



# BIOSPHERE FOUNDATION

## 2013 NEWSLETTER



Mir crew at Raffles Marina, Singapore - December, 2013

*Dear Friends,*

Happy Holidays! On behalf of everyone at Biosphere Foundation, we wish you and your loved ones a joyous holiday season and Happy New Year! As 2013 draws to a close, we would like to express our heartfelt appreciation for your generous support and are delighted to share the wonderful progress you have made possible. This year we focused our efforts in two key areas: marine mammal preservation in the Indian Ocean and community conservation and environmental education in Bali. We are happy to report that we have established new partnerships for these initiatives, and this has enabled us to expand our projects, reach many more people, and make a greater difference!



Mir with Sperm Whales Off the Coast of Sri Lanka

## Mir Expedition

### Collects Critical Data on Marine Mammals

Cetaceans off the coast of Sri Lanka are under great threat from collisions caused by increased shipping traffic, by-catch, and many other environmental challenges. Because of the long Civil War in Sri Lanka, few marine mammal surveys had been conducted in the Indian Ocean around this country for more than a quarter-century. To assess the status of their distribution in the Bay of Bengal and along the coast of Sri Lanka, we launched an expedition onboard *Mir*. We gave special attention to the crisis of pygmy blue whale ship-strikes on the southern coast and over the next two years, we will return to Sri Lanka to follow up on this conservation issue and to collaborate on further studies with local and international scientists regarding the distribution of these whales across the shipping lane. We wish to thank the Ward Family and Kopcho Family Foundations, Swire Pacific Offshore and all of our sponsors for your generous support and for making this expedition possible!



Blue Whale off the Coast of Sri Lanka



Captain Raja with Abigail Alling & Mark Van Thillo

## New Collaboration

### with Captain Raja for Marine Mammal Preservation

We fortuitously met Captain Raja who has been leading whale-watching expeditions along the southern coast of Sri Lanka onboard his vessel *Raja & the Whales* out of Mirissa Harbor. We quickly discovered our mutual love for the whales and passion for their preservation. Raja welcomed us to collaborate with him on analyzing his 2009-2012 sightings of pygmy blue whales, and together we submitted a paper about this to the International Whaling Commission. Raja will continue to collect critical baseline data about these whales during his tours, which we will be using to track distribution and estimate population size.



U of Ruhuna Students Onboard *Raja & the Whales* for Training & Marine Mammal Surveys



Attendees at U of Ruhuna Biosphere Foundation Workshop

## Indian Ocean

### Marine Mammal Research Unit Launched with U of Ruhuna

We also had the good fortune of meeting with Dr. Tilak Gamage, Dean of the Faculty of Fisheries and Marine Sciences & Technology at the University of Ruhuna in Sri Lanka. He expressed an interest in working with us to study the marine mammals of the Indian Ocean. To formulate a research plan, we organized a workshop with the faculty and students. Our advisor, Dr. Jonathan Gordon, (University of St. Andrews), and the crews of *Raja & the Whales* and *Mir* all participated in this very fruitful meeting. The result was an agreement to establish the Indian Ocean Marine Mammal Research Unit: a center for research collaboration, conservation initiatives, and the implementation of education-outreach programs and films to advance public awareness. The aim for this center is to provide a base in Sri Lanka to promote cooperation between institutions, scientists, educators, faculty and students, both nationally and internationally. For more information about Biosphere Foundation's (BF's) efforts to preserve marine mammals, please contact Abigail Alling, [alling@pcrf.org](mailto:alling@pcrf.org)



Mir Departing Galle Harbor, Sri Lanka

## Trash Surveys in the Bay of Bengal

The *Mir* crew sailed across the Bay of Bengal and collaborated with 5 Gyres, a US organization dedicated to addressing plastics pollution, to conduct a survey for trash and micro-plastics. The Bay of Bengal is considered to harbor one of the largest trash gyres in the world, but had never been surveyed before. The results of this survey will be published in the coming year.

