



Tropical News

CENTER FOR TROPICAL ECOLOGY & CONSERVATION

Antioch University New England, Keene, New Hampshire, USA

www.CenterForTropicalEcology.org

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Edited by
Sofia Angelo & Christine Gleason



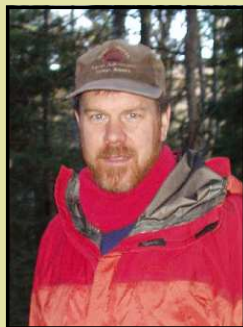
The Brazil Nut Tree is the most economically valuable forest product in the Bolivian Amazon. Most research and development projects focus on its sustainable management. To learn more see Kelly Biedenweg's article inside.

Photo by: Kelly Biedenweg

Co-Director, Peter Palmiotto's Update

OUR MISSION

The Center for Tropical Ecology and Conservation is a non-profit organization at Antioch University New England which promotes the sustainable and just use of tropical ecosystems by training conservation leaders, conducting conservation research with partner organizations, and serving as an educational resource for the New England region.



The articles in this newsletter attest to our CTEC graduates making a difference and demonstrating their leadership qualities in tropical conservation. Similar to my co-director's work in Rwanda (page 6), you will read about Kelly Biedenweg's capacity building efforts as she works one on one with Bolivian scientists to build their capacity in proposal and scientific paper writing and about Lauri Brewster's pathway to her current position with the Rainforest Alliance which works toward promoting sustainable practices with the goal of conserving biodiversity in the tropics. We look forward to the meaningful and significant accomplishments our graduates will achieve in their careers as leaders in tropical conservation.

As Beth Kaplin said in our last newsletter we have, and have had, outstanding students working with CTEC over the last 7 years. Christine Armiger who graduates this spring is one such student.

Continued on page 3

Building Capacity as We Build Our Own

Kelly Biedenweg, MS Antioch University New England, PhD Candidate, University of Florida

During the first meeting with my funding committee at the University of Florida (UF), the Principal Investigator asked each of his new tropical researchers for their professional vision. Around the room students expressed their commitment to working for international conservation NGOs, scaling the steps of academia, or a mixture of consulting and academics. “Ok,” he said, “but if you’re really interested in tropical forest conservation, you should consider teaching at a Latin American University.” Fair enough. Building capacity within the countries we work is likely the best avenue for enabling a sustainable future.

My primary fellowship at UF is from National Science Foundation’s (NSF) Integrative Graduate Education and Research Traineeship Program (IGERT), a funding source that can be found at universities throughout the U.S. whose departments have collaborated to train interdisciplinary doctoral students. My specific IGERT, Working Forests in the Tropics, includes a mish-mash of professional skills (i.e., facilitation and conflict resolution), two years of interdisciplinary coursework, applied interdisciplinary research in a Latin American forest, collaboration with host-country professionals, capacity building of host-country residents, and practical experience in the issues surrounding tropical forests. Note that research was only one component of that list.

My research base is at the Amazon University of Pando (UAP) in the town of Cobija, Bolivia. UAP provides me with vehicles and logistical support, while I return the favor by supporting their researchers. At UAP, a student can obtain the equivalent of a bachelor’s degree in biology, forestry or communications and upon graduation be considered the highest trained professional in the Bolivian Amazon. Local university graduates are experienced in ways that an American researcher could never be: intimate understanding of field conditions, species identification, local culture, how to buy food to spend weeks in the Amazon forest. But in my UAP office I find that my colleagues lack some very important skills that result in low productivity and self-esteem: proposal writing, research design, data collection, data analysis, report writing, and publications. Their opportunities for gaining these skills are nil, yet they are expected to do research and publish because they are the highest qualified biologists and social scientists in the region.

