



Lubee Bat
CONSERVANCY

Lubee News

Winter 2005

End the year with a gift

With 2005 coming to an end, please consider making a year-end gift to the Lubee Bat Conservancy. Not only does 100% of your donation go directly towards our conservation programs, but all donations are tax deductible.

To make a year-end donation, please visit us online at www.lubee.org and click on "Join Us", or you can print out the final page of this newsletter and mail in the donation form to:

Lubee Bat Conservancy
1309 NW 192nd Ave.
Gainesville, FL 32609



Thank you for
your support
now and
throughout the
year!

Community Notes and Calendar of Events

January 13, 2006:

Florida Bat Working Group Meeting at Lubee

February 4 & 5, 2006

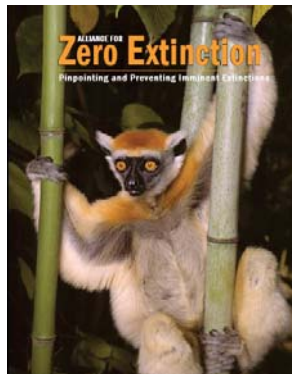
AZA/ Bat TAG Mid-Year Meeting hosted by Lubee.

March 25, 2006

Celebration of Bats and Butterflies as Pollinators; co-hosted with the Florida Museum of Natural History

More information about Lubee events as well as scheduling for our education programs can be found by emailing us at info@lubee.org

New Study Pinpoints Epicenters of Earth's Imminent Extinctions



Lubee Bat Conservancy is joining conservation groups around the world to help stave off an imminent extinction crisis. New research, published in the Proceedings of the National Academy of Sciences (www.pnas.org), shows that safeguarding 595 sites would save hundreds of Earth's species.

Conducted by scientists working with the 52 member organizations of the Alliance for Zero Extinction (AZE - www.zeroextinction.org), of which Lubee Bat Conservancy is a member, the study identifies 794 species threatened with imminent extinction, each of which is in need of urgent conservation action at a single remaining site on Earth.

The study found that just one-third of the sites are known to have legal protection, and most are surrounded by human population densities that are approximately three times the global average. Conserving these 595 sites should be an urgent global priority involving everyone from national governments to local communities, the study's authors state.

Seven species of fruit and nectar feeding bats are highlighted as species in need of urgent conservation action. These include two Monkey faced bats (Solomon Islands and Fiji), Bulmer's fruit bat (Papua New

Guinea), Mortlock Islands fruit bat (Federated States of Micronesia), Rodrigues fruit bat (Mauritius), the Aldabra fruit bat (Seychelles) and the Jamaican Flower bat (Jamaica). The sites where these bats live are predominantly islands in the Pacific region. Particular concentrations of sites are also found in the Andes of South America, in Brazil's Atlantic Forests, throughout the Caribbean, and in Madagascar.

"People may find it difficult to connect how the conservation of a few bats on tropical islands relates to their own lives" said Dr Allyson Walsh of Lubee Bat Conservancy, "But when I ask them where they would most like to go on vacation, the answer is almost always a tropical island. Tropical islands are the most desirable destination for the world's largest industry – tourism. Images of lush tropical rainforests, azure waters and tropical fruits are an important draw to tourists, but the importance of bats in maintaining these things goes largely unknown" she explained. "Bats are key pollinators and seed dispersers, helping island forests to regenerate and aid in the cultivation of important crops, including mango and papaya." She emphasized "Without bats, many island holiday destinations may one day be ruined and important tourist revenue lost".

"Although saving sites and species is vitally important in itself, this is about much more," said Mike Parr, Secretary of AZE. "At stake are the future genetic diversity of Earth's ecosystems, the global ecotourism economy worth billions of dollars per year, and the incalculable benefit of clean water from hundreds of

Alliance for Zero Extinction (Cont. on pg 2)

The Legacy of a Matriarch and the Death of a King

By Dana LeBlanc, Curator

2005 brought with it great change, with thirteen hurricanes and three category five storms in the Atlantic. This year also brought significant change in the animal collection at Lubee Bat Conservancy, with the passing of two of our Large flying fox (*Pteropus vampyrus*) founders. This leaves a total of five founders from the original twelve that were imported. Both of these bats called Lubee Bat Conservancy their home for the last fifteen years.

All visitors to the facility had the opportunity to view "King" who was our largest male with a five foot wing span. This bat was majestic, and his dominant behavior will be remembered by all the keepers who have worked with him. Although "King" has passed away he has ten known sons and eight known daughters that will continue his line for generations to come.

