

# COMMUNITY-BASED CONSERVATION OF CORAL REEF RESOURCES IN HAWAI'I

## Project Report – September 20, 2004

In October, 2003, NOAA awarded The Nature Conservancy of Hawai'i \$56,974 to assist the Miloli'i community in South Kona on the island of Hawai'i in pursuing the conservation of their priority near-shore marine resources. Following is a final report detailing the accomplishments of the project.

The primary goal of this project was to:

**Conserve Coral Reef Ecosystems by Supporting the Community of Miloli'i in South Kona, Hawai'i, to Build the Awareness and Capacity They Need to Engage in Multi-Stakeholder Coral Reef Management Efforts.**

The Miloli'i area is one of Hawaii's last coastal fishing villages. Unfortunately, in the past few decades, the marine resources of Miloli'i have been degraded primarily through over harvesting of coral reef fish. Concerned about the depletion of marine resources, the community of Miloli'i is working to establish a management regime that reflects its unique cultural identity as a Traditional Hawaiian Fishing Village within modern Hawai'i.

The Project Components were:

- I. Helping Communities to Organize and Build Capacity for Coral Reef Management.** This includes 1) establishing and empowering local institutions (including the Local Resource Council and NGO), and 2) collecting and sharing historical knowledge on marine resources in the area.
- II. Establishing a Conservation Awareness and Involvement Program, including Community Monitoring of Coral Reef Ecosystems and Alien Algae.** This includes 1) enhancing awareness of the degraded condition of marine resources and opportunities for community involvement in marine management, and 2) organizing a conservation involvement program.
- III. Developing a Pilot Community-Based Enforcement Program at Miloli'i.** This includes forming a community Coast Watch Team.
- IV. Monitoring the Process of Establishing Community-Based Marine Management to Share with Other Communities in Hawai'i and the Pacific**

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**Intended Outcomes from these components included:**

1. Local Resource Council in Miloli'i with sufficient capacity to engage key partners such as the State, and to plan and implement efforts to protect coral reef resources in their area.
2. Strong partnerships among the community, the West Hawai'i Fisheries Council (WHFC), Sea Grant, The Nature Conservancy, the Division of Aquatic Resources (DAR), and others to pursue multi-stakeholder management of coral reef resources along the Kona Coast.
3. Significant progress in updating and refining marine resource management plans in Miloli'i.
4. Community members who are much more aware of the condition of coral reef resources and who understand ways they can help improve management of these resources.
5. A cadre of well trained reef watchers that are regularly monitoring coral reef conditions in their area.

6. A strong ability among reef watcher groups to identify alien algae species and report their occurrence to the West Hawai'i Fisheries Council.
7. A successful pilot community-based enforcement program in Miloli'i, involving up to 10 community members.
8. Reduction in violations of coral reef resources regulations.
9. A strong foundation of protection from which the coral reef ecosystems of the Miloli'i area will start to recover from over fishing.

### **Summary of Project Achievements:**

The Conservancy achieved the majority of its objectives, and established a strong foundation of coral reef conservation in the Miloli'i community. NOAA funding was essential for the establishment of many critical project activities including: education and outreach, collection of elder wisdom on sustainable fisheries management, training and active patrolling of Coast Watch officers, marine monitoring, and community-based planning. To ensure lasting conservation success, the activities initiated by this project will continue and be strengthened in the future. As with any complex conservation project, some elements were adapted over time based on the needs and priorities of the community as the project evolved. However, reflecting on the activities that have been carried out with NOAA support over the past year and one half, we are very pleased with the overall progress, and feel the project has created the fundamental context for conservation success in the Miloli'i community.

### **I. Component One: Helping Communities to Organize and Build Capacity for Coral Reef Management.**

#### 1. Establish and Empower Local Institutions (including the Local Resource Council and NGO).

A Local Resource Council (LRC) open to all community members was formed and met approximately once every month for one year. The most significant accomplishment of the LRC was the submission of a recommendation to the West Hawaii Fisheries Council to ban gill nets in two of Miloli'i's most important bays, Kapua and Okoe. These recommended regulations are now moving forward in a public hearing process to determine if the Board of Land and Natural Resources will adopt them.

