



LEMUR CONSERVATION
FOUNDATION



Lemur Conservation Foundation
2012 Annual Report

Photo by Tyann Marsh –
Claire, Collared brown lemur (*Eulemur collaris*)



LEMUR CONSERVATION FOUNDATION

*Dedicated to the preservation and
conservation of the primates of
Madagascar through captive breeding,
scientific research, and education.*

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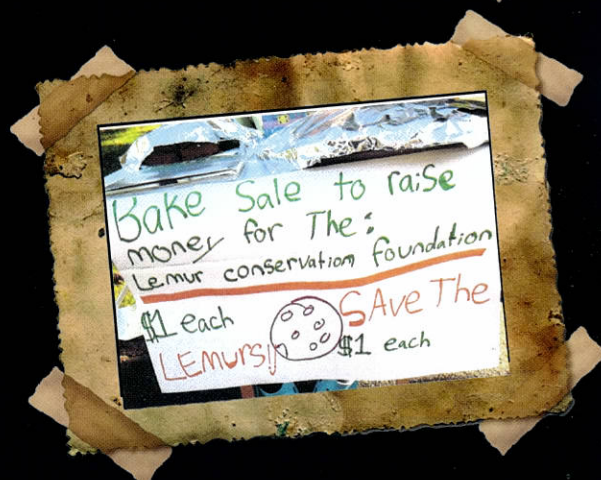
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Board Members	1
Scientific Advisory Committee	1
Executive Director's Letter	2
Conservation	3, 4, 5
Research	6
Lemur	7, 8
Education	9, 10
Art	11, 12
Landscape Architecture	12
Senior Capstone Project	
Geriatric Lemur Care	13, 14
Donors and Volunteers	14, 15
Statement of Financial Position	16
Lemur Legacy Memorials	17
Madagascar Fauna Group	18
Mission Statement	19
LCF Staff	19

lemur conservation foundation 2012 annual report

contents



Front cover photo credits: (photo 1) Lee Nesler; (photo 2) Roderic Mahaso, (photo 3) Phil Sirois; (photo 4) Tyann Marsh.

A letter from the Executive Director

Thank you for your generous support of LCF and your commitment to our mission and goals.

Our goal is nothing short of building better global citizens. As a partner with us you help LCF foster deeper appreciation of the natural world for students, young professionals, and communities in Madagascar where lemurs and the environment are severely threatened. Your support helps to connect people through art and science to nature, whose vast diversity is exquisitely expressed in the wilderness of Madagascar.

As part of this process LCF's conducted our third Strategic planning session workshop in April of 2012. Our consultant, Point Management Group, brought a fresh perspective and deep process, program management, and conservation experience to the discussion. Through their 'outside eyes' and facilitation process the complexity and details of our mission were expressed and refined. Staff and board members worked together in this session to understand how we can deepen our program focus, enable our mission to be appreciated by more like-minded individuals, and expand our conservation education programs for communities in the United States and Madagascar. While you read this report you will see how this effort and your continued support have a powerful impact on many aspects of conservation.

In a focused organization like ours there is a sense of connectedness between the staff and lemur collection. This unity and focus breathes vitality into our mission's programs and enables a dedicated and talented team to create an environment where animals thrive in naturalistic settings. We are agile, thoughtful, and equipped to see beyond today's needs to make decisions based on priorities for lemur conservation, education, and research, and to foster the role of art in conservation education for future generations. Because our mission is so dynamic our supporters and donors, like our staff, are connected to conservation of lemurs, the most endangered primate in the world, in a profound way.

Our audience is engaged and growing. Technology, the Internet, and social networking are important areas where our mission can be embraced and shared worldwide by

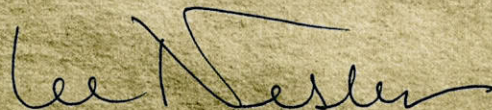
constituents of all ages and experience. We must be a part of this transformative era of technology. It is an efficient and immediate way to provide opportunities for like-minded people of all ages to participate with lemur conservation. By embracing technology we provide everyone an opportunity to make their own unique contribution to LCF.

Many young children are engaged with our vision and express it in unique ways. It is very exciting to receive a letter from a child who sold lemonade and cookies or art for the lemurs, or those who request their birthday gifts be donations to the Lemur Conservation Foundation. LCF provides special technology for these savvy young students to build their own web page at lcfkidz4lemurs.org. We give them an opportunity to express their interest in lemurs and share conservation messages with their family, friends and fellow students. The site also provides age appropriate conservation education links and is a tool for us to engage in this important dialogue with them.

Other, older, students make significant contributions to our organization as part of their education and as they seek to establish themselves as conservation professionals. I know that these students, who engage in conservation efforts today, will continue to care about lemurs, conservation and the environment as they mature. Their passion and dedication to serve the planet is fostered by their parents, siblings, friends, and organizations like ours. Together we are building better global citizens who steward the earth with an enhanced prospective and awareness.

This is why we ask you at this time to renew your support of the Lemur Conservation Foundation. Your contributions have a significant impact on lemur conservation, education, research, and the role of art and expression in science programs for our organization and the communities we touch.

Sincerely,



Lee Nesler
Executive Director and CEO

Conservation

Conservation at LCF involves participation with several AZA and professional zoological organizations such as the Prosimian Taxon Advisory Group (PROTAG) and as a Managing Member of the Madagascar Fauna Group, managing significant areas of environmentally sensitive land in Myakka City and forming conservation partnerships in Madagascar.

Summary In June 2012 the annual meeting of PROTAG was held at Duke University's Duke Lemur Center. The Prosimian Taxon Advisory Group oversees Species Survival Plans, breeding and husbandry programs that AZA members adhere to. LCF Executive Director & CEO Lee Nesler, Pattie Walsh, Director of Research and Operations, and Alison Hodge, Animal Care Manager attended the conference.

LCF has a recognized reputation in infant care and Mongoose lemur management as well as management of mixed species groups. Ms. Walsh and Ms. Hodge presented material on Parturition Management, Behavior Management, LCF research, applied research, and the role of research as lemur enrichment activities. Patricia Walsh, LCF Director of Research and Operations serves as secretary of PROTAG and Alison Grand, Ph.D., LCF Animal Care Manager manages the ring-tail studbook.

Lee Nesler, LCF Executive Director and CEO attended the 2012 annual conference of the Madagascar Fauna Group in Zurich. LCF is a Managing Member of the Madagascar Fauna Group (MFG). The 139 members of MFG are dedicated to the preservation and management of Madagascar's unique biodiversity.