This year also marked the passing of "Shadow" who is

one of the grand matriarchs of our collection. She was a phenomenal mother who devoted herself to each pup and their care. In March of 1999, she was stricken with a cardiac myopathy, and from that point on was treated twice a day for this condition. Initially, our vet felt that she would probably only live another year or two, but she surprised us all by living another six years. During these latter years she developed a close relationship with "Grace", a hand-reared Rodrigues fruit bat (*P. rodricensis*), and "Kuri", a spectacled flying fox (*P. conspicillatus*), who were housed with her. They were often seen basking together. Shadow is survived by five sons and two daughters, and her daughter "Simone" gave birth to Shadow's first grandson this year who is named "Snook." Shadow's five sons "Trinidad," "Lancelot," "Socrates," "Sidney," and "Saturn" are on display at Disney's Animal Kingdom. On her death, some of

Shadow & King (Cont on Pg 2)

Lubee's Informal Science Education Program Reaches the Caribbean

This fall, Lubee Director Dr. Allyson Walsh visited Saba, a tiny island in the North-eastern Caribbean, to take part in Saba's unique annual event "Sea & Learn Saba", supported by The Sea & Learn Foundation and local businesses. The Sea & Learn Foundation is a non-profit foundation that brings together the local community, diverse nature experts and visitors in order to teach not only about Saba's ecology, but also to spark students' curiosity in the natural world through experiential learning.

With just over 1,000 residents, this rugged, 5 square mile Dutch island in the Lesser Antilles, provided a stunning backdrop to a mix of presentations and outdoor learning activities held during the month of October. This year, international experts on sharks, rays and beaches were among the diverse range of educators invited to attend Sea & Learn Saba. The island is a spectacular mix of tropical rainforest blanketing the sides of sheer volcanic mountainsides and low coastal dry vegetation including various cacti, which provides relatively undisturbed forest habitats for four species of fruit & nectar bats and three species of insect eating bats. Bats are the only mammals native to Saba, and play a vital role in the small island's ecosystem. One of the fruit bats and one of the insectivorous bats are regionally restricted to Saba and just a few other islands nearby, making it an area of key bat conservation importance in the Caribbean.

In addition to an evening presentation on the island's bats held at the Ecolodge, Dr. Walsh

led a field trip with local residents and visitors, as well as participated in Saba Science Camp, an experiential learning program designed for local students aged 11-15. Based on local knowledge, Dr. Walsh and the students were able to locate a roost site to observe and, using a bat detector, tune in and listen to the bats as they emerged. As they observed the roost site, the students used a laptop computer to watch a presentation about bats and see and hear recorded bat calls. This form of hands-on learning gave students a chance to learn not only about bat echolocation by using the bat detectors, but also of bats' larger roles in nature. One young boy, who after learning about the bats' roles as pollinators and seed dispersers, expressed his worry about people he saw picking and eating papaya in case there wouldn't be enough left for the bats. Dr. Walsh reassured him that there was enough papaya to go around, but was excited to see young kids becoming more aware of their impact on the environment and of their roles as caretakers. By bringing in outside experts and involving



Saba student using bat detector.
Photo: courtesy of A. Walsh

the local community, Sea & Learn provides a unique opportunity to educate the next generation of island caretakers about the value of its ecosystems

and natural resources and is helping encourage conservation and island sustainability.

In Alachua County, Lubee is working towards a similar goal. Recently, Dr. Walsh was named a Courtesy Associate Professor for the Department of Wildlife Ecology and Conservation at the University of Florida, and looks forward to expanding their joint bat education programs. In addition, Lubee's Nocturnal Adventures Education Program was able to begin this fall to offer area schools an introduction to bats. In just three months, seven schools and scouting troops, with almost 500 students participated. Each presentation lasts 45 minutes to an hour and seeks to dispel some common misconceptions about bats, as well educate students as to the different species of bats that exist and the challenges facing them in the wild. Students then get the chance to come face to face with several different species of bats from Lubee's collection (displayed inside plexiglass cages), and come away with a newfound interest and respect for these animals. Lubee hopes that by allowing children to experience the benefits of bats early on, we can help raise future generations of conservationists who view bats as an integral part of the earth's biodiversity.

More information about Saba's award winning educational project can be found on Sea and Learn's web site at: www.seaandlearn.org and for more information about Nocturnal Adventures, Lubee's Education Program, please email us at info@Lubee.org.

Alliance for Zero Extinction (Cont. from P1)

key watersheds. This is a one-shot deal for the human race," he added. "We have a moral obligation to act. The science is in, and we are almost out of time."

While extinction is a natural process, the authors note that current human-caused rates of species loss are 100-1,000 times greater than natural rates. In recent history, most species extinctions have occurred on isolated islands following the introduction of invasive predators such as cats and rats. This study shows that the extinction crisis has now expanded to become a full-blown assault on Earth's major land masses, with the majority of at-risk sites and species now found in continental mountain and lowland areas.