In addition, during the project period, the community hosted a TNC Site Conservation Planning process to 1) update the resource management goal of the participating community members, 2) articulate key threats to the resources of Miloli'i, and 3) identify a preliminary set of actions to improve management. The results of this process have been guiding the project activities at Miloli'i.

In recent months, the participating community members have recognized the need to open up the project activities and discussion to a larger subset of the community. As a result, a community meeting was held recently and attended by over 25 community members. The meeting provided community members with a summary of the marine conservation activities that have been ongoing to date, and invited community members to share their ideas and concerns about the status of marine resources in the area. Given the complex nature of the discussions, it was decided that additional community meetings need to be held approximately once each month, and that sub-committees or work groups could be formed to pursue specific actions or concerns that are expressed by community members. What started as the LRC process is now moving toward a more open community meeting approach under which specific work items will be pursued by subgroups.

Finally, the local NGO, Pa'a Pono Miloli'i, successfully obtained its 501(c3) non-profit status, and has been successful in securing a small grant from a local foundation for marine conservation activities at Miloli'i.

## 2. Collect and Share Historical Knowledge on Marine Resources in the Area.

During the project period, the community worked diligently to revive stewardship values associated with traditional Hawaiian fishing by directly teaching Hawaiian fishing techniques. In the spring of the first year, the community restored a traditional Hawaiian fishing canoe and purchased a second canoe to use in their traditional fishing program. Over the first summer, Uncle Walter Paulo and Uncle Julian Henriques were contracted as master fisherman to teach the traditional methods of 'ōpelu (mackerel scad) fishing and their associated conservation practices. These two *kupuna* took more than 25 children from the community fishing on over 30 fishing days to teach them traditional fishing techniques. Traditional fishing methods and the teaching of stewardship values is an important part of reviving the care for the sea that was integral to Hawaiian culture, but has largely been lost.

The project supported three celebrations of traditional fishing to 1) to mark the official start of 'ōpelu fishing season, 2) teach a group of 12 youth about the traditional methods and stewardship practices, and 3) mark the close of the 'ōpelu fishing season. The 'ōpelu fishing program will continue in the fall of 2004 through after school activities that will be overseen by two young adults from the community.

TNC also worked with Dr. Jim Skouge, a Professor of Education from the University of Hawai'i who is an expert at involving youth in cultural and environmental projects. Dr. Skouge's project is known as the "Village Wisdom Project" and involves teaching youth how to record the knowledge of their elders and how to create their own inquiry-based approaches to improving marine conservation. The students use digital video to record information from elders, and make their own films and presentations about how marine resources were managed sustainably. During the summer of 2004, Dr. Skouge participated in the six-week Miloli'i Summer Fun Camp which taught these techniques to 25 youth.

TNC also contracted a cultural historian, Kepa Maly, to interview community elders and record their knowledge about marine resources. Mr. Maly has completed a major report based on interviews with the six remaining *kupuna* of Miloli'i. The report documents 1) the historical condition of marine resources in the Miloli'i area, 2) the traditional practices used to manage these resources, 3) the *Kupuna's* understanding of how resources have changed, and 4) their recommendations on how to manage these resources in the future. This report provides extremely valuable documentation of the history of marine resources in Miloli'i from the minds of elders who have lived in the area for most of the past century.

## **II. Establishing a Conservation Awareness and Involvement Program including Community Monitoring of Coral Reef Ecosystems and Alien Algae**

### 1. Enhance Awareness of the Degraded Condition of Marine Resources and Opportunities for Community Involvement in Management.

The LRC meetings were a great venue for community members to learn about and discuss the degradation of marine resources in their area. Likewise, the recently initiated larger community meetings are proving an excellent way for people to learn about the condition of marine resources and to share their concerns and ideas for action. For example, in the first larger community meeting, Dr.

Bill Walsh from DAR presented on the declines in near shore fisheries resources since 1900, and illustrated how recent conservation activities are actually improving fish populations and catches in aquarium fish species. This led to discussions about what people think needs to be done to improve the condition of marine resources in Miloli'i.

