



TREE Foundation

Annual Report 2012

Compiled by Dr. Meg Lowman, Executive Director

Annual Meeting 3 PM, November 9, 2012

Cavanaugh & Co. Accounting Firm Board Room

(cover photo: Stone walls constructed by TREE have saved Ethiopia's forests for future generations)

Officers, Directors and Research Associates 2011

Thomas Lovejoy, Ph.D., Honorary Chairman of the Board
Biodiversity Chair, H. John Heinz III Center for Science, Economics, & Environment
And Professor, Conservation Biology, George Mason University
Washington DC

Gerri Aaron, President
1255 North Gulfstream Avenue
Sarasota FL 34236

Joel Fedder, Emeritus Vice President International
3590 Mistletoe Lane
Longboat Key FL

Laura Peters, Vice President
409 Vanderkloot Dr
Osprey FL 34229

Joanne Spurlino, Secretary
7214 N. Mobley Road
Odessa FL

Michael Pender, CPA and Treasurer
Cavanaugh & Company
2381 Fruitville Rd
Sarasota FL 34237

Elizabeth Booth
127 Bishop Ct
Osprey FL 34229

Betsy Cole
Palm Avenue
Sarasota FL 34236

Susanne Rodriguez
2718 Casey Key Drive
Nokomis FL 34235

Dan Bennett, Exploration Chair
Past President, The Explorers Club
Naples FL

DC Randle, Research Associate (non-voting)
K-12 science educator
2874 Riverbank Dr NW
Isanti MN 55040

Bryson Voirin, Research Associate (non-voting)
Graduate student research associate
Max Planck Institute
Germany

Dr. Soubadra Devy (non-voting)
Research Associate
Ashoka Trust for Ecology and the Environment (ATREE)
Bangalore, India

Dr. Alemayehu Wassie Eshete, (non-voting)
Research Associate
Forestry Department
Addis Ababa, Ethiopia

Stephanie Gould-Olsen
Science teacher
Pine View School
Osprey FL 34229

Margaret Lowman, Ph.D., Executive Director
Director, Nature Research Center
NC Museum of Natural Sciences
Research Professor, NC State University
11 West Jones St.
Raleigh NC 27601

Michael Brown, Legal Counsel
888 Second Street
Sarasota FL 24236

Student Interns (Center for Canopy Ecology)

Andrea Lucky	Ricardo Rifugo
Jiri Hulcr	Erik Wallimaa
Pamela Montero Alveres	Guillermo Sanchez
David Mitre	Marcos Oversluijs Vasquez
Angelique Girrard	Charissa Jones



TREE FOUNDATION

Dr. Thomas E. Lovejoy, President, The H. John Heinz III Center for Science, Economics, and the Environment
Honorary Board Chairman

Annual Report for 2012

TREE Foundation entered into its twelfth year of operation, and our combination of local-and-global efforts continues to achieve outstanding results. We continue to attract thousands of visitors to southwest Florida to explore our flagship project, the Myakka River State Park canopy walkway; and we are about to open a new family-friendly tree project, the TREE Treehouse, at Spanish Point historical site. Our website receives over a half-million hits, and we have information featured in 3 languages! On a global scale, we celebrate the second church forest in Ethiopia that was successfully conserved with TREE efforts, as well as global outreach to women and sustainability programs in developing countries. We co-sponsored the 6th international Canopy Conference in Mexico, offered scholarships students and teachers in the Amazon rain forest canopy, and launched an innovative online project to auction off insect names for conservation.

Thank you to all our TREE donors, as well as our tireless board of directors and volunteers who create enthusiasm for our programs to educate, explore and study forests of the world. A summary of this year's ambitious activities is listed below:

Local Canopy Programs

1. **Myakka River State Park canopy walkway** – The walkway received new conservation signage (in English and Spanish) to inspire visitors with a take-home message. Our people-counter is now providing accurate data about visitorship, which will be important as a metric for other parks that are trying to construct similar canopy educational activities. We continue to print and distribute over 20,000 brochures per year at the site, which still only reaches a small proportion of the visitors. (On that note, we are exploring different types of messaging to reach TREE visitors, both virtual and real.) Third and fifth graders continue to conduct scientific research at the site, monitoring the health of Florida epiphytes against insect pest invasions. Our new people-counter is collecting data on visitorship, metrics that will inspire other walkways around the country.
2. **Virtual nature** – Our website has been expanded to offer educational opportunities about forests and forest canopies to diverse audiences. We continue to offer some Spanish translations, and have expanded to include Ahmaric language for our Ethiopian forest conservation section. The website continues to attract increased visitorship, with over a half-million hits per year. A large number

of students blog and write emails seeking information about forests and conservation!

3. **Education outreach** – TREE has announced a new volume, Forest Canopy Methods, published and funded by University of California Press. The updates of new methods and supplemental information will be logged onto our website, (www.treefoundation.org), reflecting a high-tech way of “doing business” in the publishing world. In addition, our Executive Director continues her newspaper column, Nature’s Secrets, now offered in 3 newspapers and dedicated to educating the public about trees and related aspects of natural history.
4. **TREE Treehouse** – After several years of planning, a treehouse has been funded and designed for families in southwest Florida. This treehouse is under construction by Michael Walker and Associates, a premier building firm in Florida, who has done incredible amounts of pro-bono work to bring this project to completion. In addition, Henry and Susanne Rodriguez hosted a fund-raiser that provided the impetus for this project. A naming opportunity exists for any TREE supporter – we are seeking \$25,000 to offset the maintenance costs and provide education outreach – in exchange for your name on the door of the TREE-house! Thanks to TREE's co-funding, construction on a treehouse along Historic Spanish Point's bay front will soon begin. Project Contractor Michael Walker developed the drawings for the 14 foot diameter round structure, in keeping with the historical Indian designs of the area, with a bridge/walkway approximately 25 feet in length. Eight posts, all harvested cypress timber, will support the thatched roof and connector walkway. The structural portion of the project will be constructed under the Florida Building Code exemption for Seminole Indian labor which makes permitting less difficult. Materials and labor for the covered structure will be supplied by a Chickee subcontractor, while decking and guardrail installation will be completed by additional subcontractors. Vegetation has been cleared from the proposed site and excavation work for eight support poles will soon be underway. We should be enjoying the new treehouse by spring!
5. **Training the next generation** - TREE sponsored several student scholarships and educational programs throughout 2012. New College student Michael Long attended the citizen science workshop on Amazon Forest Canopy Ecology in July, along with eight high school students from the North Carolina region. High school minority science teacher, DC Randle, was funded to teach the local Peruvian guides about American science education and wildlife management, including the distribution of useful science books. Students in developing countries, including India and Ethiopia and Mexico, also received inspirational forest science books, thanks to the Spurlino Foundation’s donation for book distribution to students.
6. **Environmental Lecture series** – TREE Foundation’s Fedder lecture series continues as part of New College’s Hot Topics lecture series in Sarasota Florida,

and this year featured Dr. Stephen Leatherman, professor at Florida International University (otherwise known as Dr. Beach) to speak about sea level rise and coastal ecosystems. Board member, Joel Fedder sponsors this annual event, with an enthusiastic turnout of all ages.

National and International Activities

1. **National Environmental Policy** - Dr. Lowman was invited to serve on President Obama's Women and the Environment committee, meeting at the White House to determine important pathways for engaging these 2 issues. Her suggestion: plant more trees!
2. **International Canopy Conference** - TREE Foundation co-hosted the 6th International Canopy Conference held in Oaxaca Mexico. Several of our former student interns presented papers, and women graduate students enrolled in Mexican universities received canopy books, thanks to the generosity of the Spurlino book fund. TREE convened a special session called "Land Use and the Integrity of Forest Canopies" featuring a keynote speaker who works with NASA on canopy satellite-imaging in the Amazon. Dr. Greg Asner's new aerial technologies can not only detect logging activities, but also "read" the soil and land-use history of millions of square miles of remote forests.
3. **International Lectures** – Dr. Lowman lectured in South Korea, India, Mexico, Ethiopia, and many institutions throughout USA. Her message – to inspire forest conservation and encourage the next generation of scientists – has resulted in a plethora of emails by enthusiastic young people who are encouraged to seek careers in conservation.
4. **Book and Journal Publications** – TREE has created a large reference collection on our website, featuring Ethiopian forest research, as well as canopy information. This effort, spear-headed by volunteer Dr. Worku Mulat, is the first such collection of current references on this subject. Two grants are currently pending from federal sources to boost the conservation activities in Africa.
5. **Amazon Village Clean-water Systems** – Thanks to last year's citizen scientist, Carolyn Solomon of Raleigh NC, fund-raisers were held with students to pay for a new water filtration site in the upper Amazon. Thanks to Carolyn's generosity, a new clean-water system now operates and insures clean water for hundreds of residents.
6. **Citizen Science Expedition to the Amazon Canopy** – TREE led the annual citizen science expedition to the Amazon forest canopy, taking 29 enthusiastic volunteers to conduct research and also assimilate the culture of this amazing region. In addition, our groups generate local revenues for villagers who find

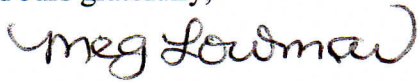
employment supporting ecotourism. Everyone was blessed by a shaman, and also analyzed leaf data from 15 rain forest canopy species.

7. **Books for Women in Science** – Over 200 books were distributed to underserved communities around the world, sharing the message about forest conservation and also sustainability. In countries like Ethiopia and India, where women are the links to the natural environment but yet receive very little formal education, these books are a critical link to inspiring their future.
8. **Ethiopian forest conservation** – TREE continues to be a global force in the conservation of the last remaining forests of Ethiopia. Board member Dan Bennett offered a match-grant that resulted in the complete perimeter delineation of two forests, comprising about 12 kilometers of stone walls built by local people. Now, cattle are excluded from eating the seedlings and farmers' plows will not ring-bark and stress the edge trees, leading to their demise and ultimate shrinkage of the church forests. These small plots house the last remaining biodiversity library for Ethiopia, fresh water springs, medicinal plants, honey, pollinators, shade, tree roots that conserve soil, and an important spiritual site.
9. **Opening of the Nature Research Center** – On leave from Florida (which now is extended indefinitely), Dr. Lowman led a team of talented construction workers, exhibit designers, scientists, educators, and technology experts to open the new Nature Research Center in Raleigh NC. It is part of the North Carolina Museum of Natural Sciences, but features "how we know what we know" which is a new and innovative mission for a museum. Over 70,000 science "geeks" attended the 24-hour opening, making it one of the world's largest-ever science parties. The first six-month theme for all the labs and exhibits was TREES R US, whereby scientists that study forests were featured in virtual broadcasts, Science Cafes, and education labs taught kids how to read tree-cores and understand the ecosystem services provided by forests. This six-month theme was co-sponsored by the Forest Service, with close to a million visitors in the first season!
10. **Award for our Emeritus Board Chair** – Our distinguished honorary chair, Dr. Thomas Lovejoy, received the Blue Planet Prize for his work to conserve the forests of Amazonia. Tom continues to be an inspiration for TREE Foundation as well as a global figure in the world of conservation. Congrats to Tom!
11. **Documentary Film** – The team who are filming a documentary on TREE's forest conservation efforts in Ethiopia received \$25,000 from Kickstarter, a web-initiated fund-raising tool. They were recently interviewed by Sundance, and hope that this forest conservation film will raise awareness of global environmental issues.
12. **Sloth Research** - Our sloth conservation work, inspired by former student TREE scholar, Bryson Voirin, continues bigger and better. Children's author, Julia Heckathorn, now donates some of her book proceeds to sloth conservation. She

and Bryson are designing a reserve for the endangered three-toed pygmy sloths in Panama. TREE is co-hosting other student and conservation projects, including a forest conservation action in the Congo, tree-climbing classes for students through Tree Planet Climbers, and recruitment of mobility-limited students for a federally funded National Science Foundation summer research experience for undergraduates to study water bears in the canopy next summer! Lots of activity for students are expanding our portfolio!!

More projects abound, but these are some of our highlights for TREE Foundation 2012. Thank you for your contribution – please consider a donation in honor of a loved one, and we look forward to making the world a better place for the next generation.

Yours gratefully,

A handwritten signature in dark ink that reads "Meg Lowman". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

Meg Lowman, PhD
Executive Director

Gerri Aaron
Board President

WHAT CAN YOU DO ?

Plant a tree

Read books about ecology
and forest conservation

Use less energy

Reduce, Reuse Recycle

"No Child Left Indoors"
Parents, take your kids outdoors!



Drink shade
grown coffee

Educate yourself and others
Learn about Florida's ecosystems

Experience Local, State
and National Parks

Join
conservation organizations
and support environmental foundations

Boycott the exotic pet trade
when collected from the wild



Do Not Release exotic pets
into State Parks
(or anywhere else!)



Take photos
not specimens from State Parks



Visit
a butterfly house

USE RESOURCES WISELY



9



millions of species yet to be discovered

contain/recycle over 25% of liquid fresh water

produce > 20% of world supply

prevent silting of rivers and coral reefs

produce > 50% of all pharmaceutical drugs

floral, interior/exterior landscape

nuts, fruits, fish, spices, juices, flavors, coloring

natural fibers, hardwoods and lumber

regulate temperatures and weather patterns

hiking, camping, bird watching

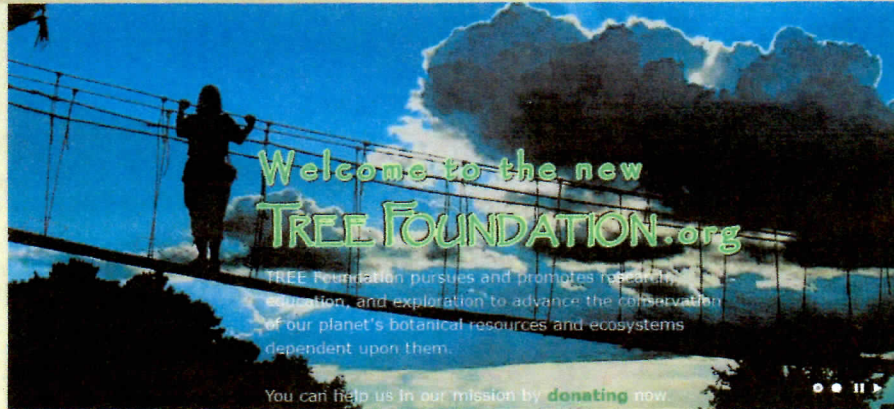
undiscovered pest & disease resistance

sequesters greenhouse gas CO₂

[illegible]



Website
Advances



Donate!



Donate to TREE Foundation to help us with our conservation, education and exploration efforts. Learn about other donation options and fundraising projects [here](#).

[Read More](#)

New Book Available



New forest canopy book available!
Methods in Forest Canopy Research
from University of California Press.

[Read More](#)

Go Conscious Earth



Find out how TREE and Go Conscious Earth are helping preserve the Nsoli Na Mato Rainforest in the Democratic Republic of the Congo and how you can help!

[Read More](#)

Sloth Research & Conservation



The Pygmy three-toed sloth is one of the world's most endangered animals and the TREE Foundation has established a special fund to support canopy research on sloths.

[Read More](#)

Church Forests of Ethiopia



Dr. Meg Lowman with the support of TREE Foundation has lead a team of researchers and conservationists to Ethiopia on a mission to help save the Church Forests of Ethiopia.

[Read More](#)

Dear Dr. Water Bear



TREE Foundation is proud to have Dr. Water Bear answer your questions about Water Bears (Tardigrades). Ask a question or read answers given to other inquiring minds.

[Read More](#)

Latest Posts



Two new species of oribatid mites from Ethiopia

Sergey G. Ermilov¹, Neville N. Winchester, Margaret M. Lowman & Alemayehu Wassie 2012. Two...

[Read more](#)



Guide Trainings in the Peruvian Amazon Hosted by TREE Foundation

TREE Foundation teacher intern DC Randle offered Wildlife Conservation and Management trainings to...

[Read more](#)

Talk by Meg Lowman at Marine Lab Seminar Series [VIDEO]

On July 30, Dr. Meg Lowman was the distinguished speaker at the Marine...

[Read more](#)

NRC Citizen Science Expedition to the Amazon Rain Forest

Follow the latest from the expedition below

Lowman's Leaf Lovers Club

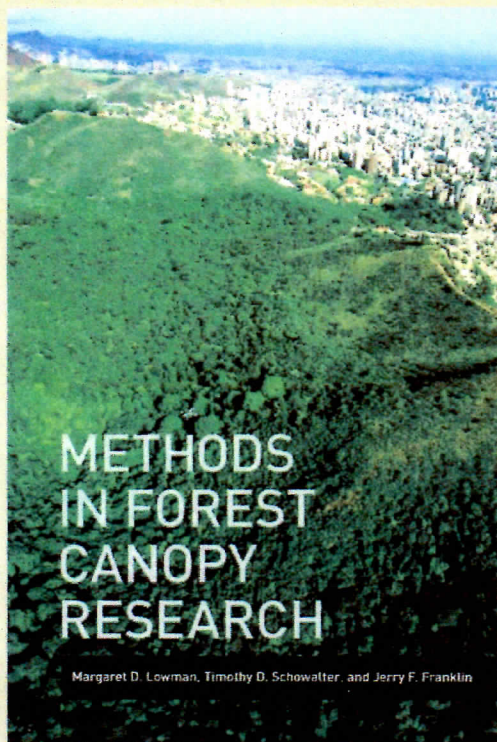
- Silly for Sloths!!!** August 5, 2012
Who knew that today we would actually have a chance to see, let alone hold, a real live South American sloth. Sloths are medium-sized mammals and are related to the armadillo and the anteater. Really? That seems a little hard to believe. Unlike the armadillo that has an armor shell, the sloth has short wavy hair [...]
- We leave "The Clinic" and head to Exploraplo Lodge.** August 3, 2012
We depart The Clinic and motor 1-1/2 hours further downriver and up the Amazon's largest Peruvian tributary, the Napo River. Our guides keep a watchful eye on the river bank for sloths and other wildlife sightings while we, in turn, keep a watchful eye inside the boat on our neighbors, sitting ever so close. Obviously there's no problem with [...]
- A visit to the local medical clinic. What an incredible, inspirational story!** July 27, 2012
The 6:00 a.m. morning air is warm and moist, but surprisingly pleasant. We have yet to experience any really "hot" days. It's been mostly overcast, "cool," and wetter than usual. We had a restful and tarantula-free night. Instead of giant, hairy spiders, we saw a single treefrog, sitting on the edge of a chair eating a moth nearly as big [...]