In 2012 LCF was fortunate to receive several important pieces of equipment for land management and conservation that greatly improved our efficiency and effectiveness. Equipment donations included a Kubota tractor, bush hog, frontend loader, and Limbinator given by board president John Alexander and Emily Fisher Alexander. We thank Ken Wilson for his gift of a 52 inch Husqvarna mower and the generous gift of time as a volunteer. Ken's frequent mowing of the property each season is a valuable contribution to the reserve.

The rural south Florida climate and a colony of free-ranging lemurs mean environmental and habitat challenges must be anticipated and managed. As an Association of Zoos and Aquariums accredited related facility it is mandatory that we have safety



protocols outlining how our collection is protected in the event of natural disasters and emergency situations. The protocols are updated annually as we learn from each potential weather incident providing increased resources for an immediate response to most situations.

A crucial aspect of safety and emergency preparation is constant management of all natural areas on the reserve, including the wild forest habitats. The Myakka City Lemur Reserve contains more than 100 acres that include enclosed forest, wetlands, sheltered housing for lemurs that cannot free range, and administrative areas like the researchers' and staff housing. Each area requires different land and facilities management strategies, all carried out by LCF staff member Pete Shover.

Econsider this:

Place water collection vessels such as barrels or large buckets to collect rain water from down spouts and gutters. Use the water to water your plants.

Installation and Use of Habitat Domes

2012 was the first full year of use for our habitat domes. In 2011 and 2012 LCF installed three hurricane proof domes. Each structure can house two lemur family groups in the forest during these extreme weather events. The domes are caged structures on elevated platforms with secure indoor areas to protect lemurs from the elements.

Weather incidents like 2012's Tropical Storm Debbie and Hurricane Isaac, winter frosts, or extreme heat are examples of times when the domes are important. In addition to severe weather solutions the domes function as 'home base' where the lemurs are fed each day. They are also used for training sessions and sometimes to help contain or capture individual lemurs if they need to be transported to a veterinarian or moved to a different area of the reserve.

All the lemur groups know 'their' dome. They follow along when keepers enter the forest for feeding in the morning. During the summer lemurs often use the domes for extra shade and cooling when misting systems are installed. Despite Florida's wet habitat it is less humid than many areas of Madagascar, especially the areas where two species of lemurs LCF holds are endemic. We are still making improvements that will 'winterize' and 'summerize' the domes during climatic extremes.

Animal Management staff has noticed lemurs occasionally visit each other's domes. With further research and observation we might learn more about lemur groups and socialization in our forest habitats.

Evidence of Logging and Deforestation in Tampolo

During her stay in Tampolo it was reported to Ms. Nesler that a member of the Tampolo Forest Station staff poisoned a colleague who was both a long term employee in the forestry department and a highly regarded member of the community. The suspected motive was involvement with illegal logging in the forest. Two staff members, including the man who died as a result of the poisoning, were aggressively pursuing illegal loggers. Both of them were targets because of their efforts. The second man relocated to a different city and remains active in the Madagascar conservation education community.

Balancing human need and forest management is difficult in the best of circumstances. In Tampolo legal harvesting of timber occurs for purposes ranging from local people's need for cooking fuel to corporate



exploitation of timber resources. The greatest damage in the forests occurs because of slash and burn agricultural practices and illegal logging.

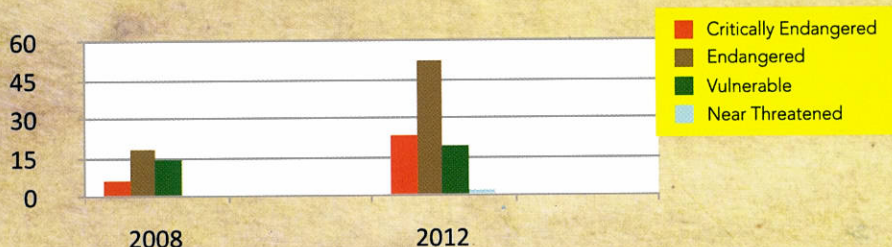
Illegal logging remains the major concern for the lemurs and the habitat. This critical issue now involves all the lumber in the forest, not just the precious hard woods such as Rosewood and Ebony. The wood not considered as a precious hardwood is being exported to China for paper. An illegal logging ring or 'wood mafia' is active in Madagascar. They operate by contracting villagers who then recruit loggers. The loggers cut trees in the forest and hide them in huts in remote locations until they can be exported. During the period when these large scale logging operations are in place deep in the forests the loggers will eat bush meat, including lemurs, while they hurry to cut and plank the tress undetected from security patrolling.

Tampolo Forest Station encompasses littoral forests or rain forests in close proximity to the sea. During her three month residence in the summer of 2012, each day LCF team member Deborah Ross walked from Tampolo to the sea shore filming significant deforestation and environmental degradation. In some areas deforestation was so severe that moss ground cover on the forest floor was killed by exposure to the sun. She photographed the stumps of felled old growth trees, individuals carrying wood out of the forest, and loggers carrying downed trees along the beach. She also observed and documented large canoes carved from old growth trees within five kilometers of the Tampolo Forest Station.

Conservation

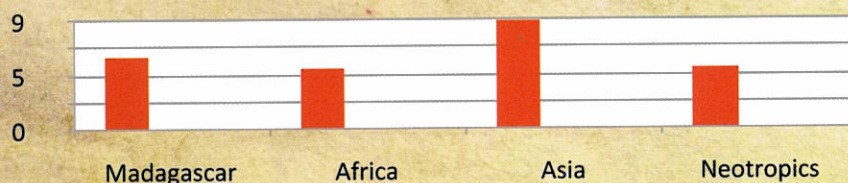
IUCN Conservation Status Report for Lemurs

In 2012 leading conservationists and researchers, including LCF Scientific Advisory Council member Dr. Erik Patel, met in Madagascar to re-assess the IUCN (International Union for the Conservation of Nature) 'red list' for each species of lemur. The 'IUCN Red List of Threatened Species' reflects the conservation status of fragile flora and fauna around the world. The 2012 assessment documented 91% of the world's lemur species as 'Critically Endangered,' 'Endangered,' or 'Vulnerable.' According to Dr. Russell Mittermeier, President of Conservation International and Chairperson of the IUCN Primate Specialist Group, lemurs are the most threatened primate on earth. (Learn more here: discover.iucnredlist.org)



Until 2009 Madagascar made important strides toward protecting the country's legendary biodiversity. Under President Ravalomanana's leadership (2002-2009) several progressive conservation policies were developed and put into practice. His government designated 10% of Madagascar's land as protected parks and established eco-tourism initiatives. In 2009, a military coup ousted President Ravalomanana. Since the coup political instability has resulted in a dramatic increase in deforestation and poaching.

