type: none"> Regulations has not been proposed Eric Waguk and Kosrae Forestry will assist in collecting/collating baseline information that will guide the development of regulations 		
By end of 2011, management plan for Awane Marine Park is completed.		
 Management plan approved	Review of management plan	Review management plan to ensure plan incorporates necessary actions and measures
<p><u>Comments:</u></p> <ul style="list-style-type: none"> Management planning process has begun with Lelu RMC and key conservation partners Management plan is expected to be completed by June 2012, however there are some issues particularly on agreeing on the exact area to be put under management before the plan can be completed. 		
By 2011, assessment of gaps in regulations in both State and municipal level has been determined.		

<p>▲ Number of regulations needed</p>	<p>Audit</p>	<p>Review assessment report to check recommendations</p>
<p>Comments:</p> <ul style="list-style-type: none"> RMC recognizes gap in fishing regulations (there are two approach being discussed (1) establishing Municipal State ordinance (2) or wait for State regulations on fishing that are being discussed; no clear timeline on when this would happen. First approach could only be enforced if the Kosrae State accept Awane Conservation Area under the PAN Act, however, no clear boundaries have been agreed for this process to take place. 		
<p>By end of 2011, Awane Marine park boundaries are officially recognized by Kosrae State Government.</p>		
<p>▲ Official boundary of Awane Marine Park recognized by Kosrae State</p>	<p>Audit</p>	<p>Check site map to verify official boundary as well as relevant Kosrae State documentation that recognize Awane Marine park boundary</p>
<p>Comments:</p> <ul style="list-style-type: none"> No official boundary for the proposed management area has been agreed, because proposed area would include private land; landowners have not agreed, although they support the concept Main issue by land owners is having access rights to fill some coastal areas adjacent to their property Not fully aware of what are the importance of their land to the conservation area Not fully aware what zoning will be put in place that may restrict activities within their lands. 		
<p>By end of 2011, vulnerability assessment for Awane marine park is completed with recommendations for implementation of EBA at specific site within the park.</p>		
<p>▲ Report with recommendations</p>	<p>Audit</p>	<p>Review of report to determine vulnerability of Lelu to climate change impacts and recommendations for adaptation</p>
<p>Comments:</p> <ul style="list-style-type: none"> Still looking for funding and technical assistance for assessment 		

- Potential funding source has been identified

II. Review of Vision and conceptual diagram

Vision

Vision from Action Plan: We the people of Lelu want to create a Marine Park that serves as a model for environmental awareness and conservation for the protection of our resources to promote wise use and to provide income generating activity to support our lives today and for future generations.

Suggested revision from the group: *The community of Lelu a Awane Conservation Areas that serves as a model for environmental awareness and conservation for the protection of our resources to promote wise (suggestion to use sustainable) use and to provide income generating activity to support our lives today and for future generations.*

Conceptual Diagram

Some of the participants for the management planning workshop for Awane Marine Park were not involved in the first iteration of the Awane Marine Park Action Plan and it has been over a year since the creation of the plan and so it was necessary to review the conceptual diagram to determine if targets, threats, and contributing factors are still the same or has there been any changes.

Three additional targets: 1. Birds, (2) Rivers, and (3) Historical sites were added; mangrove swamp was changed to mangrove ecosystem. In addition (1) climate change is a direct threat was revised to sea level rise as having direct impact to the targets. Climate change is a very broad threat and is viewed as a contributing factor to the sea level rise threat. (2) Solid waste was added as another direct threat affects forest, coastal vegetation, coral reefs, seagrass ecosystem, mangrove ecosystem. (3) Marine Pollution was revised to chemical and oil pollution, specifically targeting the use of clorox, detergents, and other chemical leachate from the dump as well as oil from cars, boats, and the power plant. (4) Fishing practices was revised to improved harvesting technology, such as fishing gears and tools that are used to harvest wood products.

Threats: The group reassessed the threats, particularly addressing invasive species threat; the ranking changed from low to medium. The threat of existing marine invasive species was highlighted in the discussion.