Canopy Methods

Website additions

[Home](#) — [Resources](#) — [Canopy Methods](#)



Methods in Forest Canopy Research

Margaret D. Lowman, Timothy D. Schowalter, and Jerry F. Franklin

[Order Online at ucpres.edu](#)

For a 20% discount use source code 12M0402

Please enter this code in the discount box.

Discount only available on books shipped to North America, South America, Australia, and New Zealand.

PHONE ORDERS: 1-800-777-4726

Poised between soil and sky, forest canopies represent a critical point of exchange between the atmosphere and the earth, yet until recently, they remained a largely unexplored frontier. For a long time, problems with access and the lack of tools and methods suitable for monitoring these complex bioscapes made canopy analysis extremely difficult. Fortunately, canopy research has advanced dramatically in recent decades. *Methods in Forest Canopy Research* is a comprehensive overview of these developments for explorers of this astonishing environment. The authors describe methods for reaching the canopy and the best ways to measure how the canopy, atmosphere, and forest floor interact. They address how to replicate experiments in challenging environments and lay the groundwork for creating standardized measurements in the canopy—essential tools for understanding our changing world.

Margaret D. Lowman is Director of the Nature Research Center at the North Carolina Museum of Natural Sciences and Research Professor at North Carolina State University. Timothy Schowalter is Professor and Department Head in the Department of Entomology at Louisiana State University Agricultural Center. Jerry F. Franklin is Professor of Ecosystem Analysis in the College of Forest Resources at the University of Washington.

240 pages 7 x 10 30 color illus. 25 b/w photos 6 line illus. 8 tables

978-0-520-27371-9 \$60.00 cloth

"Once nearly inaccessible frontiers, forest canopies are now giving up their secrets, thanks to a growing number of methods. This volume provides a superlative, long-needed recipe book for further exciting breakthroughs in canopy ecology. Indispensable."

Thomas E. Lovejoy, George Mason University and The Heinz Center

"Lowman, Schowalter, and Franklin draw on their significant hands-on experience to address important methodological questions in canopy research. Covering a range of case studies from around the globe, the authors engage ecological problems specific to the canopy and ingeniously deploy canopy research as a tool for forest conservation. Students, field biologists, and conservation planners around the world will find this book a one-stop shop for canopy methods."

M. Soubadra Devy, Ashoka Trust for Research in Ecology and the Environment (ATREE)

[View or download the book flyer](#)

View video of some of the tree canopy access methods here:

<http://canopymeg.com/wp/2008/12/01/tree-canopy-access-methods-videos/>



TREE Foundation
is on Facebook.

To connect with TREE Foundation, sign up for Facebook today.

[Sign Up](#)

[Log In](#)



TREE FOUNDATION
www.treefoundation.org

TREE Foundation

89 likes · 4 talking about this

[Like](#)



Non-Profit Organization

TREE Foundation is a non-profit organization dedicated to tree research, exploration and education.

[About](#)



Photos

[89](#)

[Likes](#)



[Twitter](#)

Highlights



TREE Foundation

September 7 via Twitter

What's for dinner? At Lowman's house, it may be a cricket torte <http://t.co/six06VPA>



The Official Web Site of Margaret D. Lowman: Author, Adventurer, Educator, Tropical Rainforest Cano...

The Official Web Site of Margaret D. Lowman - Author, Adventurer, Educator, Tropical Rainforest Canopy Biologist



TREE Foundation

September 7 via Twitter

My NRC board of directors convened for 2012-13, all Teenagers! Board snacks = cupcake inscribed w/canopy titles! <http://t.co/8KjgFQda>



Meg Lowman (@canopymeg) posted a photo on Twitter

Get the whole picture - and other photos from Meg Lowman



TREE Foundation

September 5 via Twitter

CanopyMeg will give a presentation at the first Teen Science Cafe at NRC on Friday, Sept. 7th <http://t.co/JL3hgHjk>



The Official Web Site of Margaret D. Lowman: Author, Adventurer, Educator, Tropical Rainforest Cano...

The Official Web Site of Margaret D. Lowman - Author, Adventurer, Educator, Tropical Rainforest Canopy Biologist

[Like](#) [Comment](#) [@canopymeg on Twitter](#)

[David Martin likes this.](#)



TREE Foundation

September 4 via Twitter

Also On

<http://treefoundation.org>

Likes



North Carolina Museum of Natural Sciences

Education · Museum

[Like](#)



Tree Climbing Planet

School

[Like](#)



Brighter Technologies

Internet/Software

[Like](#)



Church Forest

Movie

[Like](#)



TREE Foundation

September 5 via Twitter

The joy of unplugging <http://t.co/jvJFa6ll>



The Official Web Site of Margaret D. Lowman: Author, Adventurer, Educator, Tropical Rainforest Cano...

The Official Web Site of Margaret D. Lowman - Author, Adventurer, Educator, Tropical Rainforest Canopy Biologist

[Like](#) [Comment](#) [@canopymeg on Twitter](#)

[David Martin likes this.](#)



TREE Foundation

September 2 via RSS - Graffix

Two new species of oribatid mites from Ethiopia

Sergey G. Emmon, Neville N. Winchester, Margaret M. Lowman & Alemayehu Wasie 2012. Two new species of oribatid mites (Acari, Oribatida) from Ethiopia, including a key to species of Pilobateila Systematic & Applied Acarology 2012: 000-000. Abstract: Two new oribatid mite species, Austroca abodes (Ulugu clade) (Hutten Emmon, Winchester, Lowman & Wasie [UJ]) Source: TREE Foundation

[Like](#) [Comment](#) [Share](#)

[David Martin and Edward Frank like this.](#)

New
Social
Media
For
TREE



Work on the Church Forests of Ethiopia (Amharic version)

[Home](#) → [RESEARCH](#) → [CHURCH FORESTS OF ETHIOPIA](#) → [Work on the Church Forests of Ethiopia \(Amharic version\)](#)

Worku Mulat has provided us with an update on work being done on the church forests of Ethiopia. The PDF below is in the native language of Amharic for local speakers to enjoy.

Categories

[ANNOUNCEMENTS](#)

[ARTICLES](#)

[AWARDS](#)

[CLIMATE CHANGE](#)

[DEAR DR. WATER BEAR](#)

[EDUCATION](#)

[BROMELIAD MONITORING](#)

[FIELD GUIDES](#)

[INVASIVE SPECIES](#)

[RAIN FORESTS](#)

[STUDENT LOGS](#)

[EVENTS](#)

[INTERNSHIPS and JOBS](#)

[MAILBAG](#)

[MULTIMEDIA](#)

[AUDIO](#)

[PHOTOS](#)

[PRESENTATIONS](#)

[VIDEO](#)

[PRESS RELEASES](#)

[PROJECTS](#)

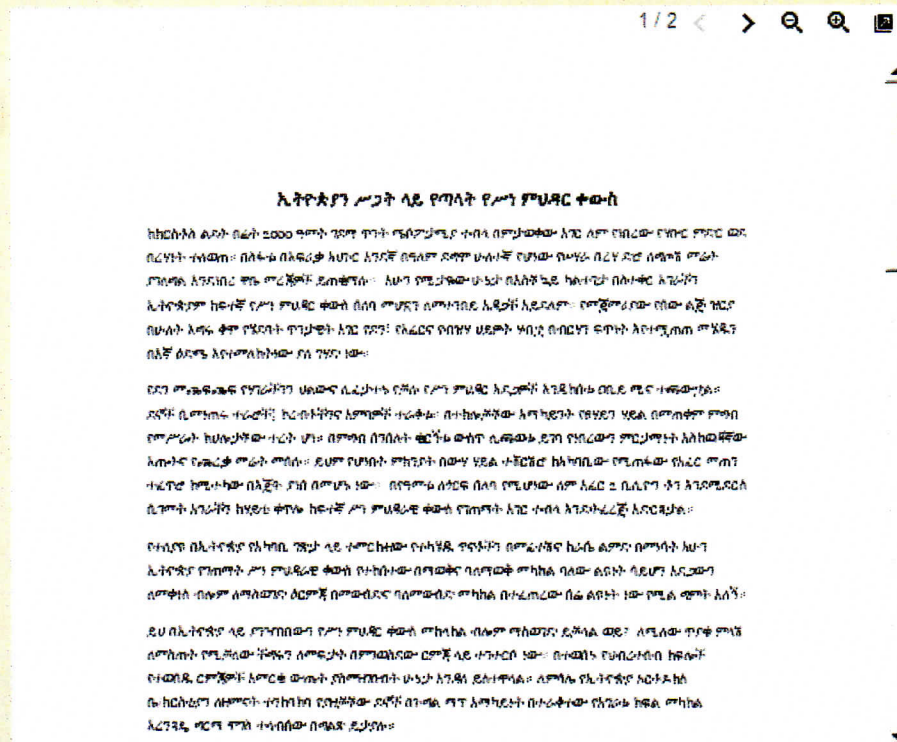
[AMAZON AMIGOS](#)

[RESEARCH](#)

[CHURCH FORESTS OF ETHIOPIA](#)

[SLOTHS](#)

[TREE CLIMBING](#)



[Download \(PDF, 225KB\)](#)

On August 15, 2011 / [CHURCH FORESTS OF ETHIOPIA, RESEARCH](#) / [Comments Off](#)

Comments are closed.

Last Update: 11 Sep 2012 - 14:12 Update now

Reported period: Sep 2012 OK

Stats for TREEFoundation.org



Summary

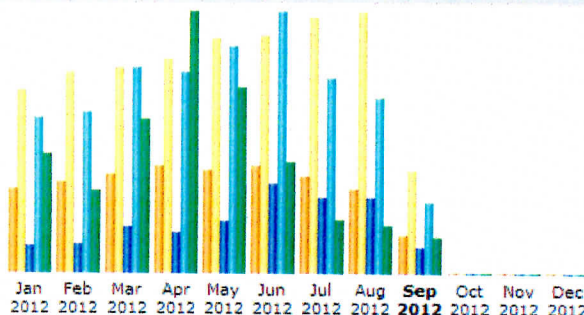
Reported period
First visit
Last visit

Month Sep 2012
01 Sep 2012 - 00:10
11 Sep 2012 - 14:12

	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Viewed traffic *	546	1,491 (2.73 visits/visitor)	8,197 (5.49 Pages/Visit)	22,609 (15.16 Hits/Visit)	662.41 MB (454.93 KB/Visit)
Not viewed traffic *			6,322	8,509	187.76 MB

* Not viewed traffic includes traffic generated by robots, worms, or replies with special HTTP status codes.

Monthly history

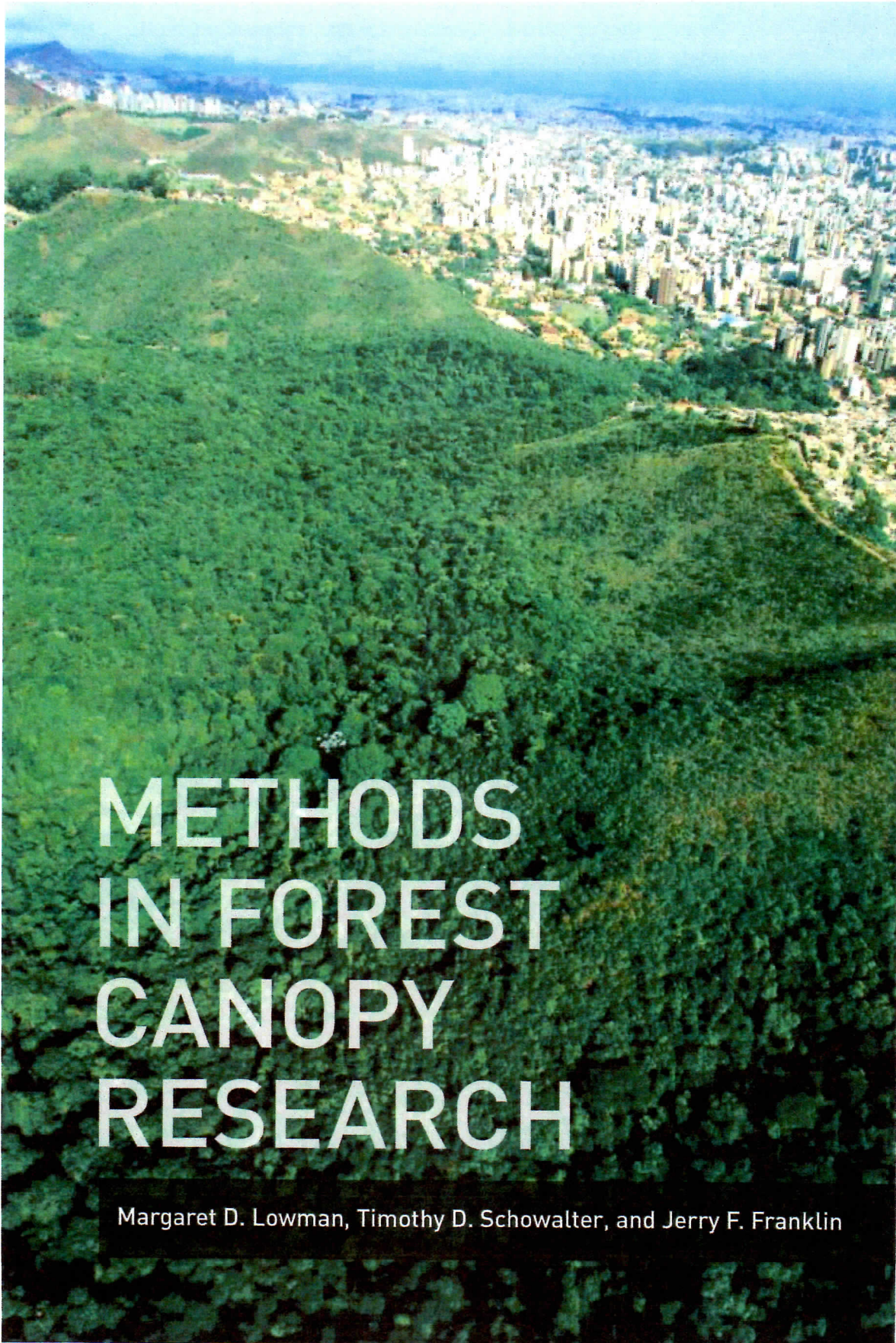


Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2012	1,223	2,677	8,476	49,089	2.20 GB
Feb 2012	1,323	2,946	8,973	50,942	1.53 GB
Mar 2012	1,443	2,998	14,747	65,490	2.83 GB
Apr 2012	1,564	3,143	12,785	64,182	4.85 GB
May 2012	1,503	3,436	16,542	72,450	3.45 GB
Jun 2012	1,557	3,465	28,285	83,215	2.06 GB
Jul 2012	1,403	3,758	23,776	62,277	1009.86 MB
Aug 2012	1,217	3,826	23,594	55,815	907.48 MB
Sep 2012	546	1,491	8,197	22,609	662.41 MB
Oct 2012	0	0	0	0	0
Nov 2012	0	0	0	0	0
Dec 2012	0	0	0	0	0
Total	11,779	27,740	145,375	526,069	19.44 GB

526,069

Over 1/2 million hits
on TREE website
in 2012 =
Awesome!

Education Outreach - new TREE book



TREE public education outreach -
newspaper columns on trees!

Trees' advice to graduates

Adapted from a commencement address delivered to Appalachian State University, Class of 2012.

Society labels you technically as Generation C (for "connected"). You grew up knowing the Amazon as a website for shopping, not a river. Throughout your entire life, the International Panel on Climate Change has been in existence, and U.S. tax forms have always been printed in Spanish. Plastic trees outsell real trees



MEG
LOWMAN
NATURE'S
SECRETS

at the holiday season, and the Internet dominates your lifestyle. (Here is a quiz for your parents: How many text messages per month does the average college student send? Answer — which you might know if you are paying for it — 3,000!)

As a science geek (also labeled as a nerd) during my own childhood, I escaped to nature by making tree forts in the neighbor's backyard. My only nature-loving friend, Betsy, and I rescued baby birds that fell out of their nests, nursing them in shoebox hospital beds up in the tree fort. We also followed behind our dad's lawnmowers and picked up the earthworms that were cut in half, Band-Aiding them back together and placing them lovingly in cardboard boxes in our tree forts. Alas, none survived, so our veterinary careers were squelched. But Betsy became a nurse and I became a forest biologist.