Other efforts to enhance awareness include 1) sponsoring youth from Miloli'i to attend the YMCA Ambassadors for the Environment Ocean Futures Camp during two different summers, and 2) sponsoring the Miloli'i Summer Fun Program. The Summer Fun Program was particularly successful in raising awareness of marine issues during the summer of 2004. Over 30 youth attended the camp, and participated in a two week session with Dr. Skouge focused on collecting elder knowledge about marine resources, and a one week marine resources program taught by Sara Peck from UH Sea Grant. Eighty percent of parents of participating youth attended the closing celebration, thus also helping to raise their awareness of marine issues in the area.

Community-based marine monitoring was carried out during the course of the project by both youth and adults. Sara Peck held over 10 Marine Awareness and Monitoring Days, each typically involving over 25 community members. During these monitoring days, community members were taught about marine ecology, and were shown how to biologically monitor their marine resources. A core group of five youth have been particularly consistent in attending reef monitoring events.

In addition, two adult community members have been working with TNC on marine monitoring. They have set up transects in two of the four major bays, and regularly monitor each transect approximately once per month. TNC will lead a collaborative monitoring event with scientists from DAR and the University of Hawaii in the fall of 2004 to establish a solid scientific baseline.

We have been delayed in developing the alien algae component of monitoring. Fortunately, South Kona does not yet have an alien algae problem. As a result, monitoring for alien algae will mostly focus on identifying any incipient populations of algae to facilitate quickly removing them. DAR has recently prepared an easy to use guide to identifying common alien algae. As we continue our monitoring efforts at Miloli'i, these guides will be provided to community members, and they will be trained in how to identify algae during their regular surveys.

### **III. Developing a Pilot Community-Based Enforcement Program at Miloli'i. This includes Forming a Community Coast Watch Team.**

During the course of the project, a comprehensive 40 hour curriculum for the Coast Watch Program was developed by DOCARE. Training of 10 Miloli'i Coast Watch volunteers took place from March to July, 2003, and six community members successfully completed the course. In these training sessions, community members were taught about relevant government regulatory agencies including NOAA Enforcement, DOCARE, DAR, and the Division of Boating and Ocean Recreation (DOBOR). Miloli'i Coast Watch members were also taught 1) how to properly record violations and how to report these to the proper authorities, 2) how to approach and board a vessel, and 3) how to provide outreach to fishers and others to help them understand resource regulations. In addition, the program included boat inspections by the Coast Guard, ocean safety training, and CPR/First Aid training by the Red Cross. DOCARE, which is the state agency directly responsible for marine enforcement, has agreed to put an officer on call to respond to any calls by the Miloli'i Coast Watch team.

TNC hired a Coast Watch Coordinator who has implemented a regular patrol schedule. The community also developed a list of priority resource regulations, a report form to be used during patrols, and a human use form that enables them to record what human uses are ongoing in the area. This is important to understand how human activities may impact the environment, and how this may change over time.

The combination of pursuing new regulations, such as banning of gill nets in Okoe and Kapua Bays, and the preparation of a Coast Watch team is very synergistic. As the new regulations come into force, the Coast Watch team can act as the primary vehicle to ensure that people fishing in the area are aware of and obey the new regulations.

Patrols still remain relatively few during the course of any one week, as the Coast Watch Coordinator is the main person patrolling, and is only able to do so on average four times per week for two hours. As we move forward with the project, we intend to recruit additional community members to help increase the number and length of patrols.

#### **IV. Monitoring of the Process of Establishing Community-Based Marine Management to Share with Other Communities in Hawai'i and the Pacific**

A work-plan and budget for the project were prepared upon receipt of this grant. However, as with any project, it is important to regularly update the workplan to help ensure adaptive management. TNC and the local community carried out a Site Conservation Planning workshop during June of 2003, using the TNC planning approach that has been applied successfully around the world. This workshop provided us with a complete set of threats, as well as action strategies to address these threats. This information was then used to update the project workplan to provide a road map to our activities for the next year.