## Mir Voyage for Community Conservation and Dry-Dock in 2014

During the coming year, *Mir* will return to Bali to support our community conservation projects there and later undergo a dry-dock back in Singapore. We are very grateful to Francis Lee and all at Raffles Marina who continue to provide a home port for *Mir* – it is always a joy to come home! For more information on *Mir*, please contact Mark Van Thillo, [laser@pcrf.org](mailto:laser@pcrf.org)

## NW Bali Community Conservation Projects Grow With Friends of Menjangan!

In 2011, we co-founded *Friends of Menjangan* (FOM) with YDAS, an Indonesian charity that is part of the Sustainable Management Group (SMG), with the mission of building a community conservation movement in NW Bali to preserve and protect Menjangan Island's coral reefs and the bioregion of Bali Barat National Park (BBNP) – a treasure of biodiversity. Since then, we have established conservation projects in support of this mission and here are some highlights from 2013:

### Coral Reef Conservation Project



Mooring Buoy to Protect Coral Reefs from Anchor Damage

Results of our studies at Menjangan Island show that the coral reefs there are suffering most from anchor damage due to insufficient and poorly maintained moorings. We collaborated with Villa Flow, a Balinese community organization, to implement a coral reef protection program staffed entirely by local Balinese that have all been trained by Nono Suparno, FOM's General Manager. The team's activities include:

- Increasing and maintaining mooring buoys around Menjangan Island, so that reefs are not damaged by boat anchors.
- Removing crown of thorns that are increasing in numbers and destroying the reef.
- Collecting and removing trash from the reefs and beaches.
- Working to educate dive boat operators, fisherman, other local stakeholders and visitors about how to protect coral reefs.

### Sustainable Agriculture Project



Sally Silverstone & Farmers Install Drip Irrigation System

In collaboration with SMG, the Indonesian Institute of Science, and FOM, we initiated a project in 2012 with farmers in NW Bali to demonstrate water conserving and organic farming techniques in an effort to lengthen the growing season and increase agricultural production. By thus improving the economic conditions of the local community, the project aims to reduce poaching and encroachment on the biodiverse land and marine resources of the national park. Our approach involves working with local farmers to test and demonstrate low cost, practical and sustainable farming methods that can be easily replicated, such as a low cost, low-maintenance drip irrigation system we successfully tested with one farmer last year and shared at workshops with local Farmers Groups in Spring 2013. It was so popular, that over 30 farmers have now ordered the system and we expect this number to grow significantly during the coming year! Key additional accomplishments include:

- The introduction of new sustainable crops and trees for fodder and human consumption.
- The introduction of new cash crops such as virus-resistant tomato varieties.
- The testing of various organic pesticides such as neem oil which proved to be the most effective.

### Monsoon Forest Restoration Project



Measuring Trees Planted for Monsoon Forest Restoration

BBNP's coastal monsoon forest suffers from encroachment by people in search of carpentry woods, forage material, hunting and firewood. Damage from encroachment and fire has led to the growth of invasive species. This year we planted and tested five tree species for use in reforestation, four of which have so far survived in the wild without watering or clearing. In 2014 we will plant more trees to test the effectiveness of canopy shading as a way of eliminating invasive species without using harmful pesticides.

A special thanks to the Roy A. Hunt Foundation, Earthways Foundation and ERM Group for your generous support for our sustainable farming and reforestation efforts! For more information about BF's community conservation projects in NW Bali, please contact Sally Silverstone, [ssilverstone1@gmail.com](mailto:ssilverstone1@gmail.com)



Students Collect Data About Sustainable Sprays



Students Make Mooring Buoys To Protect Coral Reefs



Students Investigate Sources of Trash From Beach Cleanup

## A Great Success! Second Annual Biosphere Stewardship Educational Program

In June 2013 18 students from Bali, Sri Lanka, the Maldives, Java, the USA and Singapore embarked on an exciting journey in BBNP dedicated to learning about our biosphere and how to care for it. The students enjoyed a unique experience, combining cultural exchange, team-building, nature and wilderness exploration, a biospheric approach to stewardship, ecology and the challenges facing the region's biomes including: the rainforest, monsoon forest, coral reef, and mangrove forest. Sixteen students received full scholarships and we are so grateful for the generous support of all who made this possible: Ahmar Mohamed, Seven Springs Foundation, the Sustainable Management Group and Yves de Leeneer.

Stewardship was a centerpiece of the program, and the students worked together on many *Friends of Menjangan* community conservation projects including: beach cleanups, repairing and replacing mooring buoys to protect coral reefs, planting crops and collecting data for our sustainable agriculture program, as well as making cushions from recycled trash. At the end of the program all the students made commitments to share what they had learned and continue stewardship efforts in their communities upon their return home. To download a flier for the 2014 Biosphere Stewardship Program please visit <http://www.biospherefoundation.org/projects/BFStewardProg2014Flier.pdf>

### Biosphere Foundation Hosts First Students from China for Stewardship Program!



Chinese Students Help Farmers Install Drip Irrigation System & Plant Velvet Beans for Nitrogen Fixing in the Soil (Green Cropping) Photo Credit: Project Skillseed

In November 2013, we welcomed 22 students and teachers from The Affiliated High School of Peking University for a Biosphere Stewardship Program in BBNP. This was the first joint effort with the Singapore-based Project Skillseed, and we look forward to a long-term collaboration to make more and more programs available to students across Asia!

