

## Successful community engagement in resource management efforts on Ailuk Atoll, Republic of the Marshall Islands

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### **Ailuk education, training and monitoring project**

Many factors contribute to the successful engagement of communities in resource management, including the coordination of efforts and activities of external partners and local communities. On Ailuk Atoll, in the Republic of the Marshall Islands (RMI), a project designed to delegate responsibility for coastal resource management to local communities and government councils, and help them manage fishing and other activities related to marine resources was carried out in 2004. The project involved monitoring Ailuk Atoll's coral reefs and fisheries through underwater surveys, and educating and training the community about marine resources.

Cooperation between researchers, educators and staff of the Marshall Islands Marine Resources Authority (MIMRA) inspired community members to take responsibility for managing their marine resources. A MIMRA representative, acting as an extension agent to the whole community, played a crucial role in linking the local people to external partners. Local community participation and commitment was supported through the strong leadership of Ailuk's mayor.

The Ailuk community has established several management strategies with some still to be implemented. Their case is exemplary of what community-based management can achieve in small island states in the Pacific. This project clearly illustrates the importance of having scientific information to support discussions and convince resource owners and users of proposed management initiatives and available alternatives.

For many Pacific Island countries, an ecosystem approach to coastal resource management has become an important focus of policy-making. Fishery management plans are policies to control the amount of catches and establish marine reserves. In the past few years, RMI has invested human resources in

implementing new fishery management plans in selected atolls. Ailuk is one of the first sites where such efforts have been accomplished, with the ecosystem approach to management principles practically implemented.

### **Fieldwork**

The starting point of this project was the collection of scientific and socioeconomic information on resources status and use. This process was initiated and carried out by a locally based non-governmental organization called the Natural Resources Assessment Surveys (NRAS) in collaboration with the College of the Marshall Islands (CMI), MIMRA, and the local community. Before the work was actually carried out in the community, the group through MIMRA, worked closely with the community on education and awareness raising issues relating to the marine environment and resource use.

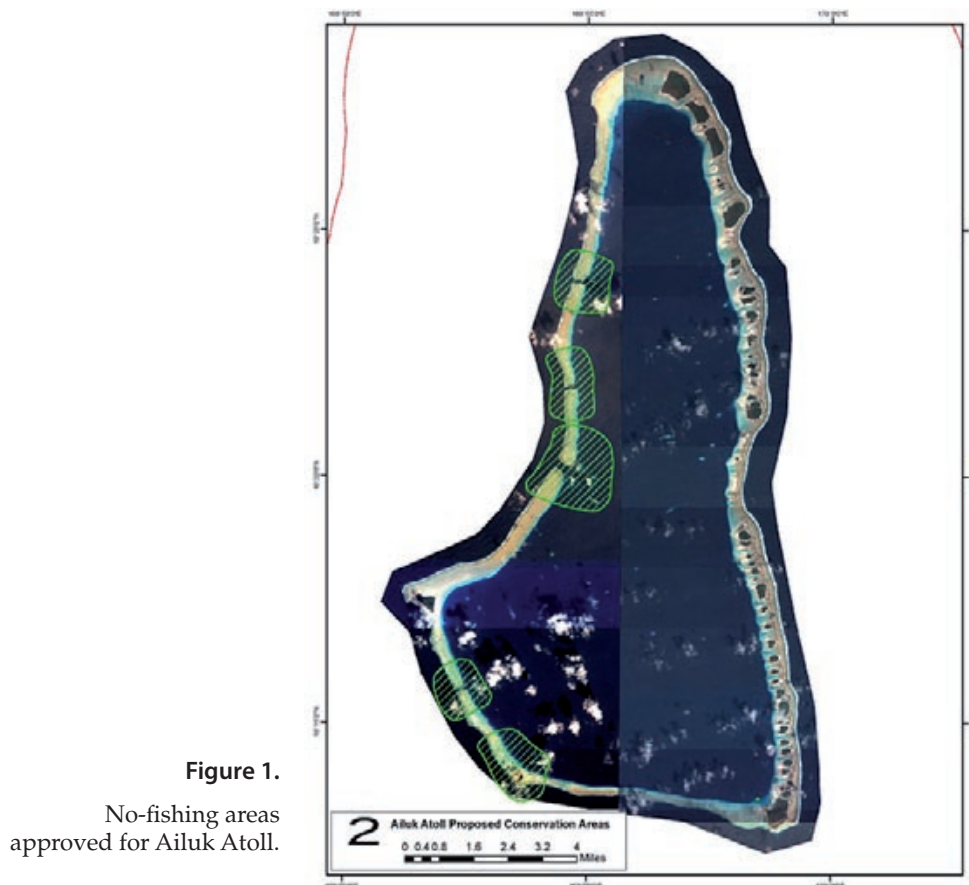
In June and July of 2006, NRAS trained CMI students in underwater survey techniques so that they could gather scientific information on finfish and invertebrates in Ailuk. The survey team, comprising scientists and trainees, collected information on the status, abundance, diversity and biomass of commercial fish and invertebrates, corals and seaweeds. Fieldwork lasted about two weeks with researchers staying aboard a survey vessel. There was close communication with the community with training and awareness work going on simultaneously. A MIMRA fisheries officer regularly liaised with the community and the external partners. At the end of the survey, preliminary findings were discussed with community members at village meetings. Most of the scientists undertaking this work participated on a voluntary basis and were brought in by NRAS.