The funny part of this story is Betsy's brother. His name was Tommy — Tommy Hilfiger! Betsy and I thought he was very weird because he refused to play outside with us. Instead, he borrowed his mom's sewing machine to make bell-bottom jeans in the basement. As you probably know, Tommy Hilfiger went on to be a fashion designer; I became a pioneer in the science of forest canopies. We still work together, since Tommy's foundation works on water conservation in Africa, an issue that is directly linked to trees and forests.

But here is the moral of this story: Be kind to all of your classmates. You never know who will become the next Tommy Hilfiger or Bill Gates or governor of Florida. And most important, follow your passion — as did Tommy, as did I.

The science surrounding your daily lives, graduates, is awesome and we can't even begin to know the limits to new technologies. Because of science, great solutions will emerge from using your knowledge gained in college. Science is part of

sports, fashion, economics, politics, and even food — and will provide sustainable solutions in your future.

When I first climbed to the tops of trees with the aid of a simple slingshot in 1979, I discovered that half the world's terrestrial biodiversity lives up there. Today, using technology, I can not only classify these species but also help countries save their fresh water, survey medicines derived from these plants, and track the movements of their pollinators.

Satellite imagery, radio collars, electron microscopes and Google Earth images provide amazing tools for my research on forest conservation, although admittedly I still rely on slingshots and old-fashioned ropes for much of my field work!

I'd like to close with some advice from a tree. Having spent over 30 years dangling in trees all over the world, I have been inspired by how trees succeed against amazing odds. Unlike animals, trees cannot run away from enemies. Instead, they have great strategies for success:

1. Stand tall and proud.
2. Appreciate sunlight and good soil.
3. Drink plenty of water.
4. Go out on a limb occasionally.
5. Remember your roots.
6. Enjoy the view.
7. Provide sanctuary for others.
8. Create and conserve green energy where possible.
9. Grow!

Despite advances in science, my career was 90 percent perspiration and 10 percent inspiration. You, too, can harness your talents for solutions to global challenges and sustainable use of our limited resources. Some of you may create profitable clean energy; others might design economic ways to recycle America's enormous piles of trash, or to restock global fisheries. What about inventing safe, inexpensive mass transit in our cities, or creating an artificial leaf to manufacture energy from sunlight?

Some of you, hopefully, will teach the next generation, following in the footsteps of some of the great educators you encountered in college. Maybe one of you will find another earth out there in space?

In closing, I offer two words: SOLUTIONS and TREES. They are both lofty guiding lights. With them, you will make this world a better place.

Meg Lowman, longtime Sarasota-based scientist and educator, is director of the Nature Research Center, North Carolina Museum of Natural Sciences, and research professor at North Carolina State University. Email: meg.lowman@ncdenr.gov

16 Apr 2012

'Lorax' has important message



Nature's
Secrets
Meg Lowman

*I am the Lorax. ... I speak for the trees,
for the trees have no tongues.*

Dr. Seuss, "The Lorax"

The recent film "The Lorax" provides a whimsical way to learn an important message about the science of sustainability.

Simply stated, humans need forests to live, and the entire planet needs forests for global health. Forests provide humans with a multitude of free services that operate while we sleep, if we simply leave trees intact.

Thanks to current forestry research, scientists now have a better understanding of forests than the Once-ler, Dr. Seuss's main character in "The Lorax." North Carolinians not only need the forests in our state — our lives also depend upon the health of tropical forests in the Amazon and Congo basins and Asia.

Some of the free services that forests provide:

- stabilization of global climate, including moisture sinks for large amounts of freshwater;
- canopies that serve as some of the world's largest "factories" that convert sunlight into energy;
- the world's largest genetic library of terrestrial biodiversity (with potential cures to diseases and other economic products);
- global source of oxygen, and regulator of atmospheric gas exchange;
- enormous carbon sink that removes carbon dioxide from the atmosphere;
- cultural and spiritual legacy for many people;
- foods such as fruits and nuts;
- building materials, including wood, thatch and fibers;
- soil-erosion control via tree roots that absorb rainfall and conserve soil;
- sustainable economic opportunities such as ecotourism, shade-grown coffee,

A debate raging in scientific and policy circles centers on the decline of tropical forests: Who should pay to conserve these last remaining forests, since the entire planet needs them for global health?

Tropical deforestation has some dire consequences: diminishing fresh water supplies, loss of topsoil and biodiversity and degradation of climate are just a few.

"The Lorax" offers an important message for the youths who will someday inherit the responsibility to create policies for forest conservation.

With the opening of the new Nature Research Center on April 20, the N.C. Museum of Natural Sciences in Raleigh will launch a Science Café evening series, starting April 24 in the new Daily Planet Café on Jones Street.

In partnership with the U.S. Forest Service, the first lecture, "I Speak for the Trees," will discuss the importance of forests to human health.

The free talk begins at 7 p.m., but come early to dine and talk science!

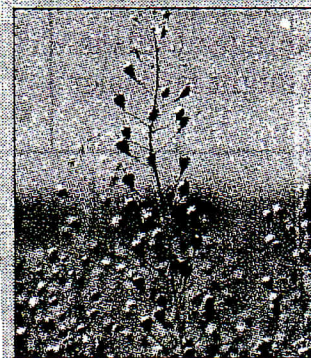
Meg Lowman is an N.C. State University professor and forest canopy expert who directs the Nature Research Center, N.C. Museum of Natural Sciences. Online: www.canopymeg.com.

Newspaper columns
reflecting TREE
message

Science & Technology

Greens for Red Planet

Scientists are working with hardy undersea microbes to develop plants to survive in Martian greenhouses and other extreme environments.



MCI

Microbe DNA may help Camelina thrive in heat.

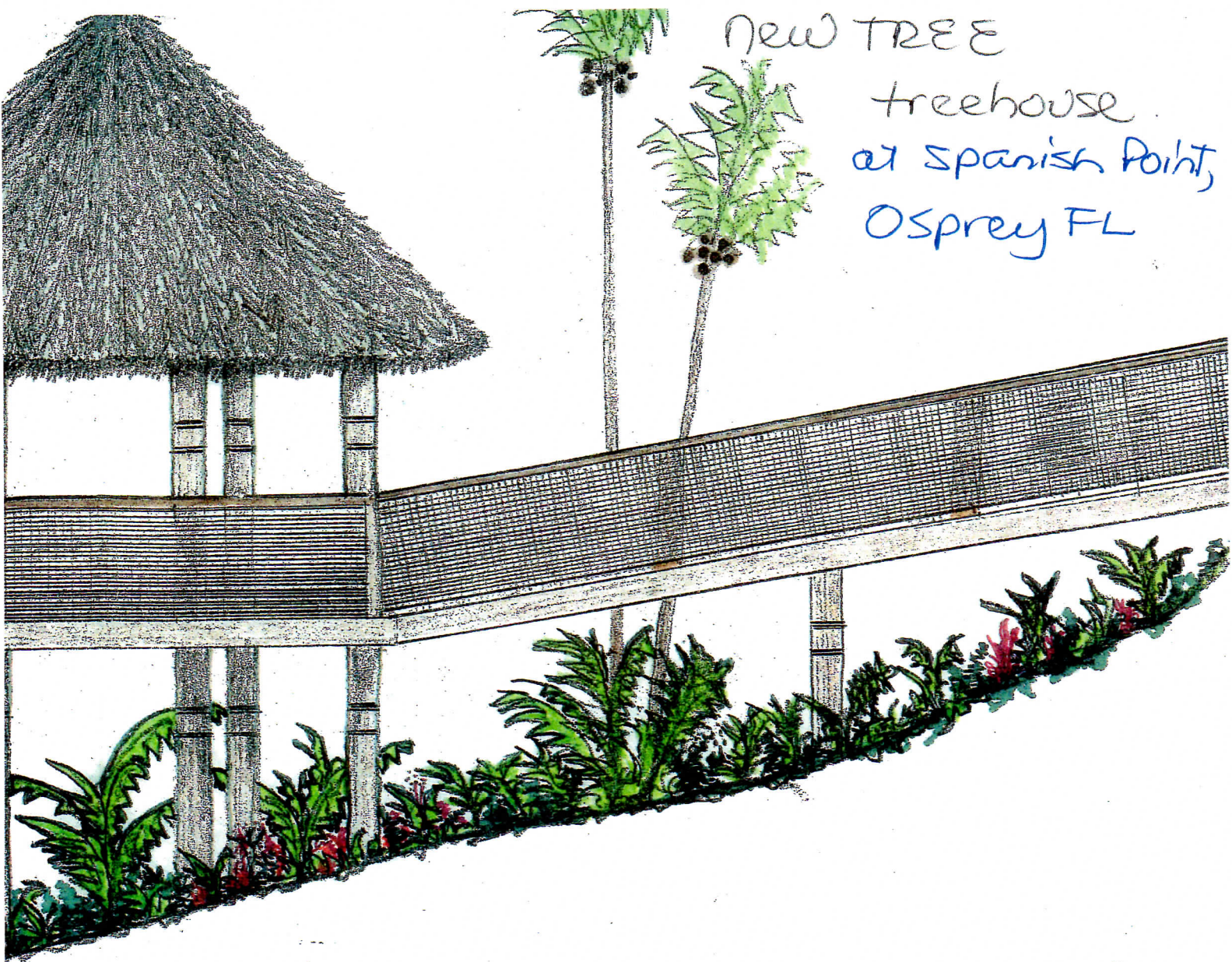
Gifts of the forest

Trees provide benefits that make protecting tropical rainforests essential — just as "The Lorax" says.

Top athlete, sharp mind

In soccer, elite players use their heads for more than headers. The best excel at quick thinking and decision-making, a study shows.

Pages 4-5B



new TREE

treehouse
at Spanish Point,
Osprey FL



MICHAEL K. WALKER & ASSOCIATES, INC.
CONTRACTORS - CONSULTANTS

941-365-3301

941-365-3496 (Fax)

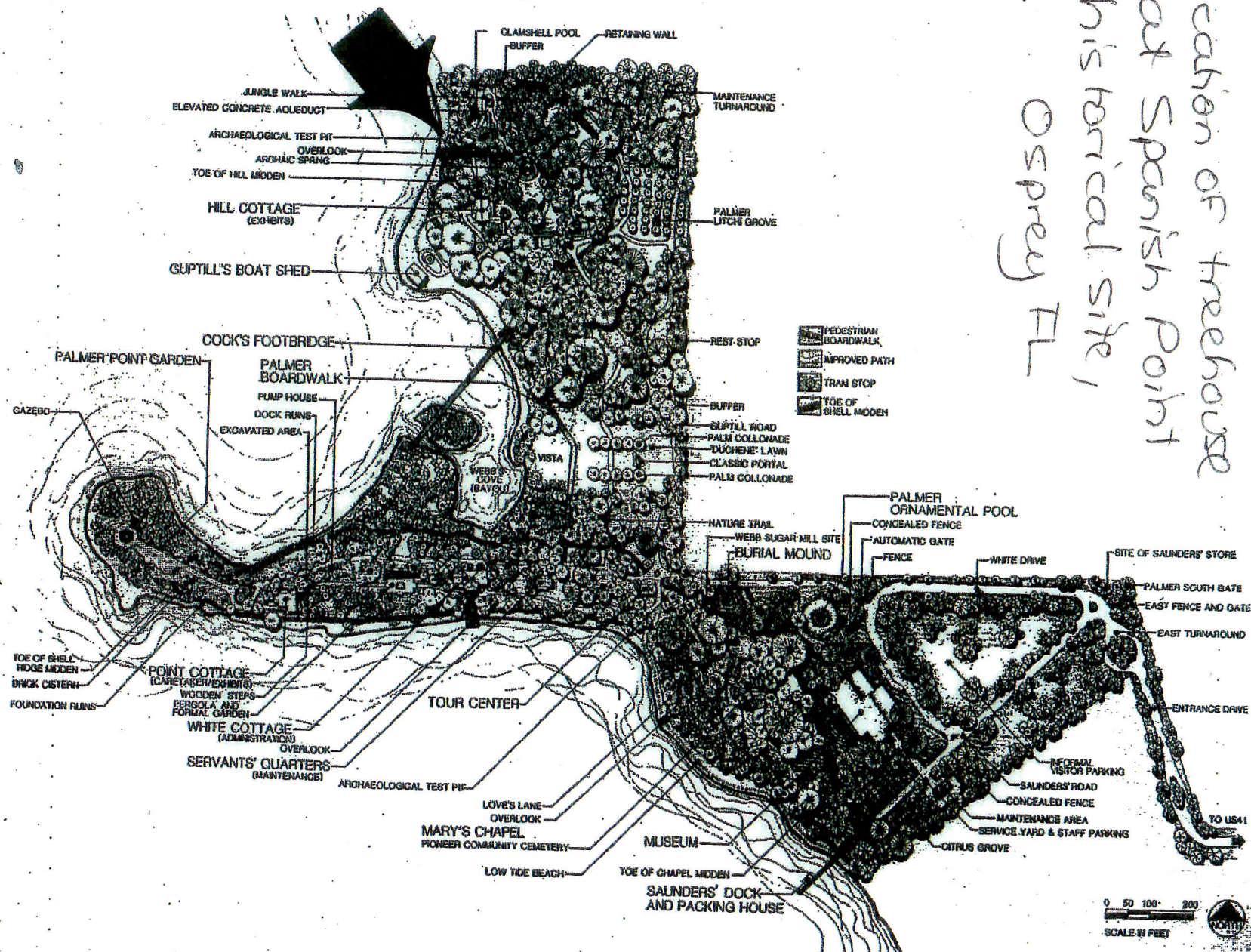
1793 Mango Ave. • Sarasota, Florida 34234 • CBC-019840

BAYSIDE TREE HOUSE AT HISTORIC SPANISH

POINT

BAYSIDE TREE HOUSE LOCATION

Location of treehouse
at Spanish Point
his torical site,
Osprey FL



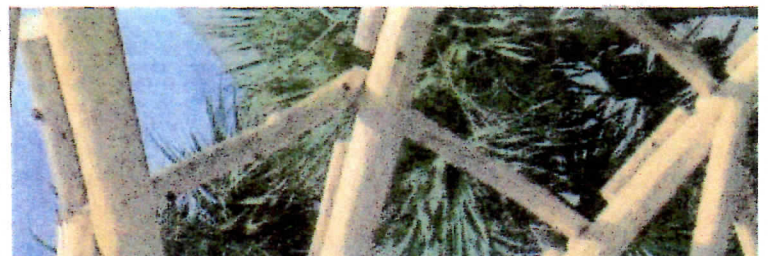
Schematic of treehouse



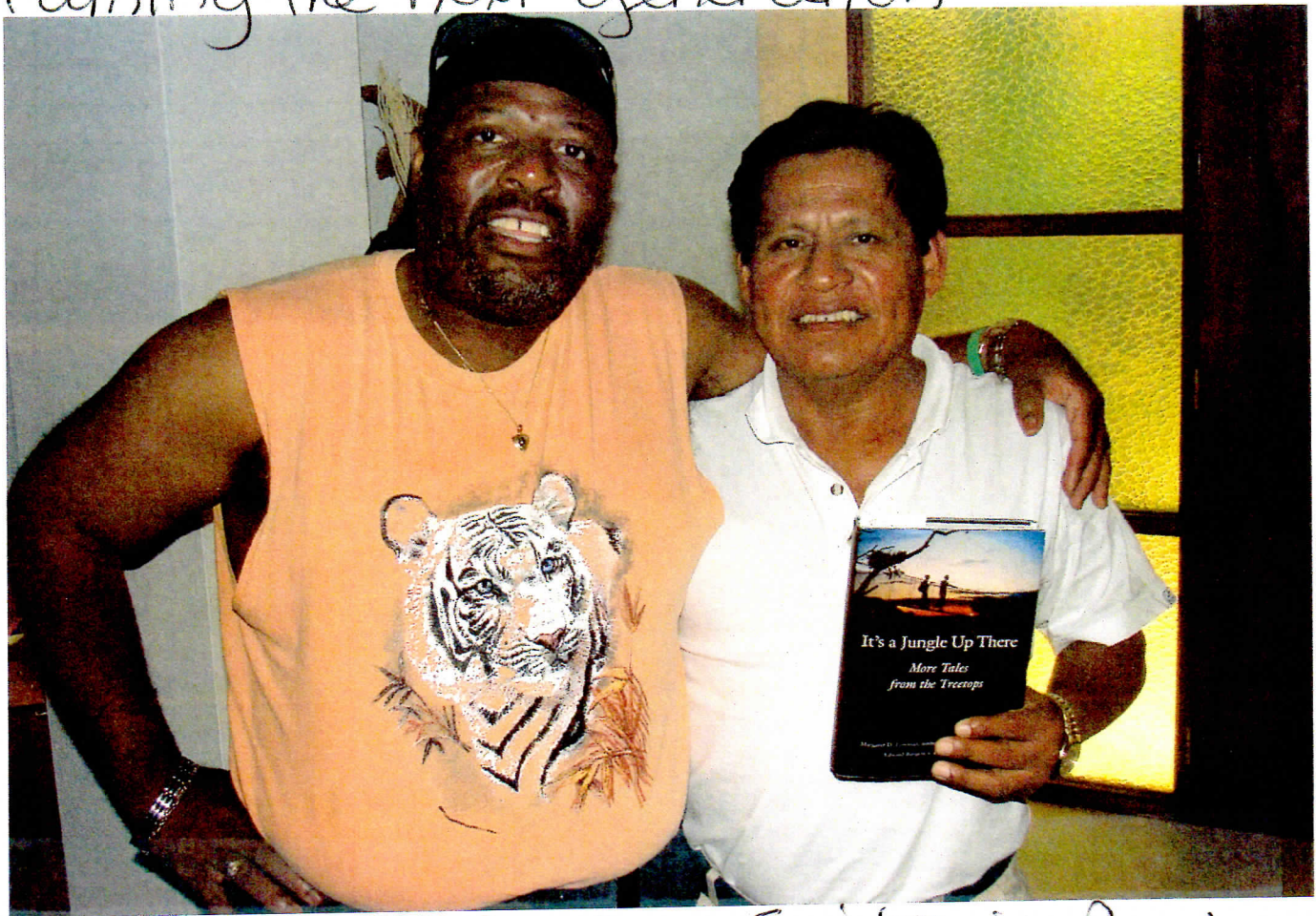
Roof of traditional chickee
treehouse



21



Training The next generation -



Lectures to Amazon Guides in Peru



CITIZEN SCIENTISTS IN THE AMAZON!