### Future Biosphere Stewardship Educational Programs - Expansion in 2014

Many schools, organizations and individuals are contacting us about creating new stewardship programs and we look forward to a very busy year of expansion in 2014! Given the extraordinary environment of the national park and our growing community conservation efforts in NW Bali, we are now poised to offer programs to people of all ages who are called to make a difference for our biosphere. We wish to express our gratitude to The Diana Fund and the Heitz Family Fund for their generous support of our Biosphere Stewardship Programs. For more information about BF's educational programs, please contact Cynthia Lazaroff, [cl@pcrf.org](mailto:cl@pcrf.org).

### What's New At Biosphere Foundation?



New Administrative Director Sandra Cline

This year we welcomed Sandra Cline as our new Administrative Director. She brings a wealth of experience in writing, communications, education, outreach and administration to our foundation and we are blessed that she has joined our team! If you haven't visited [biospherefoundation.org](http://biospherefoundation.org) in a while, you will be in for a surprise when you see our upgraded homepage, thanks to Janine Warner of [digitalfamily.com](http://digitalfamily.com). Please join us there and don't forget to like us on Facebook!



A Bull Sperm Whale off the Coast of Sri Lanka

### Make A Difference!

Help Us Steward the Biosphere for Future Generations!

You can help us steward the biosphere for future generations by making a tax-deductible contribution to Biosphere Foundation today! You can send your check in the enclosed envelope or donate online at [biospherefoundation.org](http://biospherefoundation.org). Your gift will make it possible for us to continue to expand our conservation and education initiatives and make an even greater difference for our biosphere!

Thank you again for your generous support!

To donate or for more information, please visit:



[biospherefoundation.org](http://biospherefoundation.org)

Care for our blue planet, it's ours to love

With our gratitude and very best wishes for the holidays and a peaceful New Year,  
**Abigail, Mark, Cynthia, Sally, Sandra and the crew of Mir**

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# A Whale Of A Time!

By Abigail Alling

It was a *whale of a time* in April when we found pygmy blue whales and sperm whales off the coast of Sri Lanka, and a whole lot of them too. The weather was in our favour and the seas were calm through the day and night. We hove-to in the evening, and woke in the morning to the sound of their breathing when whales surfaced near *Mir*. Wow! It does not get any better than this.



While enjoying the spectacle of seven or more pygmy blue whales that surrounded *Mir* with their gigantic spaceship-like appearance and 7 metre-high blows, we took turns at the helm collecting data or photographing their flukes (tails) to identify individuals. This information will provide baseline data to learn about their distribution and abundance.

Once we were sure we had photographed each pygmy blue whale in our vicinity, we turned our attention to sperm whales. Sperm whales, in comparison, look a bit crumpled and misshapened with their one blow hole situated on the side of their head. However, their appearance is deceiving and having spent weeks living with them offshore, they are the most loveable and engaging of whales.

After several days of following one group of about 30, our happiest moment arrived when a pod of eight females/ juveniles turned towards *Mir* and came alongside, nearly touching the hull as the sun was setting. Although it was a brief moment, we felt they had come to acknowledge our steady persistence in "hanging out" with them these past days. Somehow they knew we were leaving and thus came to bid us goodbye.

Just hours before this marvelous encounter we had seen the same pod interact with an enormous bull sperm whale.

striking and when he left "our" pod, we saw in the distance, his giant head rise out of the water. His white lower jaw opened and closed – a behaviour known as jaw-clapping. Few have ever seen this behaviour, and we're not sure of its meaning, but it is generally thought to be an aggressive communication.

This sighting suggests that this area is a mating ground as well as a calving ground (we had previously seen many calves). The sheer size of the bull whale was

Our time in Sri Lanka was fulfilling: We had not only secured a long-lasting collaboration and friendship with Captain Raja of *Raja & the Whales*, but also with the faculty and students of the University of Ruhuna. We look forward to working with them in the coming year at the newly formed Indian Ocean Marine Mammal Research Center to understand the distribution of these great whales vis a vis the heavily-trafficked shipping lane along the southern coast of Sri Lanka. On behalf of us all, we wish to thank the Ward Family and Kopcho Family Foundations, Swire Pacific Offshore and all our sponsors for your help in making this programme possible.

**Please follow our progress at [www.biospherefoundation.org](http://www.biospherefoundation.org)**

Recent article in Raffles Marina's magazine *Nautique* about our Marine Mammal Program in Sri Lanka