Because the 2008 IUCN red list assessments of lemurs occurred prior to the political coup and the increase in illegal logging and poaching it was considered urgent to reevaluate the conservation status of the 103 lemur species. Today Dr. Mittermeier notes that Madagascar has the most endangered primates of any single country in the world. It is at the head of charts usually measured in terms of continents or global regions.



Lemurs included on the list of the World's 25 Most Endangered Primates are *Microcebus berthae* (Madame Berthe's mouse lemur), *Eulemur flavifrons* (Sclater's black lemur), *Lepilemur septentrionalis* (Northern sportive lemur), *Propithecus candidus* (Silky sifaka), *Indri indri* (Indri), and *Varecia rubra* or the Red ruffed lemur.

LCF holds four male and one female red ruffed lemur in our collection. The Red Ruffed Lemur is included among the top 25 endangered primates in the world because of its small distribution range that is under severe threats of hunting and habitat loss.



Research



Summary

The lemur colony at LCF provides a unique opportunity for field research that contributes to our understanding of lemurs. Greater understanding of our lemurs' behavior, their needs, and how they learn and function will help us sustain viable colonies for the future, which hopefully includes wild colonies in Madagascar.

Precision Behavior Seminar at the Myakka City Lemur Reserve

Professional animal training consultants Thad Lacinak and Angie Millwood of Precision Behavior made a presentation to LCF staff in September of 2012. Mr. Lacinak and Ms. Millwood founded Precision Behavior following their careers as leaders in animal training with some of the most respected animal organizations in the world.

Precision Behavior's methods rely on positive reinforcement in the care and enrichment of animals' lives. Improvements in our animal training protocols increase the effectiveness of enrichment programs for our lemurs. Enrichment is a significant issue in the quality of life for captive animals. Developing a strategy that incorporates training and research projects as part of a comprehensive enrichment program for our colony improves their quality of life by helping to relieve boredom and stress. This in turn increases their opportunity for success in things like breeding, free-ranging skills, and compatibility among members of troops and family groups.

SAS—Statistical Analysis System software – Dr. Gordon Bauer, New College of Florida

Dr. Bauer generously donated SAS, Statistical Analysis System, software to LCF. Dr. Bauer is a long-time supporter of LCF and serves on our IACUC (Institutional Animal Care and Use Committee). Dr. Bauer understands the importance of a strong research program at LCF and the impact of the SAS tools. Software programs such as SAS are expensive but can take research programs to the next professional level. It is often difficult to publish data without the use of statistics. This program allows us to enter and analyze raw data.

Some of SAS's data analysis tools are designed to allow researchers to generalize findings to similar populations. Because LCF's mission is to increase knowledge about lemur populations around the world, data that is collected here can be used to increase our understanding of other lemur populations. We can also utilize SAS for husbandry projects. Software programs like the Statistical Analysis System program are critical to our mission. It is vital to monitor and analyze the behavior and health of our animals.



Aerial photograph of the reserve



Common brown lemur
(*Eulemur fulvus*)

Lemurs

In 2012 the LCF colony included six species of lemurs: red ruffed lemurs (*Varecia rubra*), ring-tailed lemurs (*Lemur catta*), mongoose lemurs (*Eulemur mongoz*), collared lemurs (*Eulemur collaris*), common brown lemurs (*Eulemur fulvus*), and Sanford's brown lemurs (*Eulemur sanfordi*), totaling 41 individuals.

Summary

Conservation status of the species LCF holds and breeds varies from near threatened to endangered. The IUNC Red List ranks Ring-tailed lemurs and common brown lemurs as near threatened. Collared lemurs and mongoose lemurs are listed as vulnerable. Red ruffed lemurs and Sanford's brown lemurs are endangered.

During 2012, we managed several challenges including the transfer of lemurs from other facilities, introducing lemurs to free-ranging forest habitat for the first time, enclosure and forest births, and a medical issue.

Transfers from Participating AZA Facilities

Three lemurs were transferred from other facilities, an adult female red ruffed lemur and a breeding pair of collared lemurs. Upon arrival at LCF the animals were placed in mandatory medical quarantine until acclimating to the weather, appropriately bonding within a social group, and receiving medical release from a veterinarian.

As part of the Species Survival Plan (SSP) for red ruffed lemurs an adult red-ruffed lemur (*Varecia rubra*) arrived at LCF from the Gladys Porter Zoo in Brownsville in the winter of 2012. Ravina, which means wind in Malagasy, was paired to breed with Tsikey. Tsikey has bred successfully at LCF. He produced a group of triplet boys that still live with their natal group in one of our free range forest reserves.

Lucy and Jacques were transferred to LCF on 22 October from the Cleveland Metroparks Zoo as part of the 2012 Collared Lemur (*Eulemur collaris*) Species Survival Plan. Lucy and Jacques had not bred

successfully in Cleveland. The SSP recommended moving them to LCF with the goal that, in the unique habitats and environment at LCF, she would be able to conceive. Lucy will be housed with her sister Claire. Claire has bred successfully at LCF. With this strategy it is hoped Lucy will learn the necessary maternal behaviors to become a successful mother, if she is able to have offspring.

Births

Four breeding pairs produced offspring in 2012: two mongoose pairs, and a collared brown pair and a ring-tailed pair.

On April 24th, Remy, a collared brown lemur (*Eulemur collaris*) was born to Claire and Antoine. The family group includes an older brother, Olivier. Monte, a mongoose lemur, (*Eulemur mongoz*) was born on 20 April to Estella and Merced. A ring-tailed (*Lemur catta*) pair, Ansell and Sam, produced Killian on 20 March 2012. The family group includes an older brother, Harp. Killian was born in the 9-acre forest and free-ranged with his family group from birth.

Monte and Killian died of a gastro intestinal syndrome which is being studied by LCF staff and the University of Florida Gainesville Veterinary Hospital. The disease appears to effect animals during times of stress such as weaning from their mother.

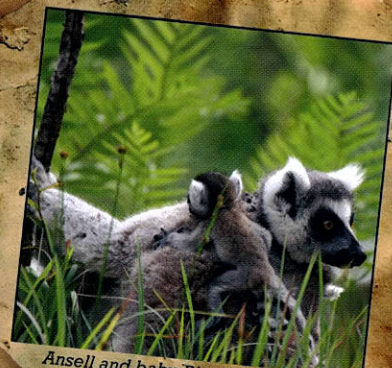
On March 25th, Kikeli and Felix, a mongoose pair, (*Eulemur mongoz*) produced an infant that was stillborn. Through necropsy it was determined that the infant never took a breath. Still born infants are not uncommon for animals that are having their first offspring.