28 More Citizen Scientists



Meg's Citizen Scientists study The Amazon canopy.



AN ANALYSIS OF THE 2012 ELECTIONS • OCT 23

Alexis Simendinger '75, Charlie Mahtesian, Jeremy Wallace & Dr. Frank Alcock

Join national political correspondents Alexis Simendinger (NC Class of '75) of Real Clear Politics and Charles Mahtesian of Politico, along with Sarasota Herald-Tribune politics writer Jeremy Wallace and New College political science professor and ABC-7 political analyst Frank Alcock, for expert analysis on this year's national, state and local elections. Who will win the presidency and why? What critical races will determine control of the U.S. Senate and House? What are the issues that will shape our local and statewide elections? And what effect will this year's elections have on the future of the Republican and Democratic parties, both nationally and statewide? Simendinger, Mahtesian and Alcock wowed us four years ago, and we expect this year's discussion to be just as insightful.



WHAT MAKES A GREAT BEACH? • NOV 8

Dr. Stephen Leatherman (a.k.a. Dr. Beach)



Shakespeare said "beauty lies in the eye of the beholder." Certainly, beauty is an important ingredient in Dr. Beach's rating of beaches, but the most important criteria are clean sand, clean water and beach safety. Attendees will learn about the 50 criteria he uses to rate beaches, using applied coastal science for public

outreach. Dr. Beach's work rewards good beach management and encourages other beach communities to maintain or improve their overall quality, especially environmental quality. Dr. Leatherman's book *Field Guide to the Water's Edge*, from National Geographic, will be for sale.

COURTING PRESCRIPTION PAIN MEDICATION: FOR BETTER OR WORSE? • DEC 4

Mary Ruiz '73, Manatee Glens President/CEO

Modern medicine offers compassionate relief for chronic pain and terminal illness. But something has gone terribly wrong. More than seven lives a day in Florida alone are lost as a result of a prescription pain pill epidemic. Hear from mental health and addiction expert and New College alumna Mary Ruiz about the medical, social, economic and political forces that are forcing patients of all ages to decide whether courting prescription pain medication is for better or worse. Ruiz has been in the field of addictions for 25 years. She currently serves on the New College Board of Trustees.



POSITIVE AGING PIONEERS • JAN 15

Tom Esselman, Institute for the Ages President & CEO



The Institute for the Ages has an ambitious vision — to be the world's largest and most significant change agent for positive aging. Tom Esselman will provide the community with an update on how individuals and community groups within Sarasota as well as innovators around the world are focused on the global aging phenomenon. Esselman will discuss ground-

breaking research initiatives and the development and applications of products, services and policies that are improving our lives as we live to be older and older.

Herald-Tribune
media group



Mattison's™



HELPING PATIENTS WITH HEALTHCARE INFORMATION EXCHANGE • FEB 26

Dr. John Collins '88, Sarasota Memorial Hospital Chief of Staff

Healthcare Information Exchange (HIE) is the electronic exchange of medical information across disparate systems such as hospital information systems, physician's office EMR systems, labs, imaging centers and even disease and vaccine registries. Dr. John Collins, Sarasota Memorial Hospital's Chief of Staff and New College alumnus, will explain how the mobilization of healthcare information electronically across organizations within a community will improve quality and better patient outcomes. Not only do patients expect communication between treating physicians, but healthcare providers require useful information to accurately diagnose and render good care. Effective data exchange allows improvement in cost, quality, safety and efficiency.



THE PROBLEMS, PROMISE AND POTENTIAL OF SUB-SAHARAN AFRICA • MAR 21

Ambassador James McGee (Ret.)

Ambassador James D. McGee spent the majority of his 30-year Foreign Service career overseas working in support of U.S. Government Policy. He will draw on his experiences from six different nations, including four where he served as U.S. Ambassador, most recently in Zimbabwe. Using South Africa, Kenya and Nigeria as anchor nations, he will outline issues facing sub-Saharan Africa and how



their leadership is addressing these challenges and moving forward the democratic process throughout the continent. He will also present his observations on United States interests in sub-Saharan Africa and how our government is moving forward on the bilateral and multilateral fronts.

A wine and cheese reception is held after each lecture, graciously underwritten by Mattison's.

TRC Foundation Lecture

24



WOMEN'S HISTORY MONTH, 2012

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

As Americans, ours is a legacy of bold independence and passionate belief in fairness and justice for all. For generations, this intrepid spirit has driven women pioneers to challenge injustices and shatter ceilings in pursuit of full and enduring equality. During Women's History Month, we commemorate their struggles, celebrate centuries of progress, and reaffirm our steadfast commitment to the rights, security, and dignity of women in America and around the world.

We see the arc of the American story in the dynamic women who shaped our present and the groundbreaking girls who will steer our future. Fifty-one years ago, when former First Lady Eleanor Roosevelt confronted President John F. Kennedy about the lack of women in government, he appointed her the head of a commission to address the status of women in America and the discrimination they routinely faced. Though the former First Lady passed away before the commission finished its work, its report would spur action across our country and galvanize a movement toward true gender parity. Our Nation stands stronger for that righteous struggle, and last March my Administration was proud to release the first comprehensive Federal report on the status of American women since President Kennedy's commission in 1963. Today, women serve as leaders throughout industry, civil society, and government, and their outstanding achievements affirm to our daughters and sons that no dream is beyond their reach.

While we have made great strides toward equality, we cannot rest until our mothers, sisters, and daughters assume their rightful place as full participants in a secure, prosperous, and just society. With the leadership of the White House Council on Women and Girls, my Administration is advancing gender equality by promoting workplace flexibility, striving to bring more women into math and science professions, and fighting for equal pay for equal work. We are combating violence against women by revising an antiquated definition of rape and harnessing the latest technology to prevent dating violence, domestic violence, and sexual assault. From securing women's health and safety to leveling the playing field and ensuring women have full and fair access to opportunity in the 21st century, we are making deep and lasting investments in the future of all Americans.

Because the peace and security of nations around the globe depend upon the education and advancement of women and girls, my Administration has placed their perspectives and needs at the heart of our foreign policy. Last December, I released the first United States National Action Plan on Women, Peace, and Security to help ensure women play an equal role in peace-building worldwide. By fully integrating women's voices into peace processes and our work to prevent conflict, protect civilians, and deliver humanitarian assistance, the United States is bringing effective support to women in areas of conflict and improving the chances for lasting peace. In the months ahead, my Administration will continue to collaborate with domestic and international partners on new initiatives to bring economic and political opportunity to women at home and abroad.

During Women's History Month, we recall that the pioneering legacy of our grandmothers and great-grandmothers is revealed not only in our museums and history books, but also in the fierce determination and limitless potential of our daughters and granddaughters. As we make headway on the crucial issues of our time, let the courageous vision championed by women of past generations inspire us to defend the dreams and opportunities of those to come.

NOW, THEREFORE, I, BARACK OBAMA, President of the United States of America, by virtue of the authority vested in me by the Constitution and the laws of the United States, do hereby proclaim March 2012 as Women's History Month. I call upon all Americans to observe this month and to celebrate International Women's Day on March 8, 2012, with appropriate programs, ceremonies, and activities that honor the history, accomplishments, and contributions of American women. I also invite all Americans to visit www.WomensHistoryMonth.gov to learn more about the generations of women who have shaped our history.

IN WITNESS WHEREOF, I have hereunto set my hand this first day of March, in the year of our Lord two thousand twelve, and of the Independence of the United States of America the two hundred and thirty-sixth.

3 generations of entomologists



International Conferences - Entomology



SEOUL KOREA



Visiting Ethiopian chemistry class (high school)



Kindergarten in Ethiopia



new gate @ church forest!



Collaboration with Jimma Univ.

International These Lectures - Ethiopia

Dr. Leona M. (only) female scientist. Jimma University

Church Forest #2 conserved!



International- TREE'S Second Wall



KIDS GET BUG IDENTIFICATION T-SHIRTS!

ETHIOPIA forest conservation

TREE International work -



Enea@Fly traps



Phil@Canopy traps

SCIENTISTS SURVEY ETHIOPIAN FORESTS



Claire@Malaise traps



Claire in Debreseena forest

TREE international work



Scientists survey Ethiopian forests.





LETTERS

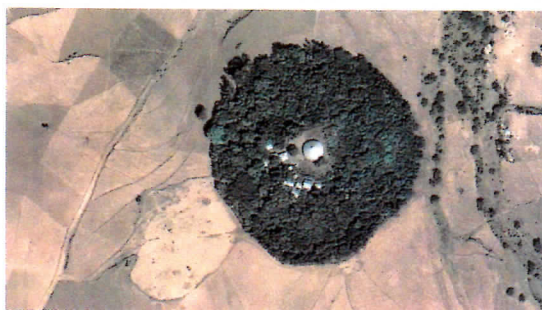
edited by Jennifer Sills

Uniting Church and Science for Conservation

HUMANS HAVE BEEN CUTTING ETHIOPIAN FORESTS FOR FUEL AND AGRICULTURE FOR CENTURIES (1). Only about 35,000 fragments remain in the northern highlands, ranging in size from 3 to 300 hectares. These fragments escaped deforestation because of their religious and spiritual importance; they are protected by, and are an integral part of, the Ethiopian Orthodox Tewahido Church (2). Within each forest, an Orthodox priest and his disciples live, conduct services, and oversee its use. These forests are both a religious and a biodiversity sanctuary (3–6), and they provide local people with essential ecosystem services such as fresh water, shade, honey, pollinators, and spiritual value.

The church leadership views biodiversity conservation as one of its primary stewardships, but the lack of perimeter delineation of these forest fragments threatens their future. Presently, less than 4% of the original forest cover remains in the region (7, 8), and the remaining forests continue to be encroached upon (9), in part because of population increases—Ethiopia had a population of 43 million in 1984 but almost 80 million by 2000 (10). These church forests are also threatened by foraging livestock that increase soil compaction, hindering seed germination and forest regeneration. Sadly, when a forest disappears, the priest, his disciples and others living in the area also leave.

With such precious few fragments remaining, Ethiopia faces a conservation crisis. Understanding the role that church forests play in the provision of ecosystem services is critical, particularly for soil conservation, fresh water protection, and carbon sequestration. To preserve these forests, and perhaps even expand them, we must take an immediate, aggressive, and multidisciplinary approach



Valued. A church forest stands out against barren surroundings.

that includes all stakeholders. For example, biologists, social scientists, ethnographers, religious leaders, and local people must collaborate. We must work to understand the relationship between local peoples and the forest and empower them to protect it. More immediately, we must establish perimeters to prevent grazing and encourage the planting of local trees in the forest areas (8). By taking these steps, we can protect Ethiopia's forests from further decline.

CATHERINE L. CARDELÚS,^{1*} MARGARET D. LOWMAN,² ALEMAHEYU WASSIE ESHETE³

¹Department of Biology, Colgate University, Hamilton, NY 13346, USA. ²Nature Research Center, North Carolina Museum of Natural Sciences, Raleigh, NC 27601, USA. ³College of Agriculture, Bahir Dar University, Bahir Dar, Ethiopia.

*To whom correspondence should be addressed. E-mail: ccardelus@colgate.edu

References

1. J. C. McCann, *Env. History* **2**, 138 (1997).
2. A. Wassie, "Opportunities, constraints and prospects of the Ethiopian Orthodox Tewahido Churches in conserving forest resources: The case of church forests in South Gondar, Northern Ethiopia," thesis (Swedish University of Agricultural Sciences, Uppsala, Sweden, 2002).
3. F. Bongers, A. Wassie, F. J. Sterck, T. Bekele, D. Teketay, *J. Drylands* **1**, 35 (2006).
4. M. D. Lowman, *Explorers J.* **88**, 26 (2010).
5. M. Tolera, Z. Asfaw, M. Lemenih, E. Karlun, *Agric. Ecosys. Env.* **128**, 52 (2008).
6. A. Wassie, D. Teketay, *Flora-Morphol. Distribut. Funct. Ecol. Plants* **201**, 32 (2006).

Article about
TREE'S Ethiopia
conservation
project in
prestigious
journal,
Science Magazine

Downloaded from www.sciencemag.org on February 23, 2012

33

Table. Proposed churches to be fenced.

Ser No	Name of the site	Area Ha	Perimeter Km	No woody Species estimated	Total Cost of Fencing (stone wall) USD	Name of District/Woreda	GPS Location
1	Zhara	8	1.6	46	Already fenced	Dera	N11° 48' & E37° 34'
2	Debresena	11.5	1.9	40	Under fencing	Farta	N11° 51' & E37° 59'
3	Dengolt	25	2.6	50	17,400	Estie	N11° 36' & E38° 04'
4	Mosha	13	2.8	53	18,700	Estie	N11° 26' & E37° 56'
5	Woji	22.5	2.3	46	15,400	Fogera	N11° 55' & E37° 48'
6	Mantogera	5	0.89	59	6,000	Libo	N12° 09' & E37° 47'
7	Amstya	22.8	2	57	13,500	Ibinat	N12° 01' & E38° 04'
8	Wuahir	8.4	1.4	62	9,400	Farta	N11° 51' & E38° 05'
9	Gibstawit	8.7	1.7	52	11,400	Ibinat	N12° 07' & E38° 05'
10	Qorata	48	2.8	69	18,700	Dera	N11° 45' & E37° 26'
11	Dedim	36.6	3	26	20,000	Farta	N11° 47' & E38° 12'
12	Wonkeshit	50	3.8	88	25,500	Dera	N11° 30' & E37° 37'
13	Gedam Selase	15	1.9	99	12,700	Simada	N11° 21' & E38° 10'
14	Gelawdios	100	6	48	40,000	Dera	N11° 38' & E37° 48'
	Total				208,700.00		

Remark:

Budget and 14 priority forests in Ethiopia for forest conservation

Handouts for Ethiopian priests by Tree

3

Church Forests - Centers of Biodiversity Stewardship

11 West Jones Street
Raleigh, North Carolina 27601-1029
www.naturalsciences.org

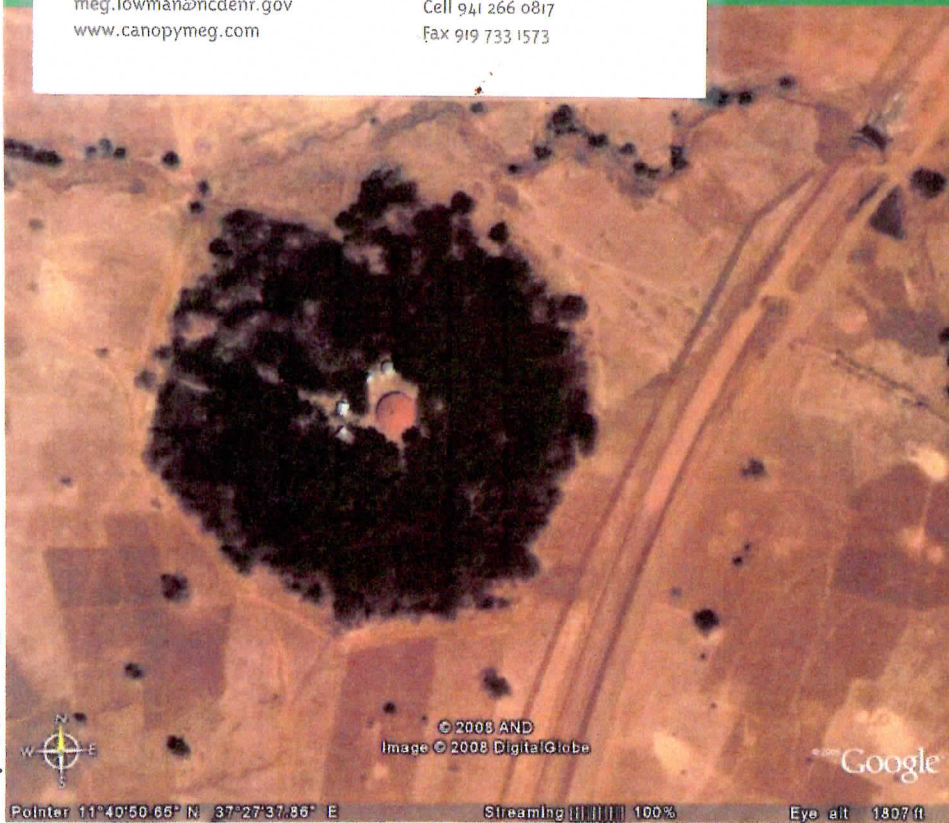
Meg Lowman
Director, Nature Research Center

meg.lowman@ncdenr.gov
www.canopymeg.com



NORTH
CAROLINA
**MUSEUM
of
NATURAL
SCIENCES**

Tel 919 733 7450 ext 238
Cell 941 266 0817
Fax 919 733 1573

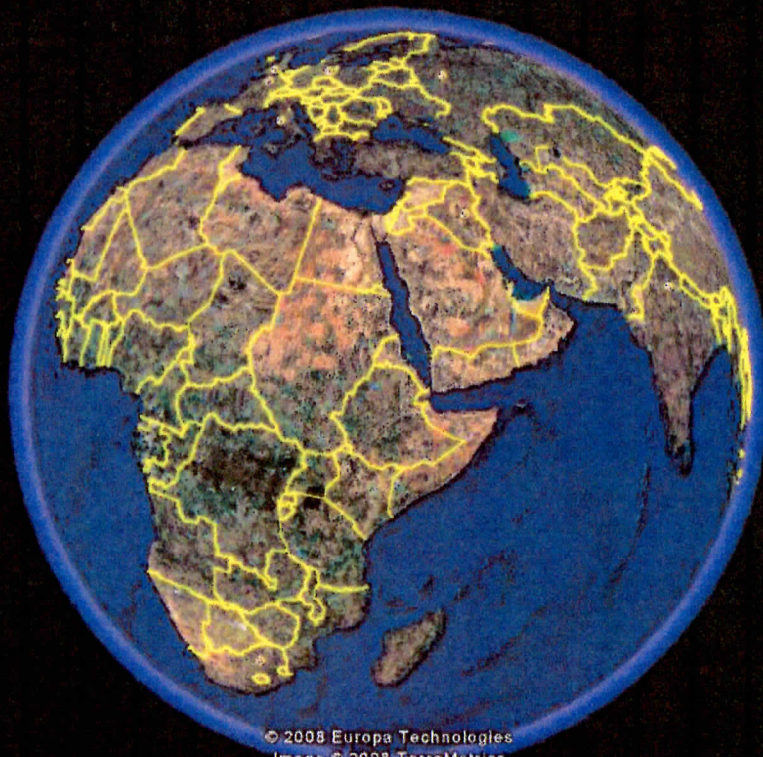


TREE FOUNDATION

Ethiopian church forests are unique to the planet

36

Handouts to priests by TREE



© 2008 Europa Technologies
Image © 2008 TerraMetrics
Image NASA
© 2008 Tele Atlas



Pointer 11°54'42.04" N 38°51'56.01" E

Streaming ||||| 100%

© 2008 Google

Eye alt 6755.95 m



Pointer 11°54'42.04" N 38°51'56.01" E

Streaming ||||| 100%

Eye alt

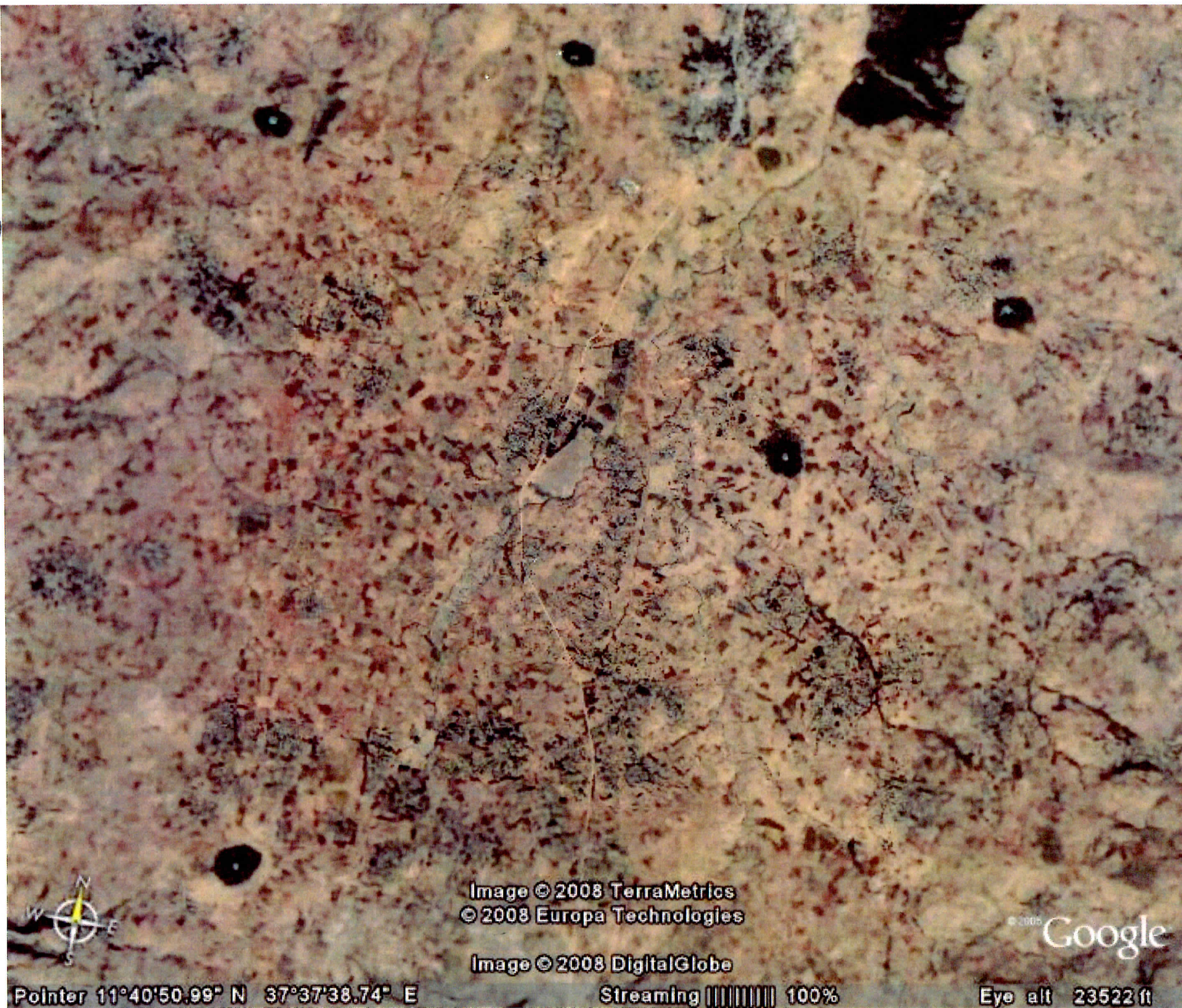


Image © 2008 TerraMetrics
© 2008 Europa Technologies

Image © 2008 DigitalGlobe

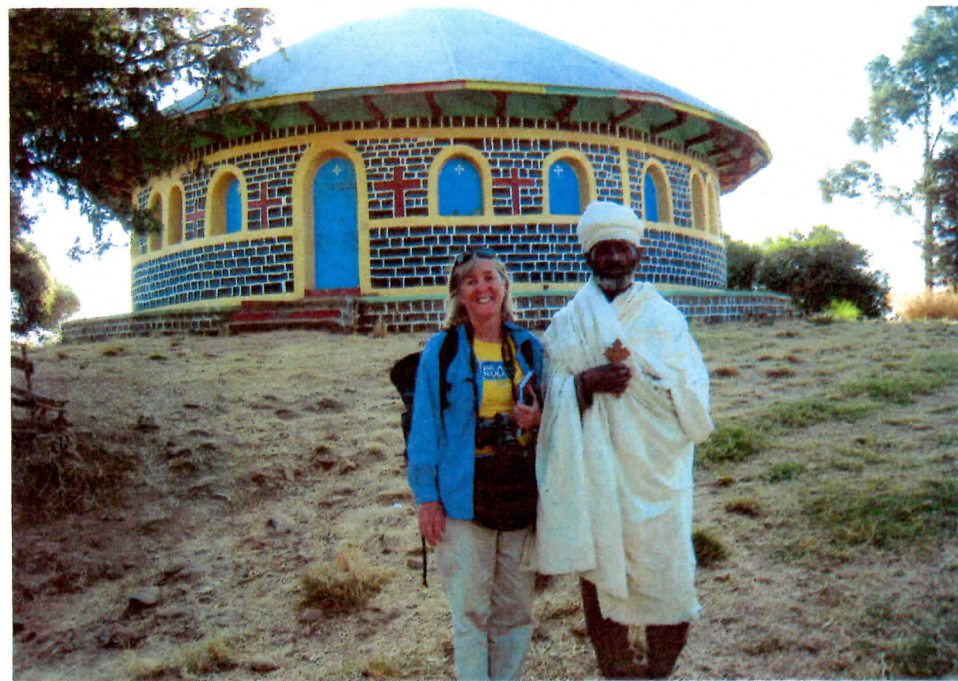
© 2008 Google

Pointer 11°40'50.99" N 37°37'38.74" E

Streaming ||||| 100%

Eye alt 23522 ft

Ethiopian outreach to Coptic priests



የመፍትሄ ዕርምጃ

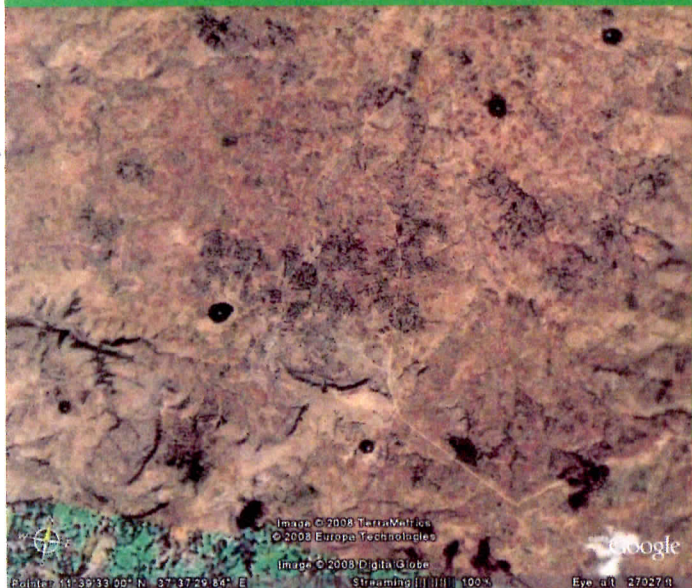
በሰው ሠራሽ ምክንያት የአርቶዶክስ ቤ/ክርስቲያን ደኖች በከፍተኛ ፍጥነት በመመናመን ላይ ይገኛሉ። ስለሆነም በሰሜናዊ ምሥራቅ የሃገሪቱ ክፍል የቀረው የደን ሽፋን ከ5 በመቶ በታች ነው። እነዚህን ደኖች ጠብቆ ለማቆዩት መወሰድ ያለባቸው ዕርምጃዎች የሚከተሉት ናቸው፡

(Church forests are rapidly shrinking, due to human activities. Less than 5% of Ethiopian forests remain in the northeastern part of the country. Solutions to save our church forests:)

1. መግቢያና መውጫ ትቶ በአፀዱ ዙሪያ ካብ መካብ። ከቀበሌው ሰዎች ቀጥሮ ለዚህ የሚያስፈልገውን ድንጋይ ከአካባቢው ማሳ አውጥቶ ሥራውን ማከናወን (Build stone walls around the edges, with gates for entry and exit. Use rocks from fields for walls, and hire local people to construct the walls.)
2. ለቀሳውስት፣ ለሠፈሩ ኗሪዎችና ወጣቶች ደኖቹ ለህብረተሰቡ የሚሰጡትን መንፈሳዊና አካላዊ ጥቅም አስመልክቶ ሥልጠና መስጠት (Educate the priests, villagers, and children about the importance of church forests for human health and spirituality.)

3. በተለይ ተክሎችን ለማዳቀል የሚጠቅሙትን ነፍሳት ትኩረት ሰጥቶ ስለስያሜ፣ የብዝሃ ህይወትና የተፈጥሮ ክብካቤ ማስተማር (Train the children about environmental education, including identification of the biodiversity with special interest in the pollinators that are important for livelihoods.)
4. የግል ንጽህናን ጨምሮ የህብረተሰቡንም ሆነ በደኑ የሚኖሩ ነፍሳት ጤና ለመጠበቅ በቤ/ክርስቲያን ቅጥር ግቢ የመፀዳጃ ቤቶችን መሥራት (Construct latrines in the church forests for hygiene, for human health, and to insure that the biodiversity is not harmed.)
5. በትሪ ፋውንዴሽን አማካይነት ዶ/ር ሎውማንና ዶ/ር ዋሴ በቤ/ክርስቲያንና ሳይንስ መካከል ጥብቅ ትስስርና ትብብር በመፍጠር ደኖቹን ተንከባክቦ ለመጭው ትውልድ ለማስተላለፍ ዕቅድ መንደፍ (Create a strong partnership between church and science, working with TREE Foundation and Drs. Wassie and Lowman, for a conservation plan that insures our children will have healthy forests.)

Church Forests provide essential ecosystem services



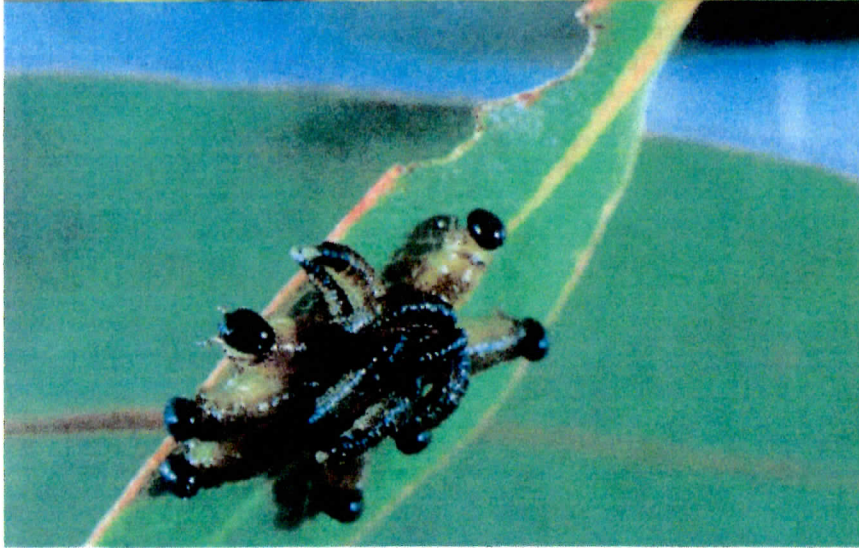
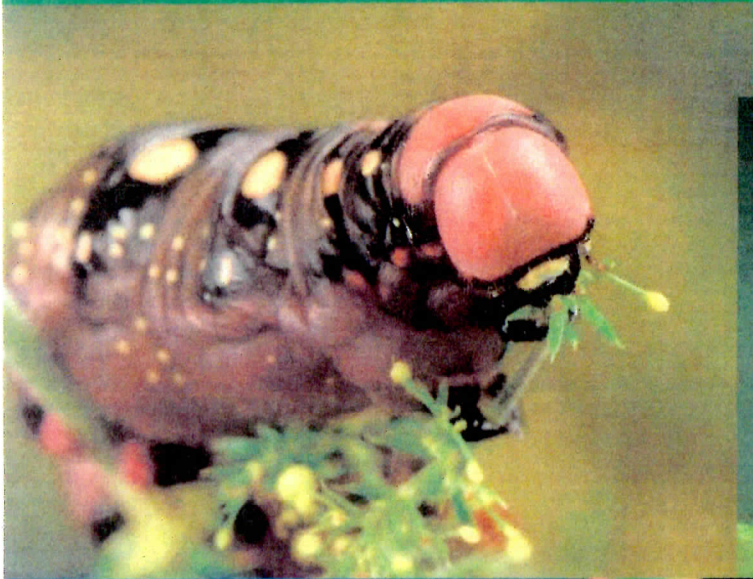
የኦርቶዶክስ ቤ/ክርስቲያን ደኖች አስፈላጊነት

(Importance of church forests)

የኦርቶዶክስ ቤ/ክርስቲያን ደኖች ለኢትዮጵያውያን ጉልህ ሚና ያለው ሥነ-ምህዳራዊ አገልግሎት ያበረክታሉ፡ (Church forests provide valuable ECOSYSTEM SERVICES for all Ethiopians፡)

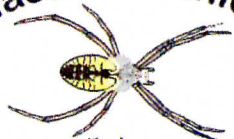
1. የምንጭ/ጠበል መፍለቂያ (Source of fresh water springs)
2. ተክሎችን ለማዳቀል የሚረዱ ነፍሳት መኖሪያ (Home for pollinators of many plants)
3. የአገር በቀል አዝርዕት መኖሪያ (Native seed sources)
4. የብዝሃ ህይወት ምንጭ (Home for biodiversity)
5. የማር ምርት (Honey production)
6. ጥላ (Shade)
7. አፈር ጥበቃ (Soil conservation)
8. መንፈሳዊ (ቅዱስ) ሥፍራ (Spiritual sanctuary)
9. የባህል ቅርስ (Cultural heritage)
10. የካርቦን ማከማቻ (የአየር መዛባትን መከላከል) (Carbon storage (important to offset climate change))

Forest canopies are homes to insects that pollinate crops



Design of TREE tee-shirt
for Ethiopian kids, to provide
a "Field guide" to important
pollinators

class Arachnida



ፍረራት - Spider

class Malacostraca



Pillbug

class Diplopoda



Millipede

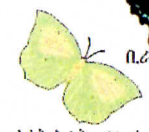
I ♥ Bugs!

class Insecta

order Lepidoptera



ቢራቢሮ - Butterfly



አሳት አራት - Moth



አባ ጨጓራ - Caterpillar

order Hymenoptera

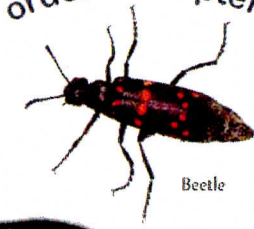


ንብ - Bee



ጉንዳጉ - Ant

order Coleoptera



Beetle

order Orthoptera

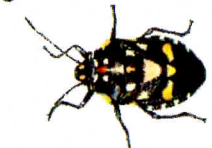


ፌንባ - Grasshopper



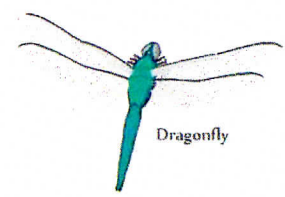
Cricket

order Hemiptera



ዕዕ ተባይ - plant bug

order Odonata



Dragonfly

order Isoptera



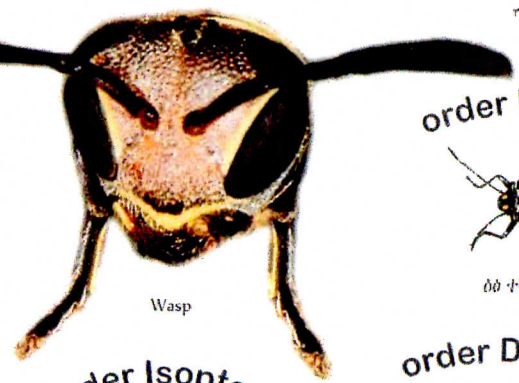
order Diptera



ዝንብ - Fly



ጠባ - Mosquito



Wasp

Kids
Learn
Bugs!

