

**Project Period** 05/15/2011 - 09/30/2012  
**Award Amount** \$18,641.25  
**Matching Contributions** \$18,734.25  
**Project Location Description (from Proposal)** The Tres Palmas Marine Reserve (204 acres) is located in the northwest corner of Puerto Rico, in the municipality of Rincón. Project draws participants from the municipality of Rincón.

**Project Summary (from Proposal)** Improve marine reserve management by engaging community in a newly incorporated local non-governmental organization. Project will facilitate training for a volunteer ranger program.

**Summary of Accomplishments** The NGO "Amigos de Tres Palmas" (A3P) (Friends of Tres Palmas) was incorporated as per Puerto Rico laws. Meetings were held with Board members, environmental organizations and Rincón residents. Bylaws were developed, the website [amigosdetrespalmas.org](http://amigosdetrespalmas.org) was developed. A festival in celebration of the reserves 8th anniversary was held with the participation of over 1,000 persons that were educated about the reserve, reduction of contamination, endangered species, and invasive species. High school students volunteered in the logistics. A group of high school students were certified as marine guides, to later serve as rangers, after 26 hours of training about the reserve, community participation, user conflict, corals, marine ecosystems, beach erosion, among others. Sea Grant staff and certified rangers oriented beachgoers about the existence of the reserve, importance, species, and regulations within the reserve. PR does not have a volunteering tradition thus Sea Grant has assumed a lead role by hiring a student to continue the education effort with students and visitors, and to give continuance to the NGO A3P insisting of effective management, including a budget, enforcement agents on the field and developing an interpretation plan and information center.

**Lessons Learned** High school students certified as rangers were surprised at the amount of people that did not know about the existence of the reserve. Students involved in the creation of A3P learned about the process of the incorporation of an NGO in Puerto Rico.

Conservation Activities Progress Measures Value at Grant Completion	Community Participation in local NGO Other (# community members who attended a monthly NGO meeting) 100
Conservation Activities Progress Measures Value at Grant Completion	Community Participation in local NGO Other (# of officers elected to NGO) 4
Conservation Activities Marine Reserve Progress Measures Value at Grant Completion	Increase community capacity to provide compliance oversight in Tres Palmas Other (# community members trained as volunteer rangers) 12
Conservation Activities Marine Reserve Progress Measures Value at Grant Completion	Increase community capacity to provide compliance oversight in Tres Palmas Other (# hours of volunteer ranger enforcement at Tres Palmas MR) 600
Conservation Activities Marine Reserve Progress Measures	Increase community capacity to provide compliance oversight in Tres Palmas Other (# interventions between volunteer rangers and marine reserve visitors)

Value at Grant Completion	240
Conservation Activities	Community Participating in local NGO
Progress Measures	Other (number of monthly meetings held)
Value at Grant Completion	10
Conservation Activities	Improve sustainable financing
Progress Measures	Other (# dollars applied for)
Value at Grant Completion	30,000

Conservation Outcome(s)	Threats to coral survival reduced
Conservation Indicator Metric(s)	Other (% significant visitor contact with reef during recreational activities)
Baseline Metric Value	45% (from preliminary observations by SERI)
Metric Value at Grant Completion	25
Long-term Goal Metric Value	5
Year in which Long Term Metric Value is Anticipated	2022
Conservation Outcome(s)	Improved reserve management through community participation
Conservation Indicator Metric(s)	% activities from management plan being implemented
Baseline Metric Value	17
Metric Value at Grant Completion	33
Long-term Goal Metric Value	100
Year in which Long Term Metric Value is Anticipated	2039

## Environmental Management Internship

### Final Report

The decline of Elkhorn coral (*Acropora palmata*), which was the previously the dominant coral species in shallow Caribbean waters was one of the primary reasons to establish the “no-take” Tres Palmas Marine Reserve (TPMR) at the municipality of Rincón, Puerto Rico in 2004. Even though the establishment of the TPMR had high expectations regarding the protection of one of the healthiest breeding strands of Elkhorn coral in Puerto Rico, the lack of: 1) on site staff; 2) enforcement officers; 3) educational efforts; and 4) the assignment of a budget to manage resource users and enforce regulations illegal fishing and recreational misuse has accelerated the decline of the coral health. Several efforts were conducted as part of this project, which resulted in measurable and observed accomplishments and outcomes that will be summarized in this narrative report.