### **Results**

In September 2006, the final report from the survey was released to both MIMRA and the local community. This report was used as a baseline for the

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**Figure 1.**  
No-fishing areas  
approved for Ailuk Atoll.

proposed fishery management plan for Ailuk. The report contained information on the available abundance and distribution of various finfish and invertebrate species, and included coral distribution and health. A major focus of the report included the planning of resource use and preservation areas. It also incorporated recommendations on the location of eight “no-fishing” areas to constitute a network of sites encompassing 20% of the lagoon’s surface area, with priority on three particularly rich pass systems (Fig. 1).

As a result of the recommendations made, the community decided to establish five integral conservation sites while awaiting the preparation of the fisheries management plan. Other immediate management strategies put into place included restrictions on collecting Napoleon wrasses, sharks, manta rays, lobsters, sea turtles and cetaceans throughout the atoll, not only for conservation purposes, but also to preserve the value of these species for the benefit of future tourism efforts.

The report suggested options for alternative livelihood activities for the local community. Recommendations were proposed for developing small-scale coral farming and improving women’s handicraft businesses for production handmade products for export. Because the Ailuk community was so pro-

gressive in its thinking, and dedicated to sustainable development, further projects were undertaken and including the establishment of a community fisheries committee, a group comprising representatives from local government and all major groups within the community, including traditional leaders, women’s groups, fishermen, people from the main populated islands, and youth groups. The group is called the Ailuk Ook Fisheries Committee (OFC, Fig. 2).



**Figure 2.** Ailuk Ook Fishery Committee.

### Follow-up activities

After the survey work, a series of activities followed. The first follow-up project focused primarily on conservation and sustainable income-earning alternatives to fishing, and was mainly funded by the Australian Regional Natural Heritage program. This follow-up project included a series of capacity building, educational and management activities developed in Ailuk in 2007, through the cooperation of the University of Tasmania (UTAS), the Marine and Environmental Research Institute of Pohnpei (MERIP), the Point Defiance Zoo and Aquarium (Washington State, USA), and the RMI-based Waan Aelon in Majel (WAM, Canoe of the Marshall Islands), a non-profit youth-based canoe and house building organization. Activities included:

- A coral farming training project carried out by MERIP (Fig. 3) to test the option of farming hard and soft corals for sale to the aquarium market as one of the possible alternative income generating initiatives to fishing;
- A training on sea level rise and its impact on coastal areas. This was undertaken by a team from UTAS, working with community members and conducting workshops on natural ways and procedures to reduce the amount of erosion occurring along the shorelines through the use of mangrove re-plantation. A mangrove population assessment was also carried out with assistance from the local community to name and identify

local species and also choose the best sites for re-planting the most suitable plants for remediation of the lamented erosion problem on the main island (Fig. 4);

- Construction of an educational awareness and information center under the guidance of WAM (Fig. 5). This community building houses printed and video educational materials for consultation and workshops, and provides office space for the fisheries management officer as well as a large open area for meetings.