Following the review of the results from the first CAP iteration, the group divided into two groups to try and address the high priority level threats as identified in the ranking process. The threat of overharvesting and sea level rise were the high level threat that needed to be addressed to mitigate the threats to the conservation targets. In addition, the groups discuss supporting objectives in order to mitigate the priority level threats. The group also felt that while invasive species is ranked as a medium threat, there is a high level of that threat that affects the marine environments and they needed to have an objective that will help them to address the threat.

III. Threat abatement objectives

Over harvesting objective

1. Develop legislation regarding:

- Restrict method of fishing (mesh size)
- Seasonal harvesting of species (mulltets, rabbitfihs- ban during spawning season)
- Zoning of harvesting area (timber mangrove crab/fish) – need to be further discussed by Lelu RMC and to define specific allowable and non-allowable activities
- Size limit for species

Two approach: (1) have municipal ordinance in place by end of 2012(2) existing effort by the State to put in place fishing regulations, once regulations are in place, if not in line with municipal ordinance, municipality has to follow state

Suggested additional obs. Based on discussion

- Strategy to engage land owners to have Awane boundaries delineated
- Awane to be legislated and to join Kosrae PAN

Issue that needs to be resolved: need to delineate boundary of management area, which still needs endorsement from adjacent land owners, and municipal legislation to join PAN.

Sea level rise

The participants in this group recognized that they cannot do anything to stop sea level rise and decided to focus on how the Lelu community can adapt to impact resulting from sea level rise.

1. Increase awareness on impact of sea level rise and what one can do
2. Integrating CC into EIA permitting process
3. Best management practices on construction (i.e if building along the coast, build on stilt; or establishing a setback for building along the coast; also will help to reduce sedimentation if communities move upland)
4. Create an early action plan for expected sea level rise
 - Focus on completing vulnerability assessment (completed by end of 2012) that can feed into the early action plan are probably two things that can be realistically be part of the management plan (process for completing action plan will be worked out during the climate workshop to be held at the end of February 2012)

Invasive Species

5. Regulation on ballast water
6. Survey assessment of invasive infestation (some baseline info available at KIRMA) – determine occurrence and coverage...
7. Control and eradicate invasive, prevent reintroduction... (e.g. Oyster – came in from shipping)
8. By x, coverage of *Merremia peltata*, *Leucana lucocephala* (tangantangan), *cromololena* are decreased by x % in the management area... By 2015, maintain coverage of invasive species at below 25% coverage at management area...
 - Eradication methods to be determined
9. By end of 2013, assessment of infestation and impact of marine invasive in Lelu coastal marine waters is completed.
 - Identify species
 - Map infestation coverage
 - With recommendations

IV. Supporting objectives to abate threat reduction

Alternative livelihood

- At least one livelihood activity in place by 2015 (such as tourism related activity, clam and coral cultures, mullets n rabbitfish culturing using natural seeds source, creating a recreation area with user fee.

Enforcement

- Establish enforcement program for the community
- Coordinator to develop enforcement and monitoring

- Enforcement procedures
- (Once a site joins PAN, then there will be authority to enforce within that site); otherwise, State owns all waters and municipality cannot do any enforcement; this need to be cleared out for this management plan....

Education and Outreach

Increase awareness of overharvesting (through existing education and awareness programs supported by gov. agencies and NGO's or creating a new municipal gov. awareness program?)