With a small travel grant from my NSF funding, I spent five months working with each of five researchers one-on-one. As they learned how to use Statistical Package for Social Sciences (SPSS) and write a proposal, I learned the current issues in conservation of the region, the common methods used for data collection, and the local terminology used in my field. This mutual exchange has been extremely beneficial in establishing me as a professional, but I’ve run into people who question whether such a time commitment could be expected of a graduate student, and whether graduate students should be trusted to help train the future researchers of a tropical country. I’ve come to the conclusion that engaging in capacity building is really practicing for future collaboration; it is a two-way street that is imperative to our education process.

The best way to learn is by teaching, the best way to gain respect is by giving, and the best way to feel secure is by experiencing. Graduate students who work internationally need to learn, gain respect, and feel secure very quickly if they are to be successful in the field. Though it takes an exceptional amount of time and energy to genuinely invest in in-country partners, the opportunities for reward are substantial. By giving early on, I have developed friendships and professional relationships built on mutual respect. Most importantly, I am confident that my research is applicable to the region and I understand how it fits into the context of existing research that will likely never be published in peer-reviewed journals. I could have chosen to focus all field time on my dissertation research and save capacity building until I was paid to do it, but I feel this experience has shaped my comfort and enthusiasm for doing doctoral research in Bolivia, even if it will take a few months longer than conventional.

Building capacity isn’t just mentoring local researchers; there are also the options of using community members or students from the region to assist in data collection, using participatory research methods, returning research results in an educational format, and providing a workshop in a requested topic. Because of its implication for the future of conservation, and its clear rewards for us as professionals-in-training, I highly recommend engineering these opportunities to invest in future conservationists.



A woman from a Bolivian Amazon community doing a cognitive map as a research participant. This shows her idealized perception of forest use.

Co-Director's Update (continued from page 1)

She has done an outstanding job for CTEC as the Education Coordinator in 2006 and then as Program Manager this past year. Her leadership qualities and positive energy will be missed and we wish her all the best. With Christine's departure we welcome back Joseph Mlotha as CTEC's Program Manager, please read of his year away on page 3. Also read the Student Spotlights on our current students: Meagan Jones and Tamarra Martz.

We continue to make connections in the tropics: a field studies trip to Costa Rica (page 4), Jill Rolph's sea turtle presentation in Mexico (page 5) and our new affiliate, Health In Harmony (page 6). I am particularly proud of this affiliation because the area in which they work, Indonesian Borneo, is where I was introduced to the tropics. I spent a total of 18 months among the magnificent flora and fauna of a pristine tropical rainforest. Please read about their amazing work. Beth (page 6) also is making significant strides in connecting CTEC and Antioch University to the tropics with her work in Rwanda. This March our Dean of Academic Affairs, Steve Guerriero, went to Rwanda to move forward the exchange program with National University of Rwanda.

As our mission states we will continue to promote the sustainable and just use of tropical ecosystems by training conservation leaders, conducting conservation research with partner organizations, and serve as an educational resource for the New England Community. Thank you for your interest and support.

By Peter Palmiotto, DF, Co-Director

Welcome Back to Joseph!

Integrated research and landscape analysis: My one year experience in Rwanda

By McArd Joseph Mlotha, PhD Candidate, ANE



Land degradation, mainly caused by over-grazing, within catchment of Lake Rwampanga in Eastern province of Rwanda.

I spent 2007 at the Centre for GIS and Remote Sensing Research and Training (CGIS) of the National University of Rwanda (NUR). The centre was created in 1991 with an aim to promote a spatially literate society through training in geo-science information and carrying out research using GIS and remote sensing (RS) technologies. Through a NUFFIC/Netherland government grant, the centre introduced GIScience courses at the National University of Rwanda (NUR). CGIS is one of the research and management centers of the National University of Rwanda. At CGIS-NUR, I was the Head of the Environment and Natural Resources Management (E-NRM) research Unit.

During my one year in Rwanda, I participated in various trainings and research projects, meetings, teaching GIS and RS, and advising students' research projects. One important moment was when I was appointed to be part of a technical team; the objective was to assess the situation and suggest possible lasting solution to flooding and landslides including the rehabilitation of the Gishwati ecosystem.

