



# Miraculous Mangroves

In the nearly quarter-century since Seacology's founding, we have led dozens of projects around the world to preserve and restore mangrove habitats. With several new projects, including the launch of the largest project in Seacology's history, designed to protect all of the mangrove habitats in the nation of Sri Lanka (see page 3), we're taking this important facet of our work to the next level.

The ecological importance of mangrove forests is widely recognized across the conservation community. These resilient trees, which take root in the mud below shallow brackish water, provide shelter from predators for the young of many reef fish species, replenishing fisheries and supporting the livelihoods of those who depend on them. They dissipate the force of tropical storms and reduce damage to coastal communities. And perhaps most importantly, mangroves sequester even more carbon from the atmosphere than terrestrial rainforests, playing a key role in efforts to mitigate climate change.

But unfortunately, mangroves are under threat.

Around the world, countless acres of mangrove habitat have been cleared for coastal development or shrimp

farms. In some poor nations like Haiti, local people lacking other economic opportunities have cut them down to sell as firewood. In Sri Lanka, the proliferation of shrimp farms and damage caused by a decades long civil war destroyed portions of its mangrove habitat. It's estimated that worldwide, more than half of the planet's total mangrove acreage has been lost in the past 50 years.

Seacology is leading efforts to reverse this trend. In Sri Lanka, we aim to protect 21,782 acres of existing mangroves and replant another 9,600. In Haiti, where we've just launched our first project in more than 20 years, we're helping plant 100,000 mangrove seedlings and funding alternative livelihood training to curb the deforestation. On the island of Kosrae, Micronesia, we've helped establish a 1,468-acre no-take Marine Protected Area containing pristine mangrove and reef habitats.

This progress is possible thanks to dedicated local communities and partner NGOs on the ground, doing the day-to-day work of protection and restoration. In particular, we would like to acknowledge the critically important role that the Mangrove Action Project plays in protecting mangroves throughout the world.

These success stories are just a few recent examples of how your support for Seacology helps us preserve these essential habitats for future generations. Thank you!

The green areas show the distribution of mangrove forests around the globe. *Adapted from map by Chandra Giri, USGS*



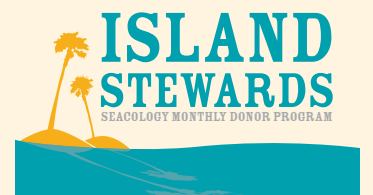
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### Save the Date

Our annual Seacology Prize Ceremony is scheduled for Thursday, October 8<sup>th</sup> at the David Brower Center in Berkeley, Calif. We'll be announcing the winner in a couple of months at [seacology.org/about/seacology-prize](http://seacology.org/about/seacology-prize).



### Protect Islands Year-Round

This spring, Seacology launched Island Stewards, our new monthly giving program. For as little as \$10 a month, you can help keep Seacology's work going strong all year long. Island Stewards will receive special recognition in future annual reports and a unique gift from one of our project sites for each year of membership. For more information and to sign up, visit [seacology.org/islandstewards](http://seacology.org/islandstewards) or call (510) 559-3505.

## From the Chair

# Dear friends,

Mangrove forests, which typically encircle tropical islands and coastlines, represent truly unique ecosystems.

First, mangrove trees are some of the few plants in the world that give live birth: the seeds of many mangrove species germinate and produce seedlings while still hanging on their parent trees. Second, as the interface between the sea and the land, mangroves play a crucial role as the protective nursery for fish, seabirds, and even rare orchids. Third, mangroves are some of the most beautiful ecosystems in the world. Whether you are paddling a kayak in the Florida Keys or walking along a scenic boardwalk in Micronesia, mangroves, with their beautiful stilt roots and red bark, are some of the most awe-inspiring forests in the world.



Unfortunately, mangroves are also the most endangered forests in the world. Mangroves are often bulldozed away to make room for garbage dumps, shrimp ponds, industrial yards and other ill-conceived coastal developments. Sometimes they are harvested for firewood, or burned for their tannins. Over half of all of the mangrove forests in the world have been destroyed in recent years.

From its inception, Seacology has focused on protecting mangroves. Together with the Force for Good Foundation, we helped Taiwanese schoolchildren to plant 24,000 mangroves seedlings, and returned seeds of two endangered species of mangrove to the Taiwan government. In villages ranging from Fiji, to Samoa, to the islands of Micronesia, we have partnered with indigenous peoples in protecting and replanting precious mangroves.

In the 26 December 2004 tsunami that destroyed coastlines throughout the Indian ocean, villages with intact mangrove forests suffered much less destruction and loss of life than those villages that had unwisely removed their mangroves.