- Issue – at the moment Awane does not receive much awareness support from existing programs
- Awareness on overharvesting to focus on resource users and school children to be done through existing island wide awareness program. Still need to establish municipal awareness program by 2013.
- Need baseline information that can help guide message in awareness

V. Proposed Objectives and actions

Action	Who's responsible	Estimate Cost
1. By end of 2013, municipal ordinance has been passed to regulate fishing activities in Lelu. (note this objective can only work once Awane joins the Kosrae PAN)		
1.1 Conduct awareness in Lelu Municipality (council and public) to increase awareness of impacts of overharvesting.	Lelu Resource Management Council (RMC)	\$5,000 (awareness materials and meetings)
1.2 Establish a legislative framework to for establishment of fishing regulations	RMC and technical partners	\$10,000 (consultant to assist in drafting regulations & meeting cost)
1.3 Proposed Ordinance reviewed by appropriate agencies	RMC	
1.4 Proposed Ordinance introduced in Lelu Council	Council R& D Chairman	\$1,000 (public hearings)
1.5 Ordinance approved by Governor and by Kosrae State Legislature		
2. By 2015, at least one livelihood activity has been implemented in Lelu.		
2.1 Conduct feasibility study for aquaculture, tourism, recreational activity and other income generating activity within Lelu	RMC	\$25,000 (for conducting feasibility study)
2.2 Ensure necessary mechanisms (applicable laws and regulations) are in place to support implementation	RMC	\$5,000 (review of laws and regulations and requirements for proposed activity)

2.3 Identify partner to assist in implementation of livelihood activity, i.e aquaculture.	Aquaculture Center; Crab Hatchery	\$5,000 in kind contribution
2.4 Provide training to potential aquaculture farmers	Aquaculture Center	\$3,000 (in kind contribution)
3. By 2015, control the coverage of invasive plants and animals in the management area to within 25% (invasive coverage should not exceed 25%, if it cannot be totally eradicated)		
3.1 Obtain baseline information for invasive species within the management area.	KIRMA & RMC	
3.2 Conduct survey to identify invasive species identified sites.	KIRMA,RMC, KCSO	\$15,000
3.3 Treat and control invasive (Tangantangan, cromolena)		
3.4 Plant native plants in treated and controlled area.	RMC,Lelu community, KIRMA	\$7,000
3.5 Conduct monitoring of survival of replantation and coverage of invasive	KCSO, KIRMA, RMC	\$5,000
3.6 conduct feasibility treatments of selected marine invasive		
4. By 2014, community based enforcement program has been established and implemented in Lelu.		
<p>For this objective, while there are several approaches that could be taken, for example, the recently establish deputization program and the existing Municipal enforcement; there needs to be further discussion on what the community based enforcement program will focus and where do they derive their authority. There were two main discussion points (1) establish enforcement mainly for the proposed conservation area and (2) enforcement that can enforce regulation throughout the municipality. There are legal issues that needs to be addressed first before enforcement program can be establish, for example Kosrae State has jurisdiction of all State waters and the municipality officers will need to be deputized by the State; in addition of Awane becomes a PAN Site, then Municipality will be given authority to enforce but only within the confined of the conservation area, thus conservation area boundary needs to be officially delineated before such enforcement can happen.</p>		
5. By 2013, an early action plan for climate change adaptation has been developed for Lelu.		
<p>Discussion on specific actions for this objective were deferred until after the Climate Change flipchart tool kit training that were to take place at the end of February. The training will provide the process and the capacity to be able to go through the planning process to draft the action plan.</p>		
6. By 2013, education and awareness program is established and implemented in Lelu community with support from key agencies to increase community awareness of Awane Marine Park and other environmental issues.		
<p>There was a clear consensus that there needs to be increased efforts to raise environmental awareness in the Lelu municipality, however, the approach still needs to be discussed. Lack of focus of existing awareness programs on the Awane Marine Park has led the community to feel that they need to establish a program within their community to carry out awareness program. The community still feel that even if the program is developed, it still needs to be inline or done in parallel with existing awareness programs in Kosrae. While a</p>		

very important component for successful management of natural resources is to increase awareness, the question that needs to be addressed is, would establishment of the program within the municipality ensures that awareness is increased and given limited resources, would ensuring that existing awareness program support awareness in Awane Marine Park, while a creation of long term community program be furthered discussed?

Meeting Facilitators

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Julita Albert, Chuuk EPA (CAP Coach in Trainee)

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