The whole issue started when Nyabihu and Rubavu Districts, in Western Province experienced heavy rains on 12th September 2007 that caused landslides and flooding. It was a tragic situation because there was serious destruction of houses and about 17 people lost their lives as a result of the floods.

The lessons learned during the mission include the possible causes of floods in the area and how the local people perceive the environmental conditions. Talking to some of the displaced victims, they said that the floods started when the Gishwati forest was converted to agriculture after genocide returnees. Initially, the first floods were experienced in 1995 while the genocide was in 1994. The area is vulnerable as the steep slopes are cultivated without proper land conservation measures and they grow potatoes which do not provide any control to soil erosion.

In a summary, Rwanda's major problem is environmental degradation which affects almost every other aspect starting from food production to national development. The photos below, highlights some of the challenges of ecological restoration which the Government of Rwanda is facing a part from the high population densities.



Bigogwe Area flood site in Nyabihu District, Rwanda.



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Antioch Goes To The Tropics: A Spring Break Field Studies Trip

By Rosalind Perera, MS Candidate Environmental Education, ANE

Shortly after midnight on March 9th, ten students and Professor Jon Atwood headed south for a course in tropical ecology and conservation biology in Costa Rica. Partnering with the Monteverde Institute, our course was cooperatively taught with Patricia Ortiz and other conservation professionals working in the country. We traveled through three distinct ecosystems: The Isthmian-Atlantic Moist Forest, Talamancan Montane Forest and the Central American Dry forest. Our research interests varied between field locations but throughout our trip we looked at the conservation challenges facing these ecosystems and the country as a whole. For example: How does a country known for its natural beauty continue to protect flora and fauna in the face of over one million foreign visitors a year? How economically and environmentally sustainable is the "eco" tourism industry, as it exists today? And, how can conservationists work with ranchers and farmers to link existing protected lands?

Our first stop was the lush, mid-elevation forest at Tirimbina Biologica Reserve. It was here that we slowly began to learn some of the core families and species that were the building blocks of this new environment. With four percent of the world's biodiversity in an area roughly the size of Vermont and New Hampshire combined we marveled at each new flower, butterfly, frog and seedpod that came across our path. A quarter-mile walk easily turned into an hour-long adventure.

Moving westward, our next destination was the town of Monteverde and the Santa Helena Cloud Forest Reserve. Located in the Tilaran Mountain Range at approximately 1600 meters this area is bathed in moisture as warm winds from the Pacific and Caribbean rise up the Continental divide, cool, condense and form the namesake clouds. Wildlife highlights included a two-toed Sloth with an infant and two sightings of the Resplendent Quetzal.

Our last stop was in Santa Rosa National Park on the Pacific Coast. More endangered than the tropical rainforest, this habitat is the current focus of several conservation efforts in the country. We looked at the dry forest ecosystem as well as mangrove forests, an expedition made all the more adventurous by rapidly rising tides and a stormy boat ride.

While somewhere there must be a joke about what happens when a birder, a botanist and a geologist walk into a forest, for the eleven of us, our adventures in Costa Rica helped remind us of the power of interdisciplinary exchange and the pure joy of exploring new environments.



Parking lot wildlife viewing. A male, resplendent Quetzal perches above the tour buses.

Sea Turtles and the Tropics

By Jill Rolph, MS Candidate Individualized Program, ANE

In December 2007, I was selected to present a poster at the 28th Annual Symposium on Sea Turtle Conservation and Biology in Loreto, Mexico. My poster presentation entitled, *Sea Turtles and the Tropics: Leveraging The New England Connection Through Bi-Directional Education and Communication* was well received. Over 1000 scientists and graduate students from over 70 countries attended this annual symposium. My goal was to create connections between members of the International Sea Turtle Society and Center for Tropical Ecology and Conservation (CTEC).