Also published are a site map and a report that detail the actions required to save these sites and species. These items, along with a searchable database of sites can be found at: www.zeroextinction.org.

Shadow & King (continued from Pg. 1)

Shadow's organs were donated to science. Shadow is one of a dozen or so mammals – others include the elephant, duck-billed platypus and cat – tapped by the National Human Genome Research Institute for genome sequencing. The goal of the genome sequencing is to more easily find specific genes and better understand how they work in the regulation of diseases. Advances in the study of any diseases will help people, and so the overall aim is to improve human health or quality of life. And that, we think, should make Shadow very proud.

This year also brought many blessings in the form of twenty-nine healthy pups that were born at the facility (eleven Large flying foxes [4 males; 7 females], eleven Island flying foxes [4 males; 7 females], six Grey-headed flying foxes [3 males; 3 females], and one male Rodrigues fruit bat). These pups form the core of the bat collection at Lubee and each birth is an op-

portunity for keepers to witness development and behavior in the species; from birth, early pup-hood, and maternal care, through to weaning and flight. It reminds us that we are all part of this natural cycle, and to act as good stewards and care for the great diversity of animals that reside on this earth.



Photo: "Shadow" & "Grace" hanging together.

Courtesy of Pam Thomas

2005 Lubee Bat Festival

The 2005 Lubee Bat Festival was held on Saturday October 22nd – just in time for Halloween. The festival is our annual community open day and this year we decided to turn the event into a regular annual Bat Festival by inviting more local interest groups to attend. Twenty volunteers from the University of Florida's Department of Wildlife Ecology and Conservation helped Lubee staff welcome almost 400 people from the Gainesville area, who came to spend an afternoon with the bats. Several local groups, including the Florida Wildlife Federation, the Florida Bat Center, the Native Plant Society, the UF Bat House, and Florida Wildflowers, Inc. set up educational displays about native Florida flora and fauna on the grounds. They offered visitors information about how to create refuges for wild-

life in their own backyards, and practical ways to create environmentally friendly yards using native Florida plants.

Lubee curator, Dana LeBlanc, gave several presentations on bats, and the keeping staff welcomed the public to come down and meet the bats. There were crafts for the kids, and even a didgeridoo workshop hosted by Didgeridoo Down Under, an organization that provides Australia-themed education and musical presentations. Some of the didgeridoos were even made from Agave, a plant pollinated by bats.

Future events include a celebration of bats and butterflies as pollinators that is co-sponsored by the Florida Museum of Natural History. The event is tentatively scheduled for Saturday March 25th,

2006 and more information will become available as we get closer to the event.



Guests visit displays set up by area groups at 2005 Lubee Bat Festival.

Did You Know?

The single species *Hypsignathus monstrosus*, or Hammer-headed Fruit Bat, is a fruit-eating bat found in the forests and swamps of West-central Africa. This bat has the greatest sexual dimorphism among *Chiroptera*. The males are generally twice as large as the females, weighing an average of 420 grams with an average wingspan of 907mm. Females have a fox-like muzzle, whereas the males have a thick hammer-shaped muzzle, a powerful tongue, and a tri-fold lip, and emit a distinctive croaking or quacking noise used to attract females. They do this by inflating air sacs located in the upper throat behind the nose, as well as by means of an unusually large larynx and vocal cords. "The larynx is 'nearly equal in length to



one half of the vertebral column,' actually filling most of the chest cavity, pushing the heart and lungs backward and sideways." *Hypsignathus* uses a lek or arena mating system, wherein hundreds of male bats will

gather and each sets up a small territory that it defends. Staying within that territory, they will then call out to the females, who move between the males in order to choose one to mate with. It was found that only 6% of the males accounted for 79% of the successful matings, and that the successful males tended to be congregated within certain favorable areas, generally located in the center of the lek. These bats like to roost 20-30m up in the forest canopy, and remain camouflaged during the day, rarely having contact with people.