A graduate student and an undergraduate research assistant who had recently graduated were hired and assigned with the tasks associated with the Volunteer Ranger workshops and training and with the creation of an NGO to provide a venue through which community members may be empowered to engage with the Tres Palmas Marine Reserve and participate in stewardship activities which were lacking in the community.

- The selected name for the organization was Amigos de Tres Palmas or “ Friends of Tres Palmas”, named after the Tres Palmas Marine Reserve located in Rincón, Puerto Rico. Having selected the organization’s name, the students visited the Puerto Rico State Department in order to incorporate the organization as an environmental education nonprofit organization. After receiving the incorporation certificate, administrative chores to apply for the Employment Identification Number (EIN) at the Internal Revenue Service were conducted. In March 31 of 2011, Amigos de Tres Palmas was officially incorporated.
- Every organization in Puerto Rico should file a Corporation Income Tax Return in the Department of Treasury every year. Thanks to the efforts of the students, the accountant who completed the form donated his services to the organization.
- It is very important that besides being incorporated, the Department of Treasury recognized Amigos de Tres Palmas as “Tax Exempted” under Section 1101.01 of the Internal Revenue Code for a New Puerto Rico. First, the Amigos de Tres Palmas

merchant's registration certificate application was submitted. Once it was received, and in order to achieve that status the form AS 2645.1 was completed and \$300 were paid as part of the process. Completing the process took several weeks.

- Being a formal organization, our first meeting took place on September 27, 2011. The meeting was attended by members of the Board of Directors of Tres Palmas Marine Reserve, members of environmental organizations in the area and Rincón residents. During this first meeting participants were handed with copies of the bylaws of the organization; bylaws were discussed and amended and the future plans of the organization were presented including the environmental management needs and opportunities and the marine guide internships.
- The second meeting was on October 10, 2011. The purpose of the meeting was to discuss the Tres Palmas Marine Reserve Management Plan and the objectives and purposes of Amigos de Tres Palmas. It was a very productive meeting because the participants suggested actions and activities needed to help in the promotion of the organization and to attract more members.
- Once the Board of Directors was chosen and the members committed to the organizations' cause, routine meetings were held every three weeks. The frequency of the meetings depended on the amount activities planned and coordinated.
- From October to November we worked on getting our website up and running. A section about the ecology of the reserve was included, as well as pictures, activities and a basic history of ATPMR. The website is: **[amigosdetrespalmas.org](http://amigosdetrespalmas.org)**
- From November to December the Tres Palmas Festival was coordinated to celebrate the 8<sup>th</sup> anniversary of the Tres Palmas Marine Reserve and to provide an environmental educational space to educate residents and visitors of Rincón about the Tres Palmas marine resources including the elkhorn corals, ways to reduce plastic contamination in the reserve, importance to protect endangered species and also the impact of invasive species on fish habitats. In order to make this event a successful one planning began two months in advance. An affordable venue suitable for all of our needs was selected, artesans, musicians, educational speakers were invited and the event was promoted on several municipalities of the West Coast. The coordination process also included contacting Rincón middle schools and high school Principals in order to invite students to

collaborate and to participate in the festival as volunteers. Nine volunteers were recruited, all from the Manuel García Pérez High School located in Rincón. They were very helpful with several tasks including counting visitors, taking pictures of the event, selling Amigos de Tres Palmas merchandise as part of our fundraiser, separating waste in recycling trash cans, implementing surveys about people's knowledge about Tres Palmas Marine Reserve and helping in the craft activities. The coordination of the festival was hard but very successful. Over a thousand people attended the festival. Participants from different sectors including the Department of Natural and Environmental Resources, Sea Grant College Program, The Plastic Reduction Movement, University of Puerto Rico students, Surfrider Foundation, participated and brought exhibitions as well as environmental and educational materials to give away. This was a multicultural activity with a varied representation of groups including families with kids, scientists who collaborated in the Tres Palmas designation process, tourists from United States, residents from Rincón, surfers and other recreation enthusiasts.