Ravina, Red ruffed lemur (*Varecia rubra*)



Claire and Remy, Collared brown lemur (*Eulemur collaris*)



Ansell and baby, Ring-tailed lemur (*Lemur catta*)

Information

on Necrotizing Typhlitis Syndrome

In 2012 a medical condition was identified in the LCF collection of lemurs. The condition degrades the gastro intestinal track resulting in the need for emergent supportive care and in some cases mortality. This condition has also been identified among lemur collections in another facility. To learn about this disease we have assembled the best lemur zoological veterinarians and recommended treatment and management protocols. Initial steps taken to study NTS include canvassing other zoological facilities for data about cases resembling this condition and determining how widespread this illness is among lemurs in the United States.

This intestinal condition, which affected the LCF collection in 2012, was identified in animals with weakened immune states due to social demands or age. For example, weaning is a difficult time for all animals. The social changes in the family simultaneously affect both the baby and the mother. In one family of Mongoose lemurs affected by the condition only the adult male survived. He is now paired with another female to provide companionship and a normal social structure while he recuperates indoors.

The University of Florida, Gainesville is LCF's emergency veterinary medical center. Their team of specialists is available around the clock to provide excellent care, and state of the art technology and diagnostics. During this disease outbreak we documented symptoms which in turn produced a case description of the condition. Tissue samples were preserved and banked for further study once a causative agent or agents is determined. LCF benefits greatly from proximity to the University of Florida Gainesville's facility including their distinguished faculty and a critical care ward for primates. Collaborating with them and our consulting veterinarians throughout this process has helped create a differential diagnosis and treatment plan for NTS that will aid all facilities managing lemur collections.

As a facility that is based in Science it is important to learn as much from each lemur as possible. Therefore a complete necropsy (an autopsy for animals) is completed for each animal that dies. Since so little is known about lemurs in the wild and there are still so many questions about lemurs in captivity this histological or cellular information is crucial to answering questions and learning about these threatened and endangered species.



Photo by C. Homan - Red ruffed lemur
(*Varecia rubra*)



Photo by Phil Sirois - Mongoose Lemur
(*Eulemur mongoz*)

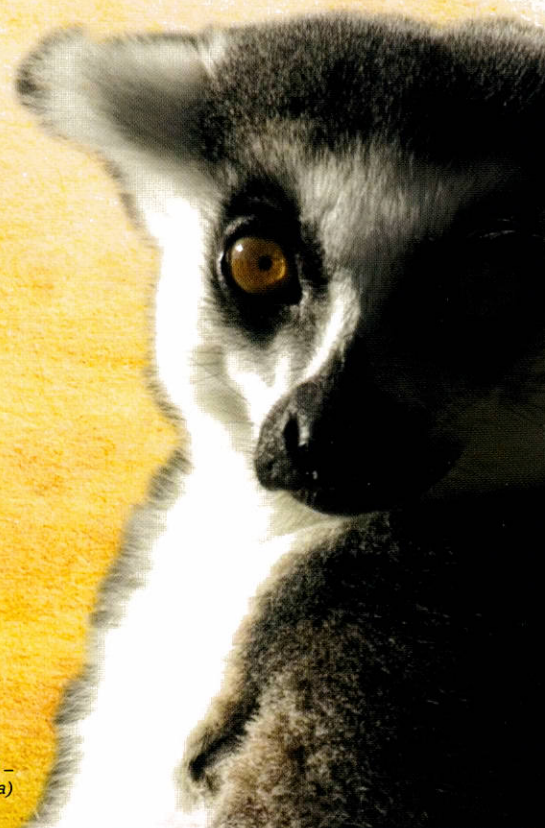
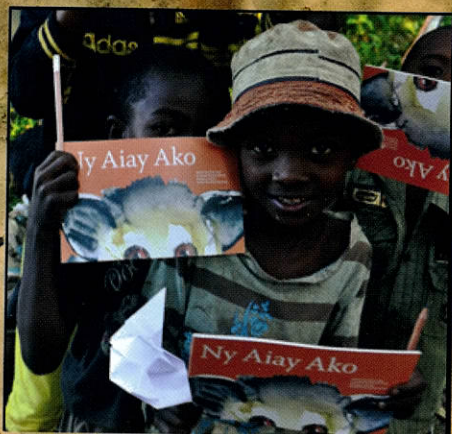


Photo by Gene Hafford -
Ring-tailed lemur (*Lemur catta*)

Education

LCF is committed to training future generations about the threats to endangered species and the importance of conservation. As part of this commitment to education LCF offers programs such as the annual Teachers' Institute for Conservation Biology for high school teachers and year-round distance education courses designed for K-12 students.



Malagasy children enjoying their Ako books

The Ako Series: Madagascar Lemur Adventures

LCF welcomed the entire international AKO team including author Dr. Alison Jolly to Myakka City for discussions about next steps in this project. An important point of the meeting was to discuss how the Ako Project could grow in the future into a book series in other languages and formats to expand our educational efforts.

In the autumn of 2012 English language books became available for the first time. The Ako Project posters, originally created in the UK to supplement the Teachers' Guides, are also now available. The posters will be used as an integral part of the teacher manual and the teachers institute for conservation ecology. The posters supplement the Ako Project experience for teachers by helping them engage their students. The posters immerse them in the Madagascar rainforest and dry spiny forests, allowing them to fully appreciate the ecosystems that the lemurs and villagers inhabit.

LCF is committed to distributing eight hundred free six book sets to schools, libraries, and to families with students who have learning or financial challenges.

Madagascar Paints its World

Discussions started on the traveling exhibit 'Madagascar Paints its World.' Seeing the diversity and beauty of 'The Red Island' through the children and villagers' eyes is a source of inspiration. Dr. Jolly arranged a meeting with Dr. Hanta Rasamimanana, Deborah Ross, and Lee Nesler in Madagascar to ensure accurate scientific content for the traveling exhibit. Dr. Hanta Rasamimanana noted that the exhibit could easily become a book which identified local plants and animals for the Malagasy. The native folklore will be captured and medicinal properties of the plants could be explained. A book that is by the Malagasy for the Malagasy would be a wonderful reference for them, tying again to the plan of implementing tablets and other technology that will enable expression, encourage education, and empower conservation in Malagasy communities.



AKO Series Illustrations
by Deborah Ross

Research Methods: Field Training Program

Field Methods courses are conducted each year at the LCF Myakka City Lemur Reserve by Dr. Linda Taylor and the University of Miami and Dr. Natalie Vasey and Portland State University. Dr. Taylor's field training program is open to University of Miami students. Dr. Vasey's field training course is open enrollment. Students are welcome to apply from any college or university.