A baseline of marine resource condition in Miloli'i Bay is being established through biological monitoring by community members. In addition, it was recognized by TNC that in order for baseline monitoring data to be accepted by the scientific community, it is important that recognized scientists be involved in collecting this data. As a result, TNC and our partners are now working with Dr. Bill Walsh from DAR and the West Hawaii Aquarium Project (WHAP) to organize a baseline monitoring event. This event will take place over three days in November 2004, and will provide a scientifically valid baseline from which to measure future changes in populations of important species in the Miloli'i area.

TNC elected not to conduct attitudinal assessments of community members. We felt it was necessary to build confidence and trust in the community, and that conducting an attitudinal assessment might unduly raise concerns or suspicions about the project's intent. While it is unfortunate that we were not able to gather baseline information on attitudes, we feel it was more important to focus on building the trust necessary for project success in the long-term.

#### **Conclusion:**

In summary our project achievements to date include:

- Establishment of the Local Resource Council (LRC) and active participation by approximately 10 community members.

- Evolution of the LRC into meetings of a core group of involved community members and a series of open community meetings.
- Securing of 501(c3) status by the community-based NGO Pa'a Pono Miloli'i.
- Conducting of TNC Site Conservation Planning to help project partners fully articulate the threats to Miloli'i's important marine resources and develop strategies to address these threats.
- Updating of several aspects of the Miloli'i Resource Management Plan, including a proposal to limit gill nets in Kapua and Okoe Bay (roughly two miles of coastline).
- Acquisition of a traditional fishing canoe, restoration of another canoe, and initiation of a traditional fishing mentoring program with over 30 village youth participating over two years. Through this program, these youth learned about the traditions that allowed their ancestors to sustainably manage marine resources in the area.
- A total of 10 marine monitoring days using the Reef Watchers approach. This approach is designed to get youth and adults into the water and educate them about marine resources
- Training of four community members in SCUBA to prepare them for participation in biological monitoring.
- Ongoing biological monitoring by two community members with four transects in each of two bays being monitoring at least once per month.
- Initial meetings of community members that will participate in marine monitoring (the Miloli'i Marine Monitoring Team) to identify which species they would like to monitor and where.
- Logistical arrangements to undertake a scientific baseline assessment of marine resources in Miloli'i in cooperation with DAR and UH.
- Development of a comprehensive 40 hour Coast Watch curriculum, and completed training of six Miloli'i residents to be volunteer Coast Watch agents.
- Contracting of a local community member to oversee the Coast Watch Program.
- Ongoing weekly patrolling by the Coast Watch Coordinator averaging four times weekly for two hours per patrol.
- A completed report of interviews with village elders by a cultural historian that has recorded their knowledge of the history of marine resource conditions in the area, and their recommendations on how to improve management in the near future.
- Over four months of implementation of an educational program with community youth focused on collecting knowledge from elders and others on marine resource stewardship and management.
- Highly successful marine awareness raising events through the Summer Fun program in 2004.
- Establishment of a strong and growing relationship with the WHFC, Sea Grant, the Community Conservation Network, DAR, and DOCARE.

While the NOAA funded work has been completed, it is important that project activities that were initiated under this grant continue into the future. As a result, it is valuable to reflect on areas for improvement in the project to help us better execute activities in the future.

- The project will be well served by expanding the number of community members in the community meeting and discussion process, as broader participation from the community will increase the likelihood of long term success. As a result, we recently initiated a community meeting series that will continue into the future.
- It is important to expand participation in Coast Watch and monitoring. Currently, a small number of individuals are carrying out these two programs, and it would be very beneficial to both programs to involve other community members

- The project activities overall could benefit a great deal from comprehensive coordination at the community level. Currently, while there is a coordinator for Coast Watch, there is no one person living in the community that is responsible for all aspects of the project.
- Finally, the community members participating in the project would benefit from increased skills building opportunities. Currently, people have been asked to take on roles they have never had to pursue before, and it is important to help ensure that these individuals have sufficient training to pursue these activities.

Overall, we are very happy with the work completed under the NOAA grant by TNC and our project partners. NOAA's support laid the foundation for a strong model of community-based marine conservation that can be exported for increased management capacity around the state.