From their scientific surveys, the team collected a wide range of photos and video clips of various marine species in Ailuk, and these are also included in the educational materials available at the center. As a response to the conservation resolutions taken by the community, Seacology — a nonprofit organization that funds the preservation of environments and cultures of islands throughout the globe — released a grant to Ailuk. The grant was offered as a reward to the community for their commitment in the establishment and management of no-take areas for a minimum period of 10 years. The Ook Fishery Committee decided to invest this funding in the reconstruction of the small airport terminal, and of bungalows for receiving tourists or guests.

The above initiatives — which included the conservation, management, and identification of no-take zones, identification of alternative sources of livelihoods, education and awareness, general capac-



**Figure 3.**  
Trainees working on setting up a coral farming pilot experiment.



**Figure 4.**  
Mayor Cradle Alfred and Dr Joanna Ellison identifying mangrove species in Ailuk.

ity building, and construction of an education and awareness center — strongly work on the principles of the ecosystem approach to management, linking all stakeholders in this project.

Resource assessment, management and planning efforts have never been received in such a positive manner in the RMI as in Ailuk. Three key points can be identified as contributing to the success of the whole project.

1. The commitment and participation from the community. The full involvement and cooperation between researchers, educators and MIMRA staff inspired the community to take responsibility for managing their marine resources.

The link between fishermen, youth, women and researchers was made possible through the full involvement of the MIMRA representative, acting as an extension agent to the whole community. Throughout all stages of the project, he coordinated community meetings where all phases of the project were explained, and awareness and information on resource management was delivered. The team used scientific information and data (displayed through visual aids, photos, and video clips), to deliver messages on fisheries stocks and abundance to the community. Representatives of senior community members, fishermen, women and youth were present at meetings and always asked relevant questions about the local fauna and about changes to the marine environment.

Through participation at such meetings the community achieved full ownership of the project and better understood the process of community-based management of resources. This was the most important factor in the effective management of Ailuk's marine resources.

2. A feeling of connection to the natural environment was another crucial factor that made the project a success. In Ailuk, a tradition of close association to natural resources and of their sustainable use is still alive and this is evident by the fact that this remains the last atoll in RMI where traditional sailing outrigger canoes are the only means of transportation and fishing (Fig. 6).
3. An interesting characteristic of such an engaged community is the full involvement of the local government in all activities. Ailuk's mayor, Cradle Alfred (Fig. 4), a well-educated woman, has a passion for nature and a strong commitment to the preservation of resources for the benefit of future generations. She was the crucial architect of all project activities and their success. With her talents, she was able to fully engage all her people in the achievements of their goals. She had the full support of her close family in managing community issues. Such dedication of the family to community interests is a tradition in the Marshall Islands, and in such a small community as Ailuk (less than 500 inhabitants), it is very important for the people to be able to rely on good leaders.



**Figure 5.**

The Educational Awareness and Information Center.



**Figure 6.**

One of the many outrigger canoes used for fishing and transport of copra, pandanus and people.

As part of this management process, the Secretariat of the Pacific Community (SPC) was asked to complement the 2006 assessments by specifically quantifying the available commercial species. SPC underwater surveys were accompanied by socio-economic assessments (e.g. population statistics, use of resources, economic conditions, and income generating activities other than fishing). This further assisted the community of Ailuk and the government in designing the best resource management solutions.

This case of community-based/ecosystem approach to management and conservation of marine resources and biodiversity in Ailuk can be regarded as a positive example for Micronesia and other Pacific Island countries. Having the local community play an integral role in developing and forming an effective fisheries management plan has given them ownership and a more vested interest in its successful implementation. Moreover, cooperation among nonprofit organizations, government agencies and educational institutions resulted in this being a winning combination for achieving these results.

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**Figure 7.**  
Ailuk school children watching underwater pictures on the newly donated community laptop computer.



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