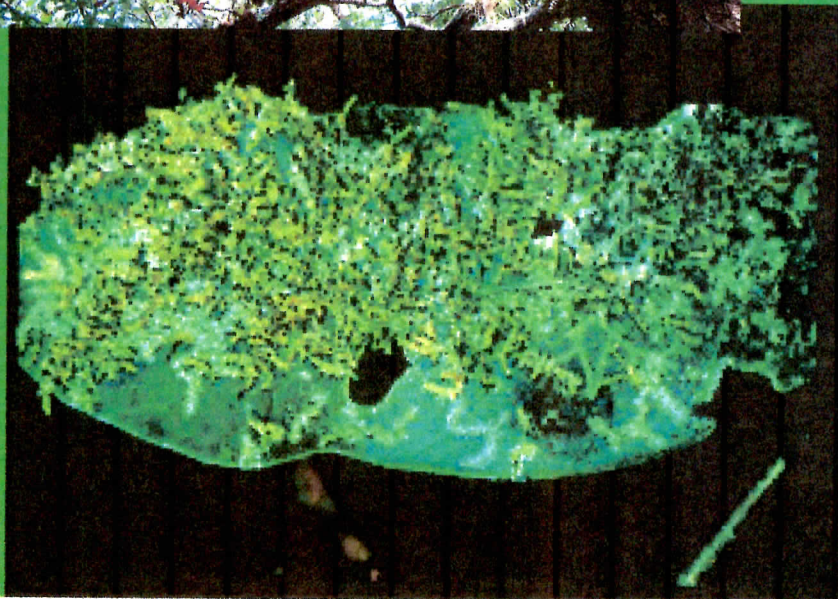
45



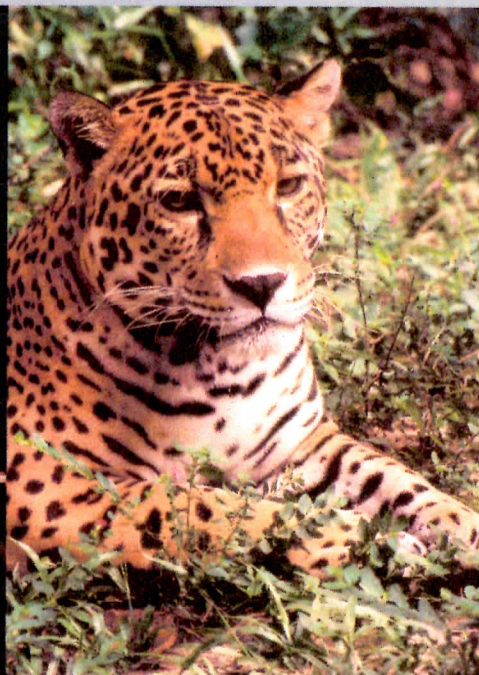
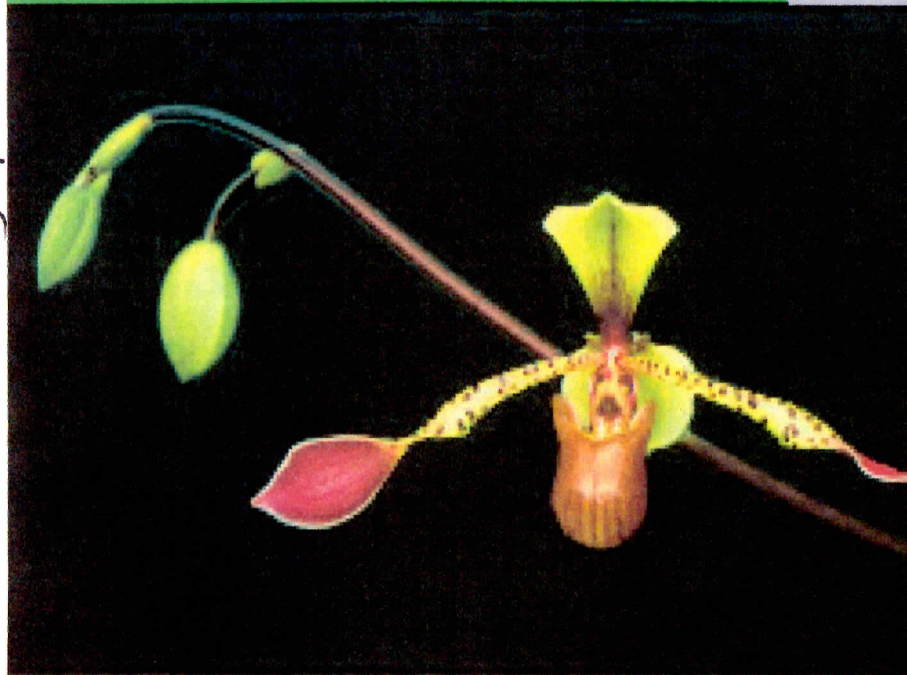
Trees hold the soil and enrich it



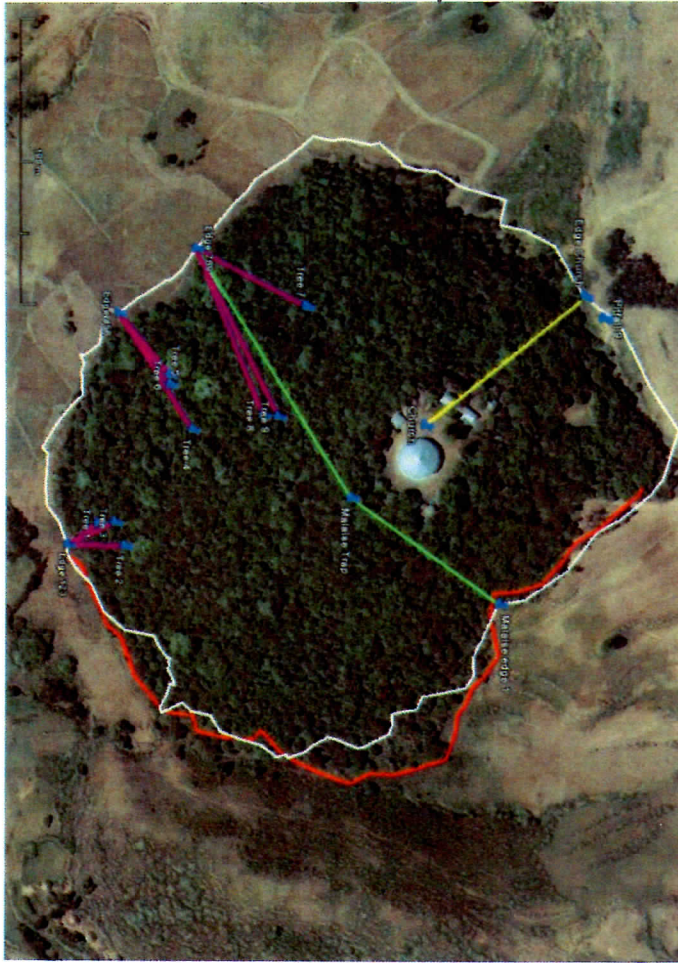
Forests provide oxygen and purify the atmosphere



Forest canopies house > 50% of Earth's biodiversity



New species found in church forests



Two forests are now walled for the future!



50



የመፍትሄ ዕርምጃ

በሰው ሠራሽ ምክንያት የኦርቶዶክስ ቤ/ክርስቲያን ደኖች በከፍተኛ ፍጥነት በመመናመን ላይ ይገኛሉ። ስለሆነም በሰሜናዊ ምሥራቅ የሃገሪቱ ክፍል የቀረው የደን ሽፋን ከ5 በመቶ በታች ነው። እነዚህን ደኖች ጠብቆ ለማቆዩት መወሰድ ያለባቸው ዕርምጃዎች የሚከተሉት ናቸው፡

1. መግቢያና መውጫ ትቶ በአፀዱ ዙሪያ ካብ መካብ። ከቀበሌው ሰዎች ቀጥሮ ለዚህ የሚያስፈልገውን ድንጋይ ከአካባቢው ማሳ አውጥቶ ሥራውን ማከናወን
2. ለቀሳውስት፣ ለሠፈሩ ኗሪዎችና ወጣቶች ደኖቹ የሚሰጡትን መንፈሳዊና አካላዊ ጥቅም አስመልክቶ ሥልጠና መስጠት
3. በተለይ ተከሎችን ለማዳቀል የሚጠቅሙትን ነፍሳት ትኩረት ሰጥቶ ስለስያሜ፣ የብዝሃ ህይወትና የተፈጥሮ ክብካቤ ማስተማር
4. የግል ንጽህናን ጨምሮ የህብረተሰቡንም ሆነ በደኑ የሚኖሩ ነፍሳት ጤና ለመጠበቅ በቤ/ክርስቲያን ቅጥር ግቢ የመፀዳጃ ቤቶችን መሥራት
5. በትሪ ፋውንዴሽን ብሎም በዶ/ር ሎውማንና ዶ/ር ዋሴ አማካይነት በቤ/ክርስቲያንና ሳይንስ መካከል ጥብቅ ትስ ስር በመፍጠር ደኖቹን ተንከባክቦ ለመጭው ትውልድ ማስተላለፍ

የኦርቶዶክስ ቤ/ክርስቲያን ደኖች ጥቅም

1. የምንጭ/ጠበል መፍለቂያ
2. ተከሎችን ለማዳቀል የሚረዱ ነፍሳት መኖሪያ
3. የአገር በቀል አዝርዕት መናኸሪያ
4. የብዝሃ ህይወት ምንጭ
5. የማር ምርት
6. ጥላ
7. አፈር ጥበቃ
8. መንፈሳዊ ቦታ
9. የባህል ቅርስ
10. የካርቦን ማከማቻ (የአየር መዛባትን መከላከል)

European storks were tracked
to roosting sites in trees!
Ethiopian church forests!
This creates global connectivity about
the value of Ethiopian church forests.



Satellite mapping of European start migration from Germany to Ethiopia

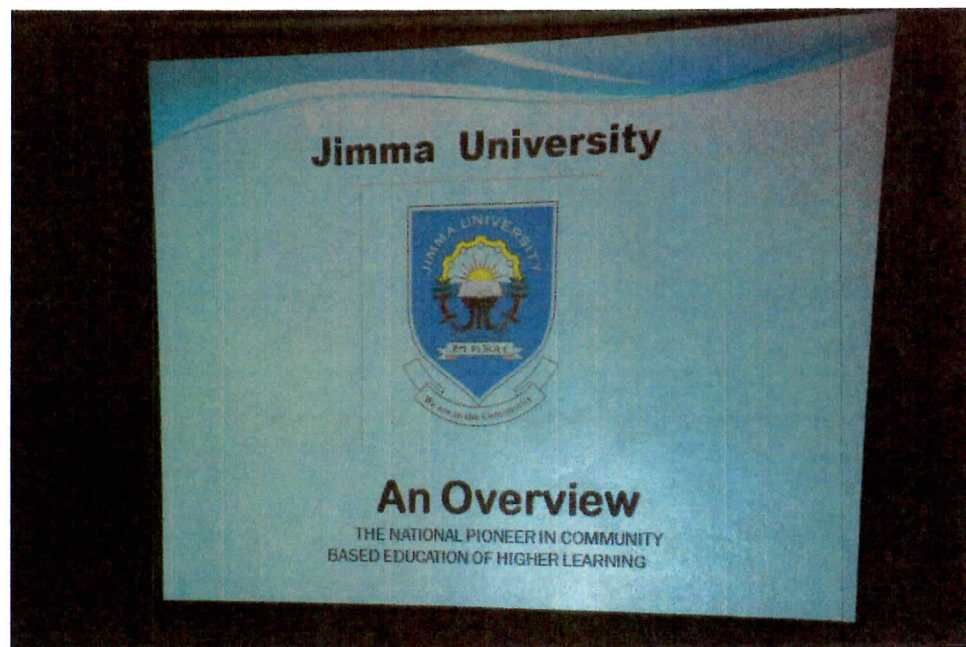
From Europe
→



Stork migration to church forest.



Board member Dan Bennett
and Dr. Louman
visit church forests and
lecture at Jimma
University



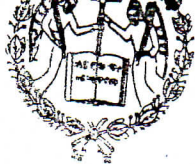


LEFT: MEG + Dan Bennett



81

Jimma University, Jimma Ethiopia



MOU with Coptic church

Tel. No.

ቀን 20/03/2004 ዓ/ም
Date 19 Yer

በኢትዮጵያ ኦርቶዶክስ ተዋህዶ ቤተክርስቲያን
የደቡብ ጎንደር ሀገረ ስብከት ጽ/ቤት
ETHIOPIAN ORTHODOX CHURCH
SOUTH GONDAR DIOCESE SECRETARIAT

ለ Margaret L...

ጉዳዩ:- የስልጠና በጀት ጥያቄን ይመለከታል፡፡

በመሪ አርእስቱ ለመጥቀስ እንደተሞከረው ጥንታዊት ታሪካዊት ብሔራዊት የሆነችው በደመ ክርስቶስ የተመሰረተች በትንቢተ ነቢያት በስብከተ ሐዋርያት የታነፀች የኢትዮጵያ ኦርቶዶክስ ተዋህዶ ቤተ ክርስቲያን በረድኤተ እግዚህአብሔር እየታገዘች በሰዓተ ሌሊቱም ሆነ በሰዓተ መሐልቱ ያለአረፍት እንደመልአክት ዘወትር በሚተጉ መምህራን ቀላውስት ዲያቆናት ደግመዋንና ሥርዓቷን ትውፊቷን ጠብቃ ለምዕመናን መንፈሳዊ አገልግሎቷን ስታበረክት ቆይታለች፡፡

ይሁንና በኢትዮጵያ ኦርቶዶክስ ተዋህዶ ቤተ ክርስቲያን በረድኤቲያን መንበረ ፓትርያርክ ጠቅላይ ት/ቤጽ ስር ለሚገኙ 48 አህጉረ ስብከቶች መካከል አንዱ የሆነው የደቡብ ጎንደር ሀገረ ስብከት ጽ/ቤት በ11 ወረዳ ቤተ ክህነት ጽ/ቤት የተከፈለ

162 ገዳማት *ministries*
763 አድባራት *cathedrals*
716 የገጠር አብያተ ክርስቲያናት በድምሩ 1641 አብያተ ክርስቲያናት እና *parish church*
7158 የአብነት መምህራን *Scholars / teachers*
19839 ካህናት *priests*
14676 ዲያቆናት *Deacons*
8399 መዘምራን *clergy*
27928 የአብነት ደቀ መዛሙርት *parishes*
34182 የሰንበት ት/ቤት ወጣቶች *Students / School / students / Community*
2758398 ምዕመናንና ምዕመናት በድምሩ 2870580 አገልጋይ ካህናትና ተገልጋይ ምዕመናን የሚገኙ ሲሆን ይህን ታላቅ ሕዝብ በማገልገል በርካታ ተግባራትን ሲያከናውን የቆየ ቢሆንም የተመዘገበው የሥራ ውጤት በቂ ባለመሆኑ አህገረ ስብከት እስከ ወረዳ ቤተ ክህነት ጽ/ቤት ተመድበው ያሉ የቢሮ ሐላፊዎችና የልዩ ልዩ የሥራ ክፍል ኃላፊዎች ለሚመሯቸው ካህናትና ምዕመናን የሚሰጡት አገልግሎት ውጤት ተኮር እንዲሆን እና የአገልግሎት ተጠቃሚዎቹ ተከባብረውና ተስማምተው ከጎች ባህላዊ ድርጊት ተጠብቀው በልማቱ ጎራ ተሰልፈው ውጤታማ በመሆን ራሳቸውንና ቤተ ሰባቸውን እንዲረዱና ሀገራዊ ግዴታቸውን እንዲወጡ ያሳስለስ ጥረት በማድረግ ለውጥ ለማምጣት እንዲያመች ካላይ ለተጠቀሱት የጽ/ቤትና የልዩ ልዩ የሥራ ክፍል ኃላፊዎች