Each field course engages eight to ten students in a week long program teaching fundamentals of field research like identifying families and individuals, making ethogram, focal animal, scan, and check list sampling. They help manage captive and foraging diets, locate sleeping trees, and participate in physical exams that include weights, finger prints, and veterinary care. Success is measured for participating students through admission to graduate programs in disciplines from anthropology, medicine, global health, veterinary medicine, and creative arts, to outside academic work like field research, employment, and giving back.

The following examples are a few of the Field Training Program school graduates and their accomplishments:

Alex Porpora, environmental humanities, **Ariel Owens**, Skywalker Ranch, **Stephanie Fetzko**, MD/PhD, **Nick Schaad**, Medishare in Haiti, **Britt Singeltary**, U of A Lemur Research, **Elan Portner**, PhD Stanford, **Andrea Baden**, PhD Stonybrook.

In addition to their personal accomplishments participants in the LCF Field Training Program produce original research that helps advance our knowledge of lemurs, and particularly lemurs in a free ranging environment.

Here is an example of some research that interns conducted at the reserve in 2012:

Inferential Reasoning in Lemurs using Visual and Auditory Cues – Christine Hammerschmidt

Ms. Christine Hammerschmidt worked on this inferential reasoning project at LCF. The project developed from the need to understand if prosimians and lemurs have at least basic inferential reasoning abilities, which may be important to primates. Several studies focused on inferential reasoning in great apes and other large primates but none had been conducted with prosimians.

Mongoose Parenting – Alison Zak

Ms. Zak's project is intended to increase understanding of mongoose lemur infant development and parental care. No prior research has focused on these aspects of this species' life history. To accomplish her research goal Ms. Zak used basic behavioral data to develop an activity budget and explored the extent to which mongoose lemur males are involved in the care of their infants compared with females.

Ms. Zak prepared this paper for submission publication in Zoo Biology and for a presentation at the American Association of Physical Anthropologists annual conference in 2012.

Inhibition of object retrieval when faced with a transparent barrier by prosimians – Caitlin Homan

This study was designed by Ms. Homan to determine if prosimians have difficulty inhibiting their response to reach directly for a food item with a transparent barrier blocking their path. There are times when a lemur needs to be crated, for example moving from one forest or enclosure to another, for transport to another facility or for medical care. If lemurs are more likely to enter a crate with a transparent barrier it would reduce stress during these events.

In memory: We would like to remember Ms. Homan and her contribution to LCF as an intern and researcher. Ms. Homan was killed in an auto accident in England during the spring of 2013 where she was pursuing a graduate degree.

Varecia rubra (red ruffed lemur) Vocalization – Daphne Hudson

Daphne Hudson, a student at New College of Florida, worked in the LCF forests with the free-ranging red ruffed lemurs from May to June of 2012. Ms. Hudson's thesis for her bachelor's degree involved creating a vocal repertoire for V. rubra. To complete her project Ms. Hudson spent several weeks in the forest recording vocalizations and correlating them to individuals and behaviors.



Deborah Ross, a renowned artist and educator, was in residence at the Tampolo Forest Station researchers' house from June through August 2012 to organize and run a series of watercolor workshops with the children of "A" village, the community closest to the station.

Deborah Ross's Watercolor Workshops at the Tampolo Forest Station

The purpose of these art and conservation education workshops is to create a traveling museum exhibition around village children's paintings and photo documentation of this art and conservation education initiative.

LCF Executive Director and CEO Lee Nesler joined Ms. Ross in Tampolo for the sessions: 'I learned how to paint side by side with the children. This was a unique experience to learn from their point of view and appreciate the positive impact of this program on individuals and the community.'

Ms. Ross was previously in residence at Tampolo Forest Station in 2005, before the 2009 presidential coup and the resulting political instability eroded Madagascar's environmental and social accomplishments. In 2005, Ms. Ross directed an art program with goals similar to the 2012 project. During her 2012 visit she reported significant disrepair in the series of bridges on the main forest throughway that might be a result of decreased staffing, among other issues. Between 2005 and 2008 the station staff was reduced from an eight person team to a four person team. By 2012, the bridges had deteriorated and crossing was hazardous.

Art Workshops for Local Children and Visitors from Ivolina Nature Park

Ms. Ross used the Centre EnviroKidz Tampolo Classroom for painting classes with children from the local Tampolo area villages and for workshops with children from UNICEF's Saturday school. The UNICEF Saturday School program is run by the staff of the Ivoloina Nature Park. Ivoloina is about 2 hours from the Tampolo reserve. With funding from UNICEF the Ivoloina team brought two groups of 30 students to stay at the Tampolo Tranasoa guest house where they could utilize the Centre EnviroKidz Tampolo Classroom for large art workshops. The program was a huge success. It is hoped that Ms. Ross can return and continue the program for more of the Saturday school students during the academic term in Madagascar.

Because of rice harvesting season villagers of all ages, including primary school ages, were in the fields working for miniscule wages. Madagascar is one of the 4 poorest countries in the world and the opportunity to earn a wage was a real necessity for her potential workshop attendees. To help provide an opportunity to

earn income as well as learn we decided to feed and compensate children and adults who participated in the classes.

With this compensation package in place we were able to engage local residents, children and adults, in the classes. The children were able to engage with the course program once they were reassured about not losing the income from the rice harvest that is crucial for families' survival.

This was successful for this small group. Some of the children were continuing on from classes she provided to them in 2005. Ms. Ross was able to help participants focus and improve their skills. A new goal of the traveling exhibit is establishing an income stream from the sale of students' work. This income will help families and assist individual artists in their pursuit of higher education.

During the program Ms. Ross discovered that the children had no paper for writing or drawing. They were removing paper labels from cans to draw on the plain backs so they could show her their work. Ms. Ross purchased note books at the nearest market. She gave them to her students so they can be creative and continue to explore the forest's flora and fauna through art.



**EnviroKidz
ORGANIC**



Art

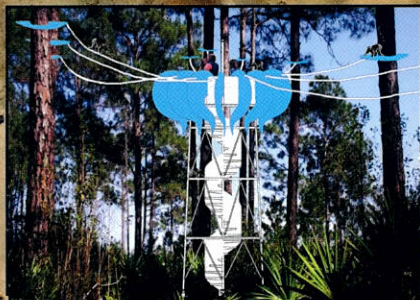
The Natalee Lee Quay Lemur Lotus Tower

The "Natalee Lee Quay Lemur Lotus Tower" is LCF's third collaboration with Ringling College of Art and Design (RCAD) and by far the most ambitious. It was designed by RCAD teachers Michael Wyshock and Mark Anderson following consultation with reserve staff and Dr. Natalie Vasey, an LCF scientist who works extensively on platforms in the canopy to study red ruffed lemurs in Madagascar.