This was particularly true in Sri Lanka. In 2000, Seacology funded a mangrove reserve and an eco-tourism center, with handicrafts and foods sold by young women who had dropped out of school or been ejected from their families. The Kiralakele Mangrove center was dedicated in 2001 and the store completed in 2002. We continued to support the villagers after the 2004 tsunami by giving them canoes and fishing supplies that had been lost or damaged in the waves.

Over several years, we worked with Sri Lanka to come up with an audacious goal: What if Seacology could save all of the country's mangroves in return for providing microloans to coastal women to establish their own ecologically sensitive businesses? We think if just one island nation adopted a comprehensive mangrove-preservation policy, this conservation spirit could rapidly spread to many other countries throughout the world.

As you will read in these pages, Seacology's vision was embraced by the President of Sri Lanka. Over the last several years, we have been quietly raising funds to accomplish this goal.

We are moving forward, but we need your help. Please consider the case presented in this historic newsletter, and join with us in a historic effort to save the world's most endangered forests.

Paul Alan Cox, Ph.D.  
Chair, Seacology Board of Directors



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## FEATURED PROJECT

Our new initiative to comprehensively protect all of Sri Lanka's mangroves is both the most ambitious and potentially important project Seacology has ever undertaken

# Nationwide Leadership

**O**n May 12<sup>th</sup>, Seacology announced the launch of the Sri Lanka Mangrove Conservation Project, the largest single initiative in our organization's history.

In partnership with Sri Lankan NGO Sudeesa (formerly known as the Small Fishers Federation of Lanka), Seacology is funding the first-of-its kind effort. With our combined 42 years of expertise—Seacology's in environmental protection and Sudeesa's in microfinance and alternative-livelihood training—the two organizations have developed a five-year plan to:

- demarcate all of Sri Lanka's mangroves and protect all 21,782 acres of existing habitat;
- establish three mangrove nurseries to support the replanting of an additional 9,600 acres;
- build a job-training center that will also serve as a national mangrove conservation museum and provide alternative job training for 15,000 impoverished Sri Lankans; and
- offer microloans to support newly created sustainable businesses.

The initiative is a true Seacology win-win agreement. Following more than two decades of devastating civil war, many of Sri Lanka's coastal environments and communities are just beginning to recover. The job-training component of the project will provide a path out of poverty to thousands of the country's most vulnerable residents (many who were affected by the conflict), all while helping its mangroves rebound to the healthy, vital ecosystems they once were.

"Sri Lanka's mangroves—21 species in all—harbor a diverse array of plant and animal life. The country's small coastal communities rely on them for sustenance, as well as for protection during coastal surges and storms," says Seacology's Karen Peterson, who is managing the project.



Above, Sri Lanka Secretary for the Ministry of Environment, Eng. Nihal Rupasinghe and Seacology Executive Director Duane Silverstein after signing the historic agreement. *Photo: Sudeesa*

Below, women who received microloans from Sudeesa pass by a mangrove-conservation display in Sri Lanka. *Photo: Teng Wei*



Duane Silverstein, Seacology's Executive director sees the project as not only a milestone for Seacology, but a potential trendsetter for mangrove conservation in general.

"We are very excited to be working with Sudeesa and the Sri Lankan government to make that nation the first in the world to effectively protect all of its mangrove forests," Silverstein says. "Mangroves not only harbor orders of magnitude more carbon than other types of forests but their global warming-ameliorating impacts last far longer than other land-based ecosystems. This project can serve as a model for nations throughout the world."

### Why Mangroves?

*These unique forests, at the edge of land and sea, provide:*

**Food.** Microorganisms and crustaceans turn mangrove leaves and woody matter into more palatable fragments for bivalves and fish.

**Shelter.** Shellfish, sponges, and coral grow on mangroves' roots and trunks, and the roots trap fine particles, creating soft soils that mollusks and crustaceans burrow in. Mangrove forests also serve as nurseries, where juvenile fish are safe from predators before they move to offshore habitats such as coral reefs.

**Stability.** Mangroves stabilize shorelines, reducing erosion and mitigating storm damage.

**Water quality.** Mangroves remove pollutants from the water by trapping sediments and absorbing excess nutrients.

**Carbon sequestration.** Mangroves sequester orders of magnitude more carbon per acre than other types of forests, and keep it out of the atmosphere for longer periods of time.

**Coral protection.** Studies have shown that corals that grow adjacent to mangrove forests appear more resistant to bleaching, a phenomenon that threatens more and more of the world's coral reefs.