Leatherback turtle laying eggs

Photo by: Matthew Godfrey, Caribbean Conservation Corp

I originally became aware of the sea turtles jeopardy in 2002 and I knew I wanted to help. My first step was to volunteer with The Sea Turtle Conservation League of Singer Island in Florida. When I saw the tracks of the leatherback sea turtle – I was hooked. To learn more about sea turtle conservation, I traveled to Costa Rica to volunteer with the Caribbean Conservation Corporation (CCC). I participated in their Leatherback Project, initiated in 1995 to document the use of the Tortuguero beach by these huge turtles.

Leatherbacks are found worldwide except in the Arctic and Antarctic. In North America, they are found from Maine to Florida, and Washington to California. As hatchlings and juveniles, leatherbacks remain in warmer waters to our south, but as adults they undertake the longest migration of all reptiles. From their tropical nesting beaches in the Gulf of Mexico and the Caribbean, leatherbacks head north to feed extensively on lion's mane jellyfish. They will travel almost to the Arctic Sea foraging, sometimes up to 6,000 miles during their migration, and then later return to the tropics to breed and nest.

Leatherback sea turtles have declined in numbers more quickly than any other species of large vertebrate in modern history. In 1980, the global population was estimated to be 115,000 adult female leatherbacks, but by 1995, their numbers had been reduced to about 35,000. Today, their numbers continue to plummet.

The survival of sea turtles is intricately interwoven in the need to have functioning and healthy ecosystems, sane fishing policies that protect marine biodiversity, and recognition that there are limits to growth. Today, people are starting to recognize the need for sustainable use of the ocean's resources. To truly protect these magnificent voyagers, we must protect them on their nesting beaches and in the waters of the many nations in which they swim – as well as on the high seas. International collaboration is a must for the conservation of endangered migratory species such as sea turtles. By linking New England and the tropics through conferences such as the one I attended, I hope to ensure the recovery of sea turtles.

I would like to take this opportunity to thank the Center for Tropical Ecology and Conservation for their monetary support. Attending this conference would not have been possible without the travel stipend provided by the CTEC Student Raised Scholarship (SRSF).

Environmental Studies Student Spotlight

Meagan Jones, Ph.D. candidate and Executive Director of Whale Trust, is based in Maui, Hawaii. Having just finished organizing the third annual Whale Quest Kapalua, a three-day educational symposium focusing on whales and the oceans that raised over \$80,000 for whale research in Hawaii, Meagan is now turning her attention back to analyzing the five-years of data she has collected on female reproductive strategies in humpback whales. Within the last year, her research has been featured in *National Geographic Magazine*, on *The Today Show*, and in a new international television documentary released by *National Geographic International* entitled, *The Humpback Code*.



CTEC's Spring 2008 EVENTS REVIEW

January 31st, 11:30am

Elephants and Orangutans: Summer Work in Malaysian Borneo with Jason Estes and Bill O'Neil

February 21st, 11:30am

Sea Turtles and the Tropics: Leveraging the New England Connection through Bidirectional Education and Communication with Jill Rolph

March 6, 11:30am

Modernization and the Loss of Livelihoods for Informal Sector Waste Pickers with Michael Simpson*

April 3, 11:30am

Of War and Whales: A Personal Journey from
Nicaragua to Nova Scotia and Beyond with John Crockett

May 1, 11:30am

The Impact of Climate Change on Human Migration in Upper West Region of Ghana: The Case of Peasant Farmers in Nadowli District with
John Bosco Sumani

*postponed until Fall 2008

Update from Rwanda

By Sofia Angelo and Christine Gleason, MS Candidates Conservation Biology

As many of you know Beth Kaplin returned to Antioch last fall from her work in Rwanda. This spring she spent two months back in Rwanda, where she is the technical advisor for the Conservation Biology Education Project in the Biology Department at the National University of Rwanda. During her time there she helped to facilitate a conference on conservation science education in the Albertine Rift. When asked to discuss the conference Beth said, "The main objective of this meeting was to bring together conservation scientists from the Albertine Rift region, from universities specifically, to strengthen the existing network of scholars in the region. We looked at how professors can work on their publications and involve students in publishing work and proposal writing. It was the first time that conservation educators from the Albertine Region were meeting as a group. We looked at how to network and strengthen collaborations among universities in the region. They have had an opportunity to interact with regional governments, NGOs and academic conservation professionals." Look forward to more information regarding Beth's work in Rwanda in the next CTEC newsletter.

