

# MEGAN E. CATTAN

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**Career interests:** Conservation biology; ecosystem services; land use change; geospatial analysis; landscape ecology; nature reserve design and land management

## EDUCATION

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**Columbia University**, Department of Ecology, Evolution, and Environmental Biology (E3B)

**M.PHIL**, February 2013

**PH.D. CANDIDATE**, advanced to candidacy Dec 2012

*Advisor:* Ruth DeFries. *Committee Members:* Shahid Naeem, Maria Uriarte, Mark Harrison, Robert Rose

*Thesis: Feedbacks between fire, vegetation, and landscape configuration: Changing disturbance dynamics in the peat swamp forest*

**Duke University**, Nicholas School of the Environment

**MASTER OF ENVIRONMENTAL MANAGEMENT**, May 2010

**Certificate of Geospatial Analysis**

*Advisor:* Dean Urban

*Thesis: Using the ecosystem service value of habitat areas for wildlife conservation: Implications for orangutans of high carbon value peat swamp forests in Indonesia*

*Concentration:* Ecosystem science and conservation

**University of Georgia**, Lamar Dodd School of Art

**BACHELOR OF FINE ARTS**, *highest honors and summa cum laude*, December 2005

**Certificate of Environmental Ethics**, December 2005

*Thesis: Assessing the relationship between environmental values, perception, and influences*

*Major:* Painting. *Minor:* Spanish.

Elected to Phi Kappa Phi, Phi Beta Kappa, Golden Key, and Delta Epsilon Iota honor societies

## SEMESTERS ABROAD AND SHORT COURSES

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University of Georgia Honors Interdisciplinary Field Program. Cross-country field course focusing on Geology, Ecology, and Anthropology, 2002.

Antigua, Guatemala. One-on-one intensive language instruction in Spanish, 2003.

University to Georgia Cuba Si. Short course focusing on Art and Environment, 2004.

Selva Tica Biological Station, Las Horquetas, Costa Rica. Tropical Ecology field course, 2005.

## GRANTS AND FELLOWSHIPS

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**Columbia University** Faculty Fellowship, 2010 - 2014.

**United States - Indonesia Society (USINDO)** Travel Grant, 2013.

**Fulbright** Student Research Grant, Indonesia, 2012-2013.

**Fulbright** Critical Language Enhancement Award, Bahasa Indonesia, 2012-2013.

**Columbia University** Graduate School of Arts and Sciences Travel Grant, 2012.

**Society of Wetland Scientists** Student Research Grant, 2011.

**Columbia University** E3B Pre-dissertation travel award, 2011.

**National Geographic** Big Cats Initiative Research Grant (PI: Rudi van Aarde), 2010.

**Duke University** Nicholas School Christensen Merit Scholarship, awarded to one MEM for professional conservation potential, 2008 - 2010.

**SIDG-Lazar Foundation** Research Grant, 2009.

**Kuzmier-Lee-Nikitine Endowment Fund** Research Grant, 2009.

**Orangutan Foundation** Research Grant, 2009.

**Duke University** Nicholas School International Internship Fund Student Research Grant, 2009.

**University of Georgia** Charter Scholarship, 2001 - 2005.

**University of Georgia** Lamar Dodd School of Art, Mary Rosenblatt Scholarship, 2003.

**University of Georgia** Regents Waiver of Out-of-State Tuition, 2001 - 2005.

## TEACHING EXPERIENCE

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**Science for Sustainable Development Teaching Assistant**, The Earth Institute, Columbia University.

Undergraduate level. Requires knowledge of theories, methodologies, and applications related to human-environment interactions in the context of sustainable development, including the climate system, water resources, food production and nutrient cycling, and the role of biodiversity in sustainable development. Undergraduate Program in Sustainable Development, Profs. Ruth Defries and John Mutter. Fall 2012.

**Conservation Biology Teaching Assistant**, Columbia University.

High School level. Requires knowledge of the values of and threats to biodiversity; conservation genetics; computer modeling for ecology; conservation medicine/disease ecology; urban ecology; and the impact of global warming on ecosystems and wildlife. Secondary School Program, Dr. Kevin Olival. Summer 2012.

**Behavioral Biology of the Living Primates Teaching Assistant**, Columbia University.

Undergraduate level. Requires knowledge of behavioral biology and biological anthropology, with a focus on primates, including the evolutionary history, adaptive significance, proximate mechanisms, and development of various behavioral traits. E3B Bachelor's Program in Environmental Biology, Prof. Marina Cords. Spring 2012.

**Conservation Biology Teaching Assistant**, Columbia University.

Graduate level. Requires knowledge of the applied science of maintaining the earth's biological diversity, its landscapes and seascapes, and wilderness, including the social, philosophical, and economic dimensions of biological conservation. E3B Master's Program in Conservation Biology, Prof. Joshua Ginsberg. Fall 2011.