1. በጎጆ ልማዳዊ ድርጊት *Programs / activities*
2. በመልካም አስተዳደር *Good Governance*
3. በልማት የሥራ እንቅስቃሴ *Productive development*
4. ኤች አይ ቪ/ኤድስን በተመለከተ *HIV AIDS prevention*
5. በታሪካዊ ቅርሶች አጠባበቅ ዙሪያ የአስልጣኞች ሥልጠና ለመስጠት የተያዘው እቅድ በበጀት እጥረት ምክንያት መርሃ ግብሩ ሊታጠፍበት ስለሆነ ክቡር መሥሪያ ቤቱ ይህንን የሥራ ዕቅድ የሚያስፈጽም ለሰልጣኞች የአብል የታራንስፖርትና የሥልጠና ማቴርያል የሚሆን የበጀት ድጋፍ እንዲያደርግልን በቅድሚያ ቤተ ክርስቲያን ስም በታላቅ አክብሮት እንጠይቃለን፡፡

41-02-57
41-03-14
41-03-15

አባዛዎ መልስ ሲሰጥ የጥያቄው ቅጽ ይመለስ
ደብረታል - *Delivered*



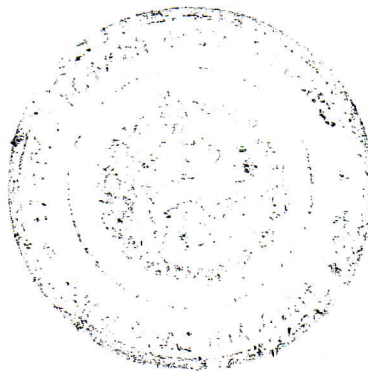
ከመንፈሳዊ ልምታ ጋር ላይኛ ጥያቄ
ፃዕደወይን አንጻር ተሰማ
የቤተ ክርስቲያን ሀገረ ስብከት
ዋና ሥራ አስኪያጅ

በደቡብ ጎንደር ሀገረ ስብከት ጽ/ቤት በ2004 ዓ.ም ለ5 ተከታታይ ቀናት በጎጅ ልማዳዊ ድርጊት፣ በኤች አይቪ እና በልማት ሥራ እንቅስቃሴ ለሚሰጠው የአሰልጣኞች ሥልጠና

የወጣ የበጀት ዝርዝር

1. ከወረዳ ለሚመጡ ሰልጣኞች ውሎ አበል 58 ሰው X 55 ብር X5 ቀን-----	15950.00
2. የደርሶ መልስ መጓጓዣ ክፍያ ብር -----	1966.00
3. የ3 አሰልጣኞች የባለሙያ አበል 3 X150 X5 -----	2250.00
4. የእረፍት ጊዜ ሻይ ቡና መዝናኛ ለ61 ሰው X20 X5 -----	6100.00
5. ለሰልጣኞች ማስታዎሻ እና እስክርቢቶ61 X20 -----	1220.00
6. የሚሰጥበት ጽሁፍ/ማኑዋል/ ማባዣ 58 X0.50 X33 -----	957.00
7. የሰልጣኞችን ሥልጠና መረጃ ለመዘግብ የሚውል-----	450.00
8. የማሰልጠኛ ቁሳቁስ/ፍሊፕ ቻርት ማርከር ፕላስተር/-----	300.00
ጠቅላላ ድምር -----	29193.00

/ሃያ ዘጠኝ ሺህ አንድ መቶ ዘጠና ሦስት ብር ብቻ/



Opportunity for Students with an Ambulatory Disability

This canopy based REU project offers students of all abilities equal opportunity to explore and learn. They can discover new species, new ecologies, new limits, and reach new heights.

Designed for 8 students, 4 with ambulatory disabilities and 4 without, this project is based on the idea that a wheel chair is not a limit to good field biology. To explore the canopy we climb ropes not trees, and in the lab we use microscopes, computers, and minds which have no limits.



A Water Bear Hunt

Outreach or informing the public, especially students who may one day elect to become scientists is a critical part of the learning process for our students. Our water bear hunts will blend the charisma of tardigrades, the adventure of tree climbing, into a public presentation.



We will set up a table in the visitors center containing our microscopes and live water bears for the public. Flanked by SEM images, posters, and signage we will attract the patrons of the museum or arboretum to ask questions and learn about our animals and NSF project. Where possible we will take students into the canopy to actually collect tardigrades from the tree fons.

Program

- Week 1, June 2-8.** Training: Climbing, Research, Chemistry, Tardigrades, GIS
- Week 2, June 9-15.** Baker Woods & Wetlands
- Week 3, June 16-22.** Water Bear Hunt at the Overland Park Arboretum
- Week 4, June 23-29.** KU Field Station & Forest
- Week 5, July 30-06.** KSU-Kanza LTER
- Week 6, July 07-13.** Water Bear Hunt at the Missouri Botanical Garden
- Week 7, July 14-20.** Baker Prairie & Blackjack
- Week 8, July 21-27.** SEM Imaging at KU Microscopy & Analytical Imagery Lab
- Week 9, Aug 28- 3.** Presentation Prep
- Week 10, Aug 5-11.** Presentations & Water Bear Hunt, NC Museum of Natural Sciences

Only 8 Positions: 4 for Students in Wheelchairs

<http://canopy.naturalsciences.org>

Deadline: *Friday, March 15, 2013*

e-mail: reu-canopy@BakerU.edu

Applications: on website, submitted by email

Questions? Contact:

William R. Miller 785-594-8379
William.Miller@BakerU.edu

Meg Lowman CanopyMeg@gmail.com

Eelie McCord mccord@ncf.edu



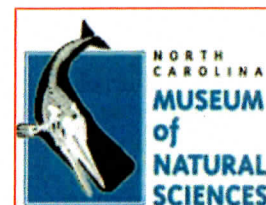
**Research
Experience for
Undergraduates**

In the Canopy with Wheelchairs and Tardigrades

DBI REU 115650



June 1 thru Aug 11, 2013
 Baker University, Baldwin City, KS



The Research Project

The hypothesis is that unlike the tropics there are no differences in the animals or plants that live at different levels of deciduous trees in temperate forests.

To test this hypothesis students will conduct vertical transects at multiple sites on various species of trees. Field collections will be moss, lichen and leaves.

Based at the new Boyd Center, Baker University, Baldwin City, Kansas the project will explore the canopy of the Transition Zone between the eastern deciduous forest and the tall grass prairie biomes.

In the lab students will extract, identify, and quantize the animals (water bears) found in each sample and learn to create Scanning Electron Microscope images. Students will analyze the chemistry of the habitat (moss/lichen) with GC, Mass, spec, and HPLC for its influence on the interstitial aquatic environment in which the animals live. The leaves of the trees will be analyzed for insect herbivory



The data will be mapped with GIS to predict other places where similar populations might exist. The data will establish a base line from which change due to global warming can be measured in the future.

Students will use professional tools such as PowerPoint to present their findings at the NC Museum of Natural Sciences and regional meetings. They will also have the opportunity to produce manuscripts for publication.

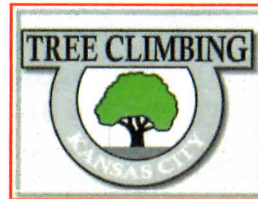
Baker Woods & Wetlands



The Baker woods is 100 acres of mature Oak & Hickory trees only 3 miles from campus. Located on the south edge of Lawrence, the Baker Wetlands is 800 acres of restored habitat.

Canopy Training: Tree Climbing KC

The KC Tree Climbers are a team with 50 years of tree climbing and teaching experience. They will train the students in SRT & DRT climbing techniques. Climbing safety and decision making are part of program.



Overland Park Arboretum



The 300-acre Overland Park Arboretum & Botanical Gardens was founded to keep the city at the forefront of environmental and ecological issues. The team will conduct both basic research in tall trees and hold a water bear hunt for the patrons of the arboretum.

KU Microscopy & Analytic Imaging Lab

Students will spend a week learning SEM, TEM, and Elemental Analysis at the KU-MAI Lab. They will produce images and data for presentations & publications



Tardigrades or Water Bears

These microscopic animals are little known, little studied, and easy to work with. They provide the opportunity for students to quickly get to the edge of knowledge and embark on true taxonomic and ecologic exploration and discovery.

Herbivory

The measure of insect usage in temperate deciduous forests is totally under documented and offers the opportunity of putting students on the cutting edge of discovery.

Principle Investigators William R. Miller, Ph.D.

Tardigrade Taxonomist & Ecologist

Baker University

Miller has published more than 50 popular & scientific papers about tardigrades and described more than a dozen new species. He has more than a dozen years of Canopy experience.

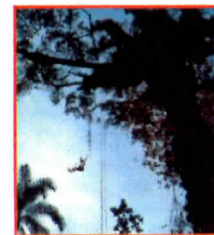


Meg D. Lowman, Ph.D.

NC Museum of Natural Sciences

Canopy Pioneer & Author

Lowman has published more than 80 popular books & scientific canopy articles. She can be seen in National Geographic's "Hero's of the High Frontier" and is a leader in conservation



Elsie McCord, Ph.D.

New College of Florida

Environmental Chemist

McCord's research is on insect pests, chemical composition of plants, and the environmental fate of pesticides.



Missouri Botanical Garden



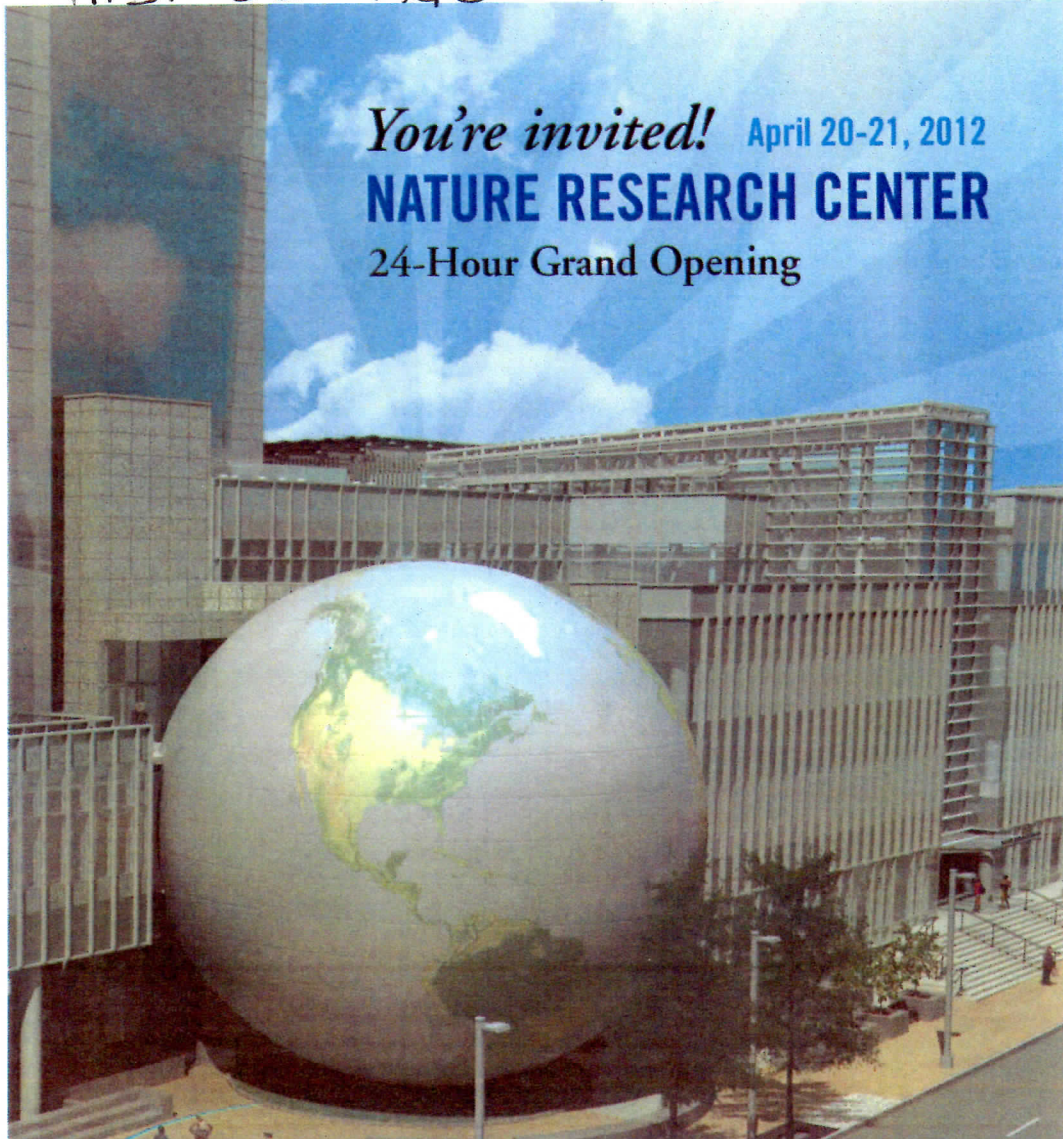
The team will travel to St. Louis to collect and conduct a water bear hunt in the 300 acres of the garden.

This outreach will touch thousands of people including students who may be future scientists.

p.2 - Program for mobility-limited students in canopies.

62

April 20 - Opening of North Carolina's new
Nature Research Center, with "TREES-R-US" as
first scientific theme for 2012



You're invited! April 20-21, 2012
NATURE RESEARCH CENTER
24-Hour Grand Opening

CONTACTS:

Jon Pishney
919.733.7450 x304
jonathan.pishney@ncdenr.gov
or
Emelia Cowans
919.733.7450 x305
emelia.cowans@ncdenr.gov

ON APRIL 20-21, 2012, THE NORTH CAROLINA MUSEUM OF NATURAL SCIENCES WILL OPEN ITS INNOVATIVE NEW WING, THE NATURE RESEARCH CENTER, IN GRAND STYLE!

From 5pm on Friday until 5pm on Saturday, be among the first to trek through this new wing dedicated to bringing scientific research into the public eye. Meet internationally known scientists and enjoy brand-new exhibits, special programs, hands-on activities, live music and much more ...

NORTH CAROLINA MUSEUM of NATURAL SCIENCES
Downtown Raleigh naturalsciences.org

Staff Writer

An effort to reduce impaired boating fatalities will make area waterways an uncomfortable place for alcohol users this weekend.

Officers with the N.C. Wildlife Resources Commission will be reaching out to as many people as possible this

See BWI, page 2-A

Fair Bluff names Justin Hewett chief

By ALLEN TURNER
Staff Writer

The Fair Bluff Board of Commissioners voted unanimously Monday to name Justin H. Hewett as chief of police. Hewett accepted the position at a starting salary of \$40,000 a year Tuesday morning in a meeting with members of the police commission, comprised of Mayor



Justin Hewett

See Fair Bluff, page 7-A

A fire inside Beautiful Interiors off J.K. Powell Boulevard in Whiteville Wednesday morning caused severe damage to most of the two-story wooden structure. Whiteville Fire Capt. Mark Rowan, wearing helmet, confers with Chief David Yergeau about fire in the rear of the building.

'Einstein of treetops' to speak here Monday

Meg Lowman, internationally known as "Canopy Meg," will present a unique and visually stimulating program at the N.C. Museum of Forestry in Whiteville Monday at noon.

The public is invited to the free program, one in a series of "Meet Me at the Museum" programs. Light refreshments will be served and attendees are invited to bring a sandwich and have lunch during the program.

Lowman will examine "Life in Tree Tops," one of her seven books that explore life in the forest canopy. It is a first person account of her work and experiences in forests around the world and she will provide a top down look at the plant and animal life amongst the leaves and branches of some of the world's most magnificent trees.

Nicknamed the "real-life Lorax" by

National Geographic and "Einstein of the treetops" by the *Wall Street Journal*, Lowman pioneered the science of canopy ecology.

For more than 30 years, she has designed hot-air balloons and walkways for treetop exploration to solve mysteries in the world's forests, especially insect pests and ecosystem health.

Lowman is affectionately called the mother of canopy research and has authored more than 100 scientific publications. She holds a Ph.D. in botany from

the University of Sidney, Australia and a Master of Science degree in ecology from the University of Aberdeen, Scotland.

She is director of the new Nature Research Center, which is part of the N.C. Museum of Natural Sciences in Raleigh.



Dr. Meg Lowman

A firm contracted to replace the county's aging and failing emergency communications radio system is working daily in Columbus County to meet the June 30 deadline, officials say.

"We hope to have the system up and running by the end of this month," said Kay Worley, assistant deputy director for county emergency services.

The \$1.5 million digital radio system installation and 9-1-1 center upgrades are funded primarily with more than \$1 million in restricted funds collected as surcharges on

See Radio, page 3-A

City upholds rule to bring down skating rink

By JEFFERSON WEAVER
Staff Writer

In Whiteville's first quasi-judicial hearing in recent memory, the city council Tuesday upheld a demolition order against a derelict skating rink.