The Ringling team chose to design the observation platform as a blue lotus. The flower is symbolic because it grows into the light from the mucky, murky miasma – a hopeful sign for the lemurs who struggle for survival in times of unprecedented destruction of their ancestral home in Madagascar.

The objective is to create a piece of art that will benefit the lemurs and staff while serving as a great project for RCAD students. Ringling students are expected to serve the community and/or the environment. What better way than through creating an art piece that serves endangered primates!

This participatory sculpture will be constructed, with all appropriate permits and under the supervision of a professional contractor and welders, in LCF's Toomey Woods. The Tower epitomizes LCF's art-science-conservation concept in its twofold use: the tower will enrich the lives of the lemurs as they use the aerial highways branching from the platform to the trees, and it will provide scientists and researchers the opportunity to study lemur behavior from the tree canopy where the animals live. Besides its utilitarian assets, its novelty, creativity, and virtuosity create a compelling work of art on the lemur reserve.



University of Florida Landscape Architecture Senior Capstone Project

'I'm a 5th year Landscape Architecture major at the University of Florida with minors in Environmental Horticulture and Wildlife Ecology and Conservation. The curriculum for the Landscape Architecture department requires 5th year seniors to complete a Senior Capstone project. The scope and scale of the project is ultimately of our choosing, but should demonstrate comprehension of the degree's curriculum. I have chosen to do my capstone project at the Lemur Conservation Foundation's Myakka City Lemur Reserve. The MCLR has been very gracious in allowing me to use the reserve as the subject of my capstone project and it has been an awesome opportunity. With the reserve's blessings, I started researching and analyzing the 100 acre site to better understand what I could do, not only as a school project, but to help the reserve with design ideas for future development. I drew upon resources such as interviews with Lee Nesler and Pattie Walsh, GIS, Google Earth, on-site analysis, as well as reading through publications from various scientific journals to learn about the existing conditions of the site and its most important users: lemurs!'

Jabari Taylor

*You can read more about
Jabari's project on our blog.*



Jabari Taylor – oak hammock



Jabari Taylor – Toomey Woods

Geriatric Lemur Care

LCF houses only lemurs and holds over 40 of them in all stages of life. We witness the full circle of life in our community of animals. Captivity adds years to a lemur's life compared to life expectancy in the wild. As a result we can document the lemur aging process. LCF is a leader in lemur studies and takes pride in providing optimal care as our population becomes elderly. An aging lemur needs more support to be comfortable. The reserve was designed to engage lemurs at all stages of life. We provide comprehensive space and care which allows our animal care team to make changes quickly, efficiently meeting the animals' social and physical needs as they fluctuate over time.

In the wild diseases of age like arthritis and joint issues would slow an animal to a point where they become easy targets for predators, including humans. In captivity older lemurs do not have the ability to climb through the entire forest. This means they cannot locate the coolest or the warmest spots to maintain their health and comfort. They may also have difficulty maneuvering away from local native aerial predators.

At LCF older animals are moved to a covered enclosure. This provides options for climate control and a safe, comfortable environment. It also allows staff to efficiently monitor medical conditions and behavior changes, administer medication, and address socialization needs.

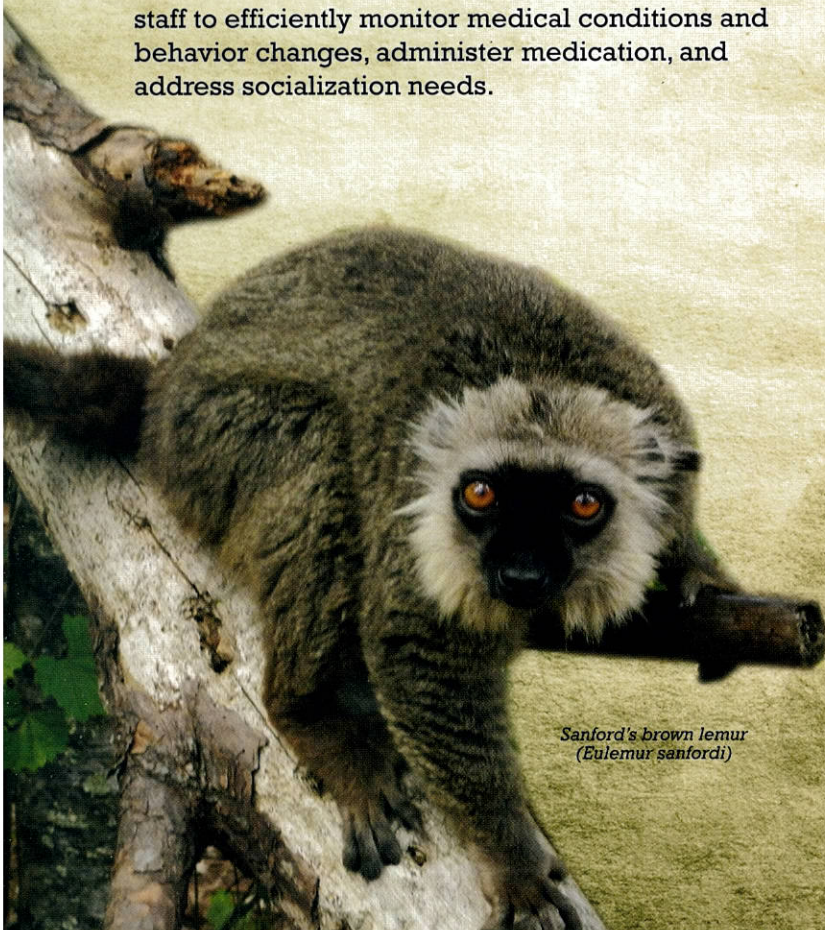
Spotlight on the Colony: Sanford's Brown Lemurs

In 2012 four Sanford's lemurs remained in captivity in the United States including one female housed at the Duke Lemur Center. LCF held the remaining three animals, two male and one female. In 2008 the IUCN Red List categorized Sanford's as endangered due to a more rapid decrease in population as originally thought. Like other lemurs, the main threats to their survival are habitat loss due to mining and logging, poaching, and the pet trade. Sanford's Brown Lemurs are now among the rarest of all brown lemurs.