Welcome To Our New CTEC Affiliate Health in Harmony!

Health In Harmony (www.healthinharmony.org) is pleased to accept your offer of affiliate status to the Center for Tropical Ecology & Conservation. Our organization shares CTEC's goals of promoting the sustainable use of tropical ecosystems and helping people find creative means to conserve tropical biodiversity. We work with local people in West Kalimantan, Indonesia to protect Gunung Palung National Park, a conservation area rich in species of Bornean plants and animals, an important stronghold for wild orangutans, and a vital watershed for local communities. Using high quality, affordable healthcare as an incentive, we are enlisting local communities to protect the rainforests of Gunung Palung from illegal logging and burning.



We believe that through multi-faceted innovative approaches, we can work towards truly healthy communities. For example, the project is developing a system where people can "pay" for their health care by working on environmentally sensitive income-generating projects, such as organic gardening, or reforestation. Guided by a model that recognizes the intersection of human and environmental health, together we are working to provide a long-term, sustainable solution to a crisis of human disease and environmental destruction.

Life after CTEC: Connecting New England and the Tropics

By Lauri Brewster, MS Conservation Biology, ANE

After completing my Masters of Science at Antioch University New England I spent time traveling between New England and the tropics, exploring a variety of opportunities. In 2007 I accepted a Plant Ecologist position with The Nature Conservancy. Although the job was intriguing, I was soon longing to be back in New England and more involved with international conservation.

I began 2008 with a new and exciting position with the Rainforest Alliance in Vermont. The Rainforest Alliance is a rapidly growing international non-profit dedicated to conserving biodiversity by working to transform forestry, agriculture and tourism operations into sustainable practices. My position focuses primarily within the forestry division and I recently coordinated a forestry conference in Costa Rica with regional managers from throughout Latin America. During the three short months I have been working with The Rainforest Alliance I have reflected back on my Center for Tropical Ecology and Conservation (CTEC) experience with tremendous appreciation.

I served as CTEC's Information Coordinator during my first year of study at Antioch University New England. This experience provided me with critical skills for working in the field of international conservation. CTEC heightened my exposure to conservation issues around the globe, particularly in regions outside of Latin America. My tenure with CTEC also provided a great opportunity to improve my Spanish skills, which has proved tremendously useful in my current position.

I am happy to have found my niche and a way to continue to link New England and the tropics, two extraordinary places. I am thankful to CTEC for the opportunities it provided me and I look forward to reading about the experiences and accomplishments of future CTEC students. I encourage more students to become involved with CTEC and take advantage of the opportunities it presents.



Lauri Brewster visiting Lao PDR after earning her degree at Antioch.

Right to left: Lauri Brewster, ANE graduate Troy Hansel, Yong Hansel and ANE graduate Nada Wigand.

Conservation Biology Student Spotlight

Tamarra Martz, M.S. Candidate Conservation Biology, will be spending time this summer in Nyungwe National Park, Rwanda. Using fecal sampling and analysis, she will be looking at the gastrointestinal parasites (parasites passed between humans and non-human primates) of six different species of primates including chimpanzees. She will be looking at the difference in parasite richness and abundance between arboreal and terrestrial primates, as well as parasites in regards to the primate species' interaction with humans (tourists, researchers, park officials, villages and people living just outside the park borders, etc.). Results from these analyses will contribute to the development of primate tourism guidelines and monitoring and management of primate populations within Nyungwe National Park.

A Sincere THANK YOU to our 2007 Annual Fund Supporters and Donors!

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Peter Palmiotto, D.F.
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Emily Kingsley (not pictured)
 Outreach Coordinator



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Contributions may be designated to support one of our three main project areas – Research, Education, or Student Support; or you may contribute to general support.

You can find more information about our three project areas online at:

www.CenterForTropicalEcology.org

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