City Attorney Carlton Williamson suggested the city hear an appeal by the owner, Alice Taylor, in a more formal setting. Taylor owns the old Whiteville skating rink on Caldis Street.

The rink has been closed for decades, and the city has made numerous attempts since 2007 to contact Taylor. City council voted earlier this year to demolish the building, which

See Skating rink, page 9-A

Boys Home alum, football star died in combat

By JEFFERSON WEAVER
Staff Writer

Long before NFL star Pat Tillman died in the service of his country in the War on Terror, a local

Lake Waccamaw, and was an early pick by Fredericks College in Virginia when another draft – the military – cut his football career short.

According to posts on a webpage devoted to his memory, Powell may have asked the draft board



2012 - Treetops Camp for underserved girls in upstate New York.

The 2012 Meg Lowman Treetops Camp is for girls aged 9-12 years old and will be held the week of July 23-27th from 10am-3pm. We will provide tuition, lunch and possibly transportation (if needed) for the week.

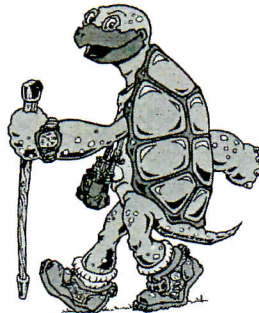
We created the camp with several goals in mind:

1. To provide strong female mentoring to girls
2. To introduce the scientific method in various ways throughout the week and teach the young women to use it not only in science but also in other areas of their lives and
3. To get the girls outdoors and foster an appreciation for our natural world, using Meg Lowman (www.canopymeg.com) as an example of a successful local woman that has dedicated her life to working for the betterment of the environment.

The 5-day Camp covers a variety of topics including;

- DAY 1- Monday July 23rd: **Introduction to Scientific Method and Field Studies- Dr. Lynn Gillie, Elmira College**
- DAY 2-Tuesday July 24th: **Water- Melissa Yearick of the USBBC**
- DAY 3-Wednesday July 25th: **Temperate Forest Studies- Dr. Forrest Meekins, Elmira College**
- DAY 4-Thursday July 26th: **Crafting w/Natural Objects- Fibers & Spinners Group, Spa Day**
- DAY 5-Friday July 27th: **Rainforest Lecture by Meg Lowman, Tree Climbing w/ Cornell Outdoor Education and Meg Lowman, Science of Fashion session with Betsy Hilfiger**

Each day includes a segment of time for journal writing, a ½ hour lunch and time for discussion and just getting to know each other. Tanglewood has a variety of live animals that we use for programming and they are incorporated each day, where appropriate.



New student program, thanks to Spurlino beetle
and Betsy Cole's illustration!

Students - apply for a new award!



The purpose of the award: The award serves to promote the study of unexplored aspects of natural history of insect pests. Due to their success in the competition with humans, these insect groups are often condemned as harmful, while their remarkable qualities and peculiarities remain unnoticed. For example, only a handful of species of bark and ambrosia beetles cause damage to humans, while most of the remaining 7,500 species are fascinating organisms, ranging from cute to bizarre, living extraordinary lifestyles, and barely known to humans. The same discrepancy holds for many other insect groups.

The main purpose of the award is to foster communication between fundamental and applied young entomologists, and increase their appreciation for each other's study organisms and research methods.



Like this bizarre *Cyclorhipidion spurlinum*, a newly discovered ambrosia beetle from New Guinea, many insects belong to groups called "pests", but the actual organisms are a source of wonder to an

The award: \$500 awarded annually to a single recipient. Sponsored by the TREE Foundation, Sarasota, FL.

Who is eligible: University students regardless of their geographic location (must be in student status at the time of submission of the competing manuscript)

Due date: Beginning in 2012, applications are due each year by October 1st

Selection criteria and conditions: The selection committee will award \$500 to the student who in the given year publishes the most interesting and inspiring research paper on insects which are usually regarded as pests. There are three conditions for consideration:

- 1) the work may address any aspect of insect pest systematics, diversity, ecology, and other areas, but its main focus must not be consequences of such species to humans or pest management.
- 2) the study must be at least "in print" in a scientific peer-reviewed journal by the annual deadline of the award,
- 3) the awardee must be a student at the time of the application submission.

The award is supported by the TREE Foundation in Sarasota, FL, and conferred by the Ambrosia Symbiosis Research Group (Jiri Hulcr and Andrea Lucky at University of Florida, Rob Dunn at North Carolina State University, and Anthony I. Cognato at Michigan State University).

How to apply: Please send a brief e-mail to hulcr@ufl.edu containing 1) a few words about yourself, 2) a contact information of a faculty or a university official who can confirm your student status, and 3) the competing publication as an attachment. There are no forms to fill out.

Please send any further inquiries to hulcr@ufl.edu

66-

Amazon conservation programs

AMAZON CLEAN WATER CAMPAIGN

Update: September 14, 2012

By Frances Gatz

A little girl by the name of Leysy inspired Carolyn Solomon's interest in working with the Amazon Amigos project of the TREE Foundation to launch the Amazon Clean Water Campaign. The campaign has raised over \$13,000 to date to construct two water treatment plants in the upper Amazon basin of northern Peru. Carolyn and her husband Dan Solomon were participating at Leon Isla in the Amazon Village Service Project of the NC Museum's 2011 Amazon Expedition led by Dr. Meg Lowman when they met Leysy, a beautiful little girl whose physical condition could easily be associated with lack of clean water and basic health services.



At Exploris Middle School in Raleigh, 8th grade teacher Frank McKay and his colleagues worked with students and local partners to create a "Global Health Symposium" at a local mall to extend the Amazon Clean Water Campaign education outreach and fundraising. Frank was a fellow traveler on the 2011 NC Museum trip. The event, scheduled in January 2012, involved students in raising community awareness about the connection between clean water and global health and the state of one of the planet's most treasured natural resources – the Amazon rainforest.

Independent photographer and traveler Kathy Dow also contributed her time and efforts to create Gaining Perspective in the Amazon Rain Forest, a beautifully illustrated 72-page book given as a gift to \$100+ donors to the campaign.

In spring of 2012, a new cement water plant was constructed by CONAPAC in the village of Leon Isla. The plant is identical to the two that Amazon Amigos is sponsoring and significantly more stable and long lasting than the former structures made from wood. Here are several photos of this new water plant in Leon Isla. The facility was completed August 15 in time to hold a community water workshop and fully inaugurate the water plant with a day of education workshops and formalities.



The concrete water treatment plant is 2 meters square and 7 meters high, with a roof of corrugated metal. There is no electricity in the system as the process to treat water is done through gravity.

p.2 - Amazon conservation programs

Each community water treatment plant can serve 350-400 people per day. The community contributes to the cost of building the water plant by purchasing a portion of the parts including the water pump, wood, and filters, plus labor for construction. The investment is \$8200 to partner with a village and provide this life-giving community project. Along with this professional construction, CONAPAC provides education, testing, and oversight. CONAPAC insists on these critical services to insure success of each community's water project and the best return on donors' investment dollars. The cost of this additional portion of the project is \$1800.



Campaign fundraising will be supplemented in order to construct two cement water plants to be built in early 2013 in Amazon villages. These water purification plants will go a long way to making sure parasites and worms are less of a problem for all of the children in these communities.

In July each year, graduate students from the University of Colorado visit and monitor the water purification plants. This partnership has been an invaluable service and has yielded an NSF sponsored pilot project concerning methods of long term sustainability and support. CONAPAC will build six more concrete water plants in 2013 (including the two that we are sponsoring) and with luck, they will find enough money to return to some of their older water plants and retro-build them in concrete instead of wood.

Additionally, through our network of supporters this year Amazon Amigos contributed a used microscope for the water workshops. The water audit team found that using a microscope during CONAPAC's water workshops to demonstrate the difference between clean and dirty water has the greatest impact on the river residents. CONAPAC had previously been borrowing a microscope from area schools.

The rainforest and its people are inseparable. Preservation of the Amazon Rainforest is dependent on improving the health and well-being of Amazon children and families, who live in this extraordinary part of the world. The upper Amazon basin of northern Peru is an important region of the Amazon. Unfortunately, development monies rarely reach this far into the jungle and it is largely overlooked by international aid organizations. Even the Peruvian government has, in large measure, forgotten these river people and their impact on the future of the Amazon Rainforest. CONAPAC is working to improve the education, conservation, and community leadership in the remote river villages in this area and we remain dedicated to assisting them with this mission.

Author/donor Julia Heckathorn teams with
student TREE scholar Bryson Voirin to save sloths!

Hidden Clover Escudo Island Trip Report

September 7-17, 2012

Team Members: Julia Heckathorn, Jason Heckathorn, Sebastian Castillo (Guide)



- Friday, Sept 7** – Washington DC to Panama City Travel- Meeting- Smithsonian Ornithologist (George Angehr) and EDGE Pygmy Sloth Fellow (Diorene Smith)
- Saturday, Sept 8** – Panama City to Kusapin via Bocas del Toro – new mangrove sloth observations
Kusapin- met with Mariano and Acacio Bekev Salazav & received cultural background from Amanda Terry (Peace Corps)
- Sunday, Sept 9** – Traveled to Escudo Island and began wildlife research - sloths & bats
- Monday, Sept 10** – Continued wildlife research and began discussions with fishermen & rangers
Documented deforestation in many areas for many types of trees
- Tuesday, Sept 11** – Continued research and discussions until disrupted by snakebite
Proceeded back to Kusapin for medical treatment
- Wednesday, Sept 12** – Time recovering in Hospital, mapped Kusapin for possible garbage collection service
- Thursday, Sept 13** – After release from hospital, met with Health Minister, Pastor of Kusapin Apostolic Church, read our Escudo Island children's book to children in the park for initial responses
- Friday, Sept 14** – Meetings- Tobobe Pastor and Kusapin Methodist Pastor,
Meeting with Mayor, Cacique, and their most trusted men in Mayor's office
- Saturday, Sept 15** – Traveled to Guacamayo to meet with Bianco Archibald
- Sunday, Sept 16** – Observed small sloths near Bocas, meeting with Sea Turtle Conservancy's Panama Research Coordinator (Christina Ordoñez)
Meeting- "Bruce" Simon, President of the Escudo Island Fisherman's Association
- Monday, Sept 17** – Return to Washington DC

Our original focus was on island signage installation, but with permit delays and an encounter with a venomous snake, our time was spent on preparation for the signage and relationship building. We hoped to gain the trust of the people, to work with the Ngobe fishermen and those in charge of the island, and to educate the people on conserving Escudo Island and its inhabitants. We wanted everyone to be on the same page, to know why Escudo needs a garbage service, park rangers and laws to save the trees, the animals, and the environment.

When we arrived at the mainland Ngobe fishing community of Kusapin, we were greeted with strange looks and distrust, as we had expected would be the case. We decided to start our work on Escudo Island early, and headed out to sea the next morning for a 20-mile boat ride into the open ocean once again. We made incredible observations of the sloths, including new information on diet, range of habitat and weights, and gathered samples for DNA testing.

When we observed the sloths eating an Inga Tree flower and got a closer look over the boat, a Fer-de-lance happened to be sitting atop the leaves and struck my finger. Our boatman rushed us

p.2- Sloth conservation

straight back to Kusapin where he knew of a small hospital clinic. While in the town, news of my condition spread rapidly, as the church members prayed, and others sent kind words or stopped by the hospital. The town was worried, and when I finally got out, many literally cheered as I walked by. I had gained credibility with the people, and an instant trust that would only come from receiving a bite from the snake they all feared most.

Not only did our team gain credibility and trust with the people, but all of the Ngobe leaders came to meet with us to learn why we were there, how they could help, and what the next steps should be. I handed out 15 initial copies of the Spanish version of my Escudo Island children's book to teach about taking care of the land and animals, and got amazing responses. We have been corresponding with the leaders of the Comarca to discuss a next trip in November to include education and children's book distribution, ranger rotations, camp stoves, and garbage collection. Escudo Island is under environmental attack by deforestation, garbage, and unlawful fishing methods. Today the rules are not clear, nor are they enforced. With the leaders of the Comarca and fishing community, we will define new laws, which will be posted on the island on thirteen 3x4 foot signs. We are currently discussing the exact wording of the laws, but the initial look of the sign is below.



We hope to have the signage and attachments (poles, bolts, etc) ready for our next trip to the Island in November. The cost of this project include:

Boat Rental- \$800

Guide and Translator Services- \$800

Coordination for Materials in Country- \$100

Air Travel - \$1500 (Paid by Hidden Clover)

Sign Design- \$5000 (Hidden Clover in kind)

Lodging - \$300 (Paid by Hidden Clover)

Fuel- \$318

Cost of Materials- \$ TBD

Site Plan: Install one sign at each of the 13 groups of houses on the beach in a highly visible location. Print the signs in a 3'x4' (wide) format on weather resistant vinyl with metal grommets. Hang the signs between trees at each site using wire or insert 4" PVC pipes to hang the sign from at the couple of sites without highly visible trees.

TREE was involved in this event.

~~Nota~~



6th International Canopy Conference

Oaxaca, Mexico, 2012

ANTHROPOGENIC INFLUENCE ON FOREST CANOPIES

October 24-27

PROGRAM



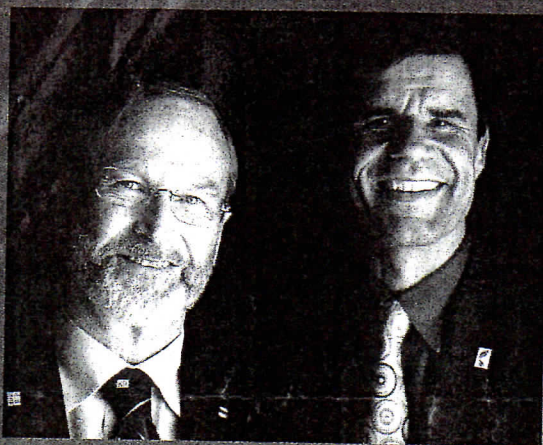
Mexican women-in-science students
receive books from TREE Foundation,
at the 6th International Canopy
Conference, co-sponsored by TREE
and co-chaired by Dr. Lowman.

Blue Planet Prize

2012 Winners

Stars of the Planet

This year we celebrate the 20th anniversary of the Blue Planet Prize, awarded to individuals and organizations who have made outstanding contributions to the solution of global environment problems. We salute these individuals for their great eloquence, as well as for their tireless efforts to ensure a bright future for our planet.



Professor William E. Rees (Canada) **Dr. Mathis Wackernagel** (Switzerland)

Professor William E. Rees and Dr. Mathis Wackernagel are advocates for the "Ecological Footprint," a unique index linking limited ecosystem services with human resource consumption. The graphic power of the Footprint metaphor in many languages has helped make the Footprint the world's best-known and most-used sustainability metric. Their study has significantly influenced society, prompting wide reflection on excess consumption.



Dr. Thomas E. Lovejoy (USA)

Dr. Thomas E. Lovejoy was the first scientist to academically clarify how humans are causing habitat fragmentation and pushing biological diversity toward crisis. He has influenced numerous academics and societies and has helped to protect the natural environment based on biological diversity, which is now a mainstream concept.

*Congratulations!
Tom! TREE
from TREE
Foundation*



af **73**
THE ASAHI GLASS FOUNDATION
www.af-info.or.jp

Our emeritus Board Chair wins global award!

End-of-year program about trees and nature - attend virtually!



BIODIVERSITY FOUNDATION



NORTH
CAROLINA
MUSEUM
of
NATURAL
SCIENCES

E.O. Wilson's Global Town Hall

A discussion with one of the greatest scientists of our time

- Who:** *Edward O. Wilson:* world-renowned Harvard biologist, mentor of generations of scientists, champion of environmental conservation, and
YOU: students, educators, scientists, conservationists, photographers, storytellers, and engaged inhabitants of planet earth.
- What:** Join E.O. Wilson as he empowers a new generation of scientists to embark on journeys at the cutting edge of science. Against a backdrop of images from the Gorongosa Restoration Project in Mozambique and coinciding with the launch of the museum's permanent exhibit of the digital high school biology textbook, *E.O. Wilson's Life on Earth*, E.O. Wilson will discuss how studying and exploring biodiversity is now cutting-edge science, offering hands-on physical adventure, and the promise of contributing to important advances in medicine and the environment.
- Why:** E.O. Wilson is among the leading voices bringing attention to the loss of our Earth's biodiversity. He will draw from a lifetime of research, exploration, advocacy, and writing to inspire and engage high school students regarding the importance of biodiversity and environmental conservation. In conversation with the audience, and responding to questions, Dr. Wilson will offer advice to those who are engaged in and will inherit the urgent mission to protect, maintain, and restore the biodiversity of our planet.

Before December 13th

Join the conversation!

Send your questions for E.O. Wilson throughout the month of November to askeowilson@eowilsonfoundation.org

Visit our Facebook event page E.O. Wilson's Global Town Hall!

www.facebook.com/events/432573543465663/

On December 13th

Live event: 1pm EST, 10am PST

In person at The Nature Research Center, North Carolina Museum of Natural Sciences

Live streaming into your classroom anywhere around the world!

<http://www.livestream.com/naturalsciences>

For more information, please visit www.eowilsonfoundation.org

Join our mailing list for updates on the event!
www.eowilsonfoundation.org/join-the-movement