In the year 2000 Sanford lemurs were considered to have a vulnerable conservation status. Since only 22 Sanford's were brought to the US and five hundred individuals are necessary for a genetically viable breeding program there was never a large gene pool or captive population for an aggressive breeding program. In 2013 two Sanford's brown lemurs survive in the United States, a male at LCF and a female housed at Duke Lemur Center. The female is most likely past her reproductive window. Even if the two were paired and successfully bred there would be no genetically viable mating options for their offspring.

In 2012 all of LCF's Sanford's lemurs, Bao, Ikoto and Fred, were in their middle twenties. They free range at LCF until it is medically necessary to bring them inside. In the indoor habitats keepers can easily observe changes in lemur health and behavior. Our geriatric lemurs are provided with padded blankets, lower and wider branches to balance on and even window sill seats for their comfort and enrichment. They receive a special diet of specially formulated primate chow, juicy fruits such as grapes and mango, and vegetables like sweet potato. These ingredients are mixed together in a balanced meal that is nutritious and suitable for their teeth.

The fate of this lemur species will most likely be determined by the future of its forest habitat. Habitat for the rare Sanford's lemur is restricted to the very far northern tip of Madagascar. Populations are concentrated in several forests in Analamerana and Montagne d'Ambre, with a small population just south in the Daraina region. Their habitat must be preserved if the survival of this species is to be safeguarded.



Sanford's brown lemur
(*Eulemur sanfordi*)

Sanford's Brown Lemur facts:

Sanford's brown lemurs are a sexually dimorphic species, with the males having prominent off-white ear tufts and beard, whereas the females lack these features and have a gray-brown dorsal coat. Like many other brown lemurs, the infants ride ventrally on the mother until about one month of age, at which time they switch to riding on her back. They are considered to be cathemeral, which means that they are active sporadically and have random intervals of activity during the day or night in which they acquire food and socialize. The Sanford's brown lemur is reported to associate with the crowned lemur during the wet season, a time of greater food availability.



Photo by C. Homan - Sanford's brown lemur (*Eulemur sanfordi*)

Volunteers

A very special thanks to our 2012 Volunteers and Interns

Katie Anest
Kris Becker
Stan Chappell
Eckerd College students
Kelly Ejnes
Grace Enlow
Cathy Flanagan
Ann Foster
Florida Gulf Coast University students
Joan Gavin
Cait Homan
Melissa Kojic
Jennifer LaFontaine
Sam Minnigan
John Mogilewsky
Monica Mogilewsky
Jan Munsell
Kelly Nutt
Pete O'Neil
Racheal Pipitone
New College of Florida students
Portland State University Students
Luke Santore
Phil Sioris
Society for Conservation Biology
Gainesville FL (UF)
University of Miami students
University of South Florida, pre-vet club students
Phil Whitman
Ken Wilson
Vicki Wilson
Patricia Woodruff
Alison Zak
Tristan Zimmerman



Photo by Nicole Begley - Mongoose lemur (*Eulemur mongoz*)



Photo by Phil Sirois - Red ruffed lemur (*Varecia rubra*)



Photo by Jan Munsell - Rubra hands

Donor Honor & Memorial Gifts

Charles Callison - \$100 in honor of Elwyn Metcalfe

Dina LaReau and Peter Fanning - \$300 in honor of Ann Bladstrom

Louise King - \$100 in honor of Ann Bladstrom

James & Laura Winefordner - \$100 In memory of Dr. Sharon Brown Hiatt

Heather Wright Ojha - \$50 In honor of Dr. Howard Rosner, DVM

William and Patricia Grossi - \$150 in honor of Dr. Brian Grossi, DVM

Jeremy Walden - \$20 in honor of Aria Leontardis

Anna Mae Sokusky - \$200 in honor of Dan Smart

Lee Nesler - \$100 in honor of Jonas Marry

Donor Acknowledgements

Listed below are contributions received between January 1 & December 31, 2012. We apologize for any omissions or errors and request that you please inform us of any oversights.

\$100,000+

John & Emily Alexander

\$20,000+

Emily Fisher
Natures' Path Foods, Inc.
Judy Rasmuson
Stewart Foundation

\$10,000+

Walter & Anne Bladstrom

\$5,000+

Mack Goode & Penelope Bodry-Sanders
Gail Erickson
Charlotte Lovejoy
OneFamily Foundation
Brenda Wood

\$1,000+

Hermine Aborn
Virginia Cunningham
Mary Ellen Johansen
Jean Martin
Phelan Family Foundation, Inc.
Judith Rubin
Thrivent Financial for Lutherans
Joanna Trygstad
Kenneth & Vicki Wilson
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\$500+

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Allan Wagner

\$300+

Vicki Bennett
Peter & Judy Carlin
Dina LaReau
Joseph Losos
Laura Melaragno-Hankins
Michael Nagel
Lee Nesler

\$200+

Benchmark Enviroanalytical, cin.
Charles & Jane Boyer
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Emporia Friends of the Zoo, Inc.
Dianne Engleke
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Network for Good
William & Elizabeth Pedersen
John Phelan
Mark & Monika Riely
Diana Shih & Benoit Jadoul
Anna Sokusky
Russ & Sharon Stephens
The Boeing Company
Laila Williamson

\$100+

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Joseph and Anne Santore
Hisako Temple-Betz
Carol Tucher
George Wilson
James & Laura Winefordner
Larry & Daneen Zetwoch



LEMUR CONSERVATION
FOUNDATION

Statement of Financial Position

December 31, 2012

	Unrestricted	Temporarily Restricted	Total
Assets			
Cash and cash equivalents	\$ 11,048	\$ 174,333	\$ 185,381
Investments	2,734,048	100,000	2,834,048
Inventory	1,500		1,500
Accrued interest receivable	18,905		18,905
Prepaid expenses	8,505		8,505
Property, plant and equipment, net	1,796,064		1,796,064
Collections	31,650		31,650
TOTAL ASSETS	\$ 4,601,720	\$ 274,333	\$ 4,876,053
LIABILITIES			
Accounts payable	\$ 7,463	\$	\$ 7,463
Accrued expenses	7,941		7,941
TOTAL LIABILITIES	15,404		15,404
NET ASSETS Unrestricted			
– operating	1,852,268		1,852,268
Unrestricted - board designated	2,734,048		2,734,048
TOTAL UNRESTRICTED NET ASSETS	4,586,316		4,586,316
TEMPORARILY RESTRICTED NET ASSETS		274,333	274,333
TOTAL NET ASSETS	4,586,316	274,333	4,860,649
TOTAL LIABILITIES AND NET ASSETS	\$ 4,601,720	\$ 274,333	\$ 4,876,053
Revenue			
Contributions	\$ 730,661	\$ 125,350	\$ 856,011
Operations	7,247		7,247
Unrealized and realized gain on investment	110,431		110,431
Interest and dividends, net	137,438		137,438
Released from restriction	63,274	(63,274)	
Total revenues	1,049,051	62,076	1,111,127
Expenses			
Program services	393,597		393,597
Management and general	168,185		168,185
Fundraising	56,670		56,670
Total expenses	618,452		618,452
CHANGE IN NET ASSETS	430,599	62,076	492,675
NET ASSETS AT BEGINNING OF YEAR	4,155,717	212,257	4,367,974
NET ASSETS AT END OF YEAR	\$ 4,586,316	\$ 274,333	\$ 4,860,649

Lemur Legacy

For more information on the Lemur Legacy League, please contact Lee Nesler, (941) 322-8494.