# PROJECT UPDATES

With dozens of active projects around the world, things are happening all the time. Here are just a few highlights of the past several months.

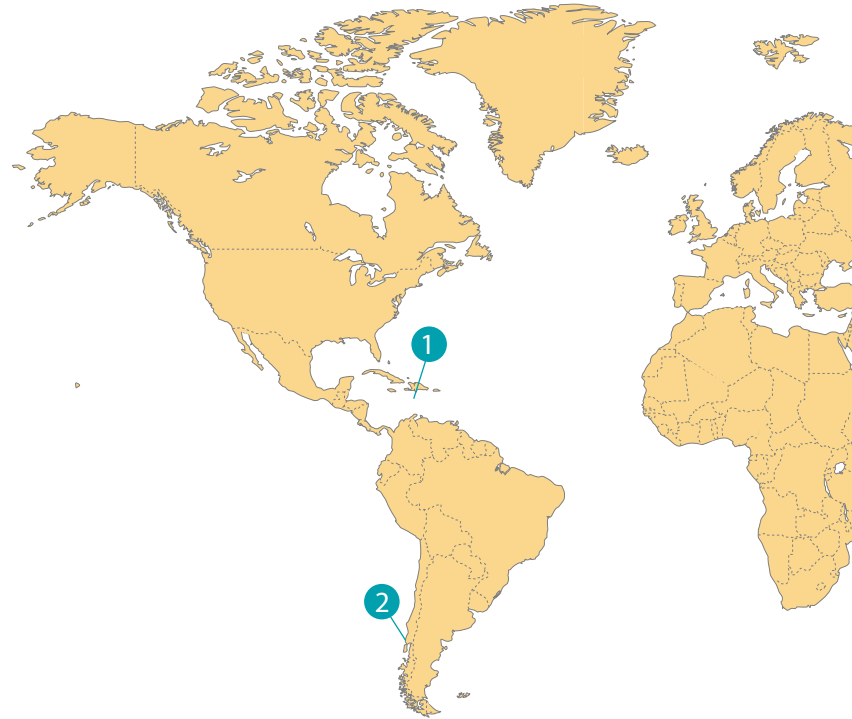
1



## ORACABESSA BAY, JAMAICA

*Furnished field office and equipment for the enforcement of the 150-acre Oracabessa Bay sanctuary*

In January, Seacology made a small grant for construction of a wooden roof over the Oracabessa Bay Fish Sanctuary field office, which was constructed from used shipping containers. The roof has since been completed.



2



## CURACO DE VÉLEZ, QUINCHAO ISLAND, CHILE

*Security and locking system equipment for environmental and handicrafts center, in exchange for the continued conservation of migratory birds and coastal wetlands*

With an additional grant, local craft sellers have added security equipment to their Seacology-funded ecotourism center. Now, the merchants can securely leave their wares at the center each night. Their group, the Artisans Association of Curaco de Vélez, has become an active player in the conservation of coastal wetlands, and members are giving daily talks about shorebird conservation and environmental awareness.

3



## RANOBE PROTECTED AREA, MADAGASCAR

*Construction of an ecotourism welcome center, restrooms, guardian hut, cooking hut, and signage in exchange for protection for 20 years of 4,448 acres of threatened south-western dry spiny forest*

Construction is well underway at the two sites where Seacology is funding infrastructure. The northern site (Ambalaboy) is expected to be done by September, although this is somewhat contingent on weather. The southern building, at Ankilibe, is about 80% complete and should be finished in mid-June.





5



### RAROTONGA, COOK ISLANDS

*Renovation and upgrade of the village meeting house and reroofing of the health clinic in Muri Village, in exchange for establishment of a 413-acre conservation area for 10 years*

Cook Islands Field Representative Tuaine Tuara reports that renovations to the Muri Village community center and health clinic are making progress, with a new hot water system and sliding door installed, and all other supplies materials for the project procured. Construction was delayed by wet weather, but she expects it to be completed by early summer.

4



### AWAK, POHNPEI, MICRONESIA

*Youth development and education center, in exchange for a 308-acre forest reserve as a no-take area in perpetuity*

The Awak Youth Organization (AYO), with the support of the Conservation Society of Pohnpei (CSP) and other partners, is continuing awareness-raising activities in Awak to prevent any further deforestation in the watershed-conservation site and surrounding areas. There is good support to completely stop the planting of crops in the designated traditional watershed reserve. In the coming months, AYO will extend this awareness work to neighboring communities.