Source: Nowak, Ronald M. (1994) *Walker's Bats of the World*. Johns Hopkins University Press; p 63-64

Langevin, Paul and Barclay, M.R (1990) "*Hypsignathus monstrosus*" *Mammalian Species*. 639 : 1-4

Bat Banter Begins at University of Florida Bat House

This fall, former Lubee employee Kim Chaffin, began the Bat Banter volunteer project at the University of Florida Bat House in order to educate visitors about this amazing native bat colony in our Gainesville community. The bat house was built in 1991 and for the next few years, sat empty despite efforts to relocate a colony from nearby buildings. After more than three years, the first few bats began to move in, and it is now estimated that over 100,000 native bats are living in this bat house, mainly Mexican Free-tailed Bats. Some remains of other species, including a Yellow Bat, have been found in the bat house, but more research is

needed to discover what other species are living there. Every first and third Friday of each month, approximately 30 minutes before sunset, Chaffin or one of the other volunteers gives a talk about the bats. These presentations give a general overview of the history of the UF Bat House and the biology of local insectivorous bats and their roles in the ecosystem. When the sun sets on warm nights, visitors get to enjoy the sight of the emergence of the colony as they leave the roost to feed over Lake Alice and surrounding areas. For more information about presentation times, please contact:

eveningbatfl@yahoo.com

Lubee Partners with North American Pollinator Protection Campaign

Lubee recently became a partner of the North American Pollinator Protection Campaign (NAPPC), a campaign established by the Co-evolution Institute and National Fish & Wildlife Foundation in 1999. The NAPPC coordinates local, national, and international action projects in the areas of pollinator research, education and awareness, conservation and restoration. It is estimated that 90% of flowering plants and 1/3 of human food crops depend on pollinators for survival. The declining health and numbers of pollinators around the world threaten our food supply, global biodiversity, and human health. Pollinators, which includes bats, birds, bees, butterflies, and other insects are threatened by excessive and improper use of pesticides and herbicides, aggressive competition from non-native species, and habitat loss and fragmentation, which causes a loss of floral diversity, roosting sites, and food sources.

To learn more about pollinators and their role in our ecosystems, please visit their website at www.napcc.org.

For information about *Leptonycteris curasoae*, the only nectar feeding bat found in the United States, please visit www.desertmuseum.org/pollination/bats.html

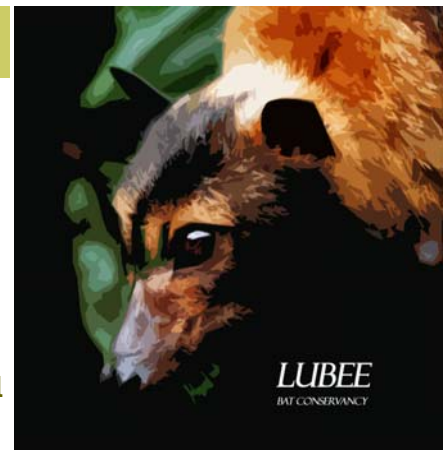


The National Center for
POLLINATORS

LUBEE BAT CONSERVANCY

Saving Bats Conserving Ecosystems

Lubee Bat Conservancy is an international non-profit organization working with others to save fruit and nectar bats and their habitats through conservation, research, and education. Healthy ecosystems depend on fruit and nectar bats that pollinate flowers and disperse seeds. These bats are among the least studied and most threatened in the world. Lubee is working to promote understanding and responsible management of the vital relationship between bats, plants, and people, leading to a sustainable future for all.



The Challenge

Fruit and nectar bats visit plants for their food and are vegetarians. While feeding they perform important ecological functions for the plants, sharing the role of seed dispersal and pollination with birds and insects. In rainforests, these bats play a vital role in forest regeneration and the maintenance of forest diversity. In some island countries, they are often the only native mammal and are of cultural and economic importance to local people dependent on natural forest for protection, water, timber, and other forest products.

It is estimated that more than 134 plants that yield products used by humans are entirely or partially reliant upon bats for seed dispersal or pollination. Fruit & nectar feeding bats are important pollinators of many wild as well as agricultural plants such as mangoes, cashew nuts, figs and columnar cacti in the desert Southwest of North America.

Over half of the bat species on our planet are considered threatened or near threatened with extinction. Flying foxes, like the one pictured here, are one of the most persecuted of all wildlife groups. Culled as crop-pests, hunted for food, and losing the habitats that they live in and support, fruit bat populations are disappearing at an alarming rate. Their loss is our loss.

Our Approach

We work with a world-wide team of conservation scientists, educators and zoological institutions.

We link field studies with our premier center for bat conservation, research, and training.

We build capacity of communities to conserve fruit and nectar bats and their essential ecosystem services through education and outreach.

How You Can Help

For more information about Lubee or to receive information about our local Florida education outreach program, *Nocturnal Adventures*, please email us at info@Lubee.org. To make a donation, log on to our website at www.Lubee.org and click on "Join Us" or mail in your membership form below to:

Lubee Bat Conservancy

1309 NW 192nd Ave.

Gainesville, FL 32609

------(tear here)-----

Yes, I would like to become a member of Lubee Bat Conservancy. Enclosed please find my gift of

- \$25
- \$35
- \$50
- \$100
- (other) _____

Name _____

Address _____

Phone _____

Email (to receive newsletter) _____