Natalee Lee Quay (1923-2012)



LCF recently lost a great friend in Natalee Lee Quay. Natalee was a donor from LCF's inception and a member of the Lemur Legacy League, bequeathing the Foundation over \$600,000.

Natalee and I met on a trip to the British Isles in 1992 and she traveled to Madagascar with Ian Tattersall the next year. Like Ian, she came to appreciate the importance and value of living lemurs initially through the study of geology and fossils. Natalee was forever a fervent admirer of Ian's research and writing.

She was brilliant and modest. A graduate of Northwestern University and member of both Phi Beta Kappa and Sigma Xi honor societies, she explored a scientific career in geology, a field not well known for its inclusion of women in her time. As a graduate teaching assistant at Northwestern, she discovered that she loved teaching more than field work motivating her to switch careers. She taught geology and French in high school. Two decades later, she earned a Masters Degree of Arts from Illinois State University.

Natalee's curiosity and keen scientific mind led her to appreciate the work of LCF – especially in education. A few years ago, she funded one of the Teachers Institute for Conservation Ecology programs.

A wonderful friend, Natalee and I stayed in close touch and I grew to cherish her personally. Her love of stamps, classical music and art, her devotion to the Chicago Cubs, and her quirky sense of humor were among her endearing attributes. Because she was particularly interested in LCF's art/science/conservation imperative (using art to promote conservation) she often called to discuss articles or art pieces that engendered this creative concept. Given her interest, the Lemur Lotus Tower will be named in Natalee's honor. Her legacy gift is a monument to her profound presence at the lemur reserve and will resonate throughout LCF's future.

Charlotte Seymour Lovejoy (1941-2013)



Charlotte Seymour Lovejoy – better known as Mopsy – served on Lemur Conservation Foundation's Board for seven years. She brought vision, clarity, and wisdom to her board work. A bright light, Mopsy was a shining advocate for LCF's conservation mission, promoting the Foundation's work to anyone who would listen, volunteering to help in archives and the Bladstrom Library, and raising funds for special projects.

Of great significance, Mopsy inspired (and wrangled) two invaluable additions to LCF's Board and Scientific Advisory Council – leading conservationist Scott Riviere who now serves as Chairman of the Board, and Dr. Thomas Lovejoy, one of the planet's preeminent scientists.

Scott spoke of her not living in the "land of no". To Mopsy all things were possible and she possessed the will power to see that ideas flourished and goals were realized. Focusing on critically endangered lemurs was evidence of Mopsy's passionate commitment to the living world. Embedded in the very essence of LCF, Mopsy will continue inspiring our work and stirring things up far into the future.

To paraphrase Shelley's "Adonis", "she lives, she wakes – tis Death is dead, not she... She is a portion of the loveliness which once she made more lovely." Her loving spirit sustains us and will live on through LCF's important mission.

Madagascar Fauna Group



Zoo Zurich



In the summer of 2012 I had the privilege of attending the annual meeting of the Madagascar Fauna Group (MFG) held in Zurich prior to traveling on to Madagascar to meet with our partners there.

LCF is a managing member of the Madagascar Fauna Group. MFG's members work together to help solve resource management problems, educates communities about Madagascar's great biodiversity, and implements conservation best practices. At the meeting we discussed the operations at Park Ivoloina which focuses on conservation education for their community.

I arrived in Antananarivo, the capital of Madagascar, where some partner organizations like UNICEF have their headquarters. UNICEF is a partner in printing and distributing the Ako Project books and Teachers' Guides in Madagascar and China.

Antananarivo is a convenient place to start exploring Madagascar. I had the chance to travel through the island from Berenty to Tampolo, the Masoala Peninsula and Perinet and the Andasibe Mantadia National Park.

Berenty is home to the famous Berenty Reserve, one of the oldest established locations for lemur research and ecotourism in Madagascar. The arid conditions of the south of the island of Madagascar are very different from the littoral rainforests of Tampolo, where LCF has our sister reserve.

Flying north of Tampolo is the Masoala Peninsula, I took a boat from Maroantsetra to my lodge. The lush Masoala forest is where Dr. Natalie Vasey has been conducting field research on Red ruffed lemurs for the last decade. Her current work photographing lemurs from the forest canopy is opening avenues of ground breaking research.

It is difficult to appreciate Madagascar's biodiversity and remarkable natural beauty and the conservation challenges faced by communities and lemurs throughout the island without visiting yourself. LCF and Dr. Ian Tattersall will be leading a trip to Madagascar in 2014 enabling our supporters to learn about the challenges and solutions first hand.

'Mandra-Pihaona,' or See You Soon, in Madagascar,



Berenty - Ring tailed lemur
(*Lemur catta*)



Berenty - chameleon



Berenty - Verreaux's sifaka
(*Propithecus verreauxi*)



Masoala - the boat from
Maroantsetra to the lodge



Red-ruffed lemur (*Varecia rubra*)



Masoala - leaf-tailed gecko



Perinet & Andasibe Mantadia
National Park - Indri (*Indri indri*)



Perinet & Andasibe Mantadia National Park
- Diadem sifaka (*Propithecus diadematus*)

LCF Staff

Caitlin Flanagan, *Animal Care Technician*

Nancy Hendrickson, *Office Manager*

Alison Hodge, *Animal Care Manager*

Lee Nesler, *Executive Director and CEO*

Catherine Olteanu, *Manager of Development and Communications*

Pete Shover, *Maintenance Supervisor*

Patricia Walsh, *Director of Research and Operations*

Mission Statement:

The Lemur Conservation Foundation (LCF) is a small non-profit corporation dedicated to the preservation and conservation of the primates of Madagascar through captive breeding, scientific research, and education.

Designed by Trina Nous, Trina Nous Design Studio

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LEMUR CONSERVATION
FOUNDATION

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www.lemurreserve.org

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