6



### SANOA, EFATE ISLAND, VANUATU

*Construction of a community hall in exchange for a 12-plus acre no-take reserve for coral reefs, shells, and fish for 10 years*

According to Field Representative Josiah Kuatpen, who visited the site after the devastation of Cyclone Pam in March, the reserve Seacology helped establish in 2007 is still being respected by the community. There was some minor damage to the community hall built in exchange for the protected area, but it stood up well and served as a shelter for more than 100 community members left homeless by the storm.

# New Projects

Mangroves and migrating birds are among the species protected by our eight newest projects, already under way. For details on all of our projects, visit [seacology.org/projects](http://seacology.org/projects).

Country	Island	Community Benefit	Environmental Benefit
ANTIGUA AND BARBUDA	Antigua	Women's livelihood initiative	Sea turtle conservation
BAHAMAS	San Salvador	Signage and touch tanks for visitors	Support of 17,000-acre San Salvador Island Protected Areas
CHILE	Alejandro Selkirk Island	Environmental education and volunteer center	Environmental education program and elimination of invasive plants
FEDERATED STATES OF MICRONESIA	Kosrae	Meeting house and recreational huts	1,468-acre no-take marine and mangrove reserve
FEDERATED STATES OF MICRONESIA	Pohnpei	Solar power system for ranger station on Ant Atoll	Support of making four marine protected areas, totaling 8,388 acres no-take zones in perpetuity
HAITI	Caracol Bay	Environmental education and sustainable livelihood initiatives	Mangrove reforestation and rehabilitation
INDONESIA	Borneo	Nut oil processing machine, communications equipment, and construction of a small building	Conservation of 247 acres of lowland forest for 10 years
PHILIPPINES	Luzon	Repair and improvement of the Taal Lake Conservation Center	Support of a 2,471-acre fish sanctuary
SRI LANKA (nationwide)		Sustainable livelihood training, mangrove nurseries	Comprehensive protection of all of nation's mangrove forests

## Seacology welcomes...

Four new members of our board, staff, and field team joined Seacology in recent months.

### Kimberly Myers Hewlett

Board Member



Our newest Board member, Kimberly brings a rich foundation and nonprofit background to Seacology's leadership. She is treasurer of the Myers Family Foundation, a board member of the Flora Family Foundation, and treasurer of the National Center for Family Philanthropy. She is also a corporate and foundation relations officer at the Stanford University Medical Center. Hewlett received her undergraduate degree from Stanford University and an MBA from the Kelley School of Business at Indiana University.

### Harriet Nimmo

Field Representative



In her previous life in the UK, Harriet was CEO of Wildscreen for eight years and was responsible for developing the award winning ARKive.org—the world's leading digital databank of film and photos of endangered species. In 2011 Harriet relocated to South Africa, wanting to work more closely at the front lines of conservation. She now works with various South African conservation NGO's. She has traveled extensively throughout Southern Africa, and is a passionate naturalist, birder and recreational diver.

### Christina Oraftik

Administrative Assistant



Born and raised in the Bay Area, Christina brings experience from a wide range of fields including linguistics, hospitality, equestrian sports, Indian classical dance, and environmental and social causes. Since receiving her degree in Language Studies from UC Santa Cruz, she has lived and worked in many places up and down California, but is happy to be back home in the Bay Area. When not at Seacology, she enjoys hiking California's beautiful coastal areas, cooking, crafting, linguistic research, and volunteering.

### Mary Randolph

Program Manager



Mary works with Seacology's worldwide network of field representatives to develop and monitor our projects. Mary earned a B.S. in ethology and evolutionary biology at the University of Illinois, and her interest in environmental policy led her to law school at the University of California at Berkeley. While there, she served as an editor for Ecology Law Quarterly and worked for the National Wildlife Federation. She came to Seacology from Nolo, a mission-driven publisher of legal materials for nonlawyers, where she oversaw the editorial and production departments.

# Seacology Fellows\*

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(\$25,000 or more)

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Argus Fund  
Lancy Foundation  
James and Gretchen Sandler  
Newman and Zeneth Ward Family Foundation

## Island Fellows

(\$10,000-\$24,999)

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Esmond Harmsworth Charitable Foundation  
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Anne Symchych

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(\$2,000-\$9,999)

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Since our founding in 1991, SEACOLOGY has protected **more than 1.2 million acres** of combined terrestrial and marine territory.

That's **2,022 square miles**, an area of island habitat larger than the state of Delaware.

Seacology helps protect island habitats and local communities by offering villages a unique deal: if they agree to create a forest or marine reserve, we'll provide funds for something the village needs, like a schoolhouse or health clinic.