- In June 2012, we held the first Tres Palmas Marine Guide Workshop. The objective of the workshop was to certify high schools students as marine guides in order to capacitate them to work as volunteer rangers in the Tres Palmas Marine Reserve during the summer. The workshop planning began six months in advance and included having weekly meetings in order to determine the students selection process, which educational materials were going to be used and with what purpose, designing a pretest and posttest to evaluate how much the students learned from the workshop, finding a place to offer workshop, arrangements for breakfast and lunch during the six days of the workshop, selecting and meeting with the speakers to discuss their presentations and adjust them to our needs and coordination with the schools. In order to select the students, we visited schools from Rincón and nearby towns including: Aguada and Añasco. Science teachers were in charge of student selection, preferably those who had demonstrated a strong interest in science throughout the school year. After the students were selected, the purpose of the workshop and the benefits to be derived from their participation was stated. Another meeting was coordinated to give the pretest to the students and to make clear to their parents the educational opportunities that these students had, not only from learning about this important ecosystem and its conservation, but also the leadership and

social skills that they were going to be developing. The workshop took place from 4<sup>th</sup>-9<sup>th</sup> of July, 2012 in the Cooperativa de Ahorro y Crédito de Rincón and lasted a total of 26 hours. During the workshop the students had the opportunity to receive conferences from experts in different fields including: Marine Sciences; Social Sciences; Outdoor Recreation; Oceanography; Geology; and Ecosystem Based Management among others. Fifteen conferences were given through the six days of the workshop. Some topics covered in the conferences were, the history of the Tres Palmas Marine Reserve, importance of community participation and efforts towards the designation of the marine reserve, fish habitats, endangered species present in the reserve, corals, marine ecosystems, beach erosion, invasive species, user conflicts, enforcement of rules and regulations vs. education, marine debris and contamination among others. The workshop also included two field trips to the reserve. The first one was a walk through the reserve, so students could learn firsthand what needs to be protected and why. The second trip was on the last day and it included supervised snorkeling within waters of the reserve to visualize some of the species that were discussed in class, particularly focusing on Elkhorn coral. This water activity would not have been possible if not for the generous lifeguards that donated their time to our workshop. As part of the last day of the workshop and after completing the posttest, fourteen students received the marine guide certification, caps and rashguards. The posttest results showed that the student's knowledge tripled.

- After the certification, our staff started meeting with the student rangers at the reserve to educate the public and create awareness in the community. Several ranger teams were organized to talk to beachgoers about the existence of the marine reserve, its importance, species that could be observed, what was and was not allowed within the limits of the reserve and reasons for these rules and regulations, and the importance of conserving this pristine area. Documentation related to organisms, boundaries of the reserve, history, the municipality of Rincón and rules and regulations was offered to visitors and locals. Students spoke with tourists as well as visitors from other towns and locals of Rincon as well. They were surprised at the amount of people that didn't know about the existence of reserve. Students continue to meet at the reserve to educate Tres Palmas Marine Reserve

visitors about the importance of protecting the reserve not only in terms of marine biology and endangered species protection but also as an invaluable recreational resource.

- Since the project concluded activities with both the ranger students and the Amigos de Tres Palmas NGO have ceased, primarily, because of the lack of leadership in both groups. Puerto Rico does not have a tradition of having volunteer groups collaborating in environmental education efforts unless there is a cause that has the potential of disturbing their quality of life. All the efforts that have been organized in Puerto Rico to fight or protest in favor of the environment are abandoned once the problem is solved or the cause is lost. However, the University of Puerto Rico Sea Grant College Program recognizes the importance of this effort and has taken a leadership role by hiring the graduate student that collaborated in the coordination of this project to continue training students and educating visitors of the reserve on the field. This student will also continue pushing the NGO Amigos de Tres Palmas and develop educational activities and materials to educate residents and visitors of the reserve and insist in the need for effective management. By effective management we include assigning a budget for the reserve, having enforcement agents on the field and developing an interpretation plan and information center.