**Changing Tropical Ecosystems Teaching Assistant**, Duke University.

Continuing education program. Requires knowledge of tropical ecosystems, including primary drivers of change and possible policy responses. Facilitated student development of REDD assessment framework. Duke Environmental Leadership Program, Prof. Nora Bynum. Spring 2010.

**Wetlands Ecology and Management Teaching Assistant**, Duke University.

Graduate level. Requires knowledge of wetland functions and values, including hydrology, delineation, and biogeochemistry, and respective management strategies. Nicholas School Master's in Environmental Management Program, Prof. Curt Richardson. Fall 2009.

**Honors Program Peer Advisor**, University of Georgia.

Undergraduate Level. Led weekly meetings orientating first year students to undergraduate life in the honors program, including selecting courses, fulfilling program requirements, finding research opportunities, and choosing a major. Honors Program. 2002 - 2003.

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## RESEARCH AND PROFESSIONAL EXPERIENCE

**Orangutan Tropical Peatland Project (OuTrop) - Center for International Cooperation in Sustainable Management of Tropical Peatland (CIMTROP)**, University of Palangka Raya, Central Kalimantan, Indonesia. Visiting Researcher.

Conducted orangutan nest surveys to produce orangutan population density and distribution estimates and vegetation surveys to analyze forest regeneration dynamics in Block C of the former Mega Rice Project. Summer 2011.

**Big Cats Initiative (BCI)**, Duke University. Researcher.

Conducted research and geospatial analysis on the status of African lions, including population estimates, habitat suitability and connectivity modeling, and threat assessment. January - May 2010.

**Big Cats Initiative (BCI)**, National Geographic. Researcher.

Worked with PI Rudi van Aarde at the Conservation Ecology Research Unit, University of Pretoria to assess the population status of lions in Tete Province, Mozambique. Co-authored the grant for the project, conducted lion surveys, wrote the questionnaire for and implemented local interviews, and conducted statistical and geospatial analysis. July-August 2010.

**OuTrop - CIMTROP**, Indonesia. Visiting Researcher.

Conducted nest surveys to produce first orangutan population density and distribution estimates in degraded peat swamp area. Geospatial analysis targeted areas for peatland restoration and conservation that are valuable for habitat and carbon sequestration. Summer 2009.

**Upper Oconee Watershed Network**, Athens, GA. Non-Point Source Pollution Prevention Project Lead.

Drafted and implemented water quality improvement plan by involving citizens in enhancement of stream health. 2006-2008.

**Canopy Studio**, Athens, GA. Assistant Director/Business Manager.

Maintained financial, administrative, marketing, and programming concerns. 2006-2008.

**Casa del Alfarero**, Guatemala City, Guatemala. International Volunteer Coordinator.

Worked in-country to plan, manage, and coordinate short-term civic engagement projects for international volunteers. Summer 2003.

## **PROFESSIONAL ACTIVITIES**

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### **Professional Memberships**

Society for Conservation Biology (SCB)

Society of Wetland Scientists (SWS)

New York Academy of Sciences (NYAS)

International Association for Landscape Ecology (IALE)

Ecological Society of America (ESA)

### **Roles, Responsibilities, and Service**

#### *Columbia University*

E3B PhD student representative to faculty, August 2011 - May 2012.

E3B Representative for Graduate Student Advisory Council, August 2010 - May 2012.

Co-founder and co-president of Ecology and Evolution Discussion Group, January 2012 - May 2012.

International Environmental Policy Association Member, October 2010 - 2012.

Graduate School of Arts and Sciences Dean's Discipline committee, February 2012.

#### *Duke University*

Nicholas School Student Council Co-Leader, 2009 - 2010.

Student Association of Wetland Scientists, 2008 - 2010.

Student International Discussion Group, 2008 - 2010.

Duke Environmental Markets Group, 2008 - 2010.

## **PRESENTATIONS / WORKSHOPS**

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**Cattau, M. E.** September 2013. *Feedbacks between fire and land cover: Changing disturbance dynamics in the peat swamp landscape*. Poster presentation. The 4th International Workshop on Wild Fire and Carbon Management in Peat-Forest in Indonesia. **Universitas Palangka Raya / Hokkaido University**, Palangka Raya, Indonesia.

**Cattau, M. E.** February 2013. *Feedbacks between fire, vegetation, and landscape configuration: Changing disturbance dynamics in the peat swamp landscape*. Oral presentation. Weekly Ecology and Evolution Discussion Seminar. **Columbia University**, New York, NY.

**Establishing Open Access Global Science Standards for Payments for Ecosystem Services (PES) Projects Workshop**. January 2013 (Preliminary workshops March 2012 and May 2012). Invited participant. **Wildlife Conservation Society** and **Earth Institute Center for Environmental Sustainability (EICES)**, **Columbia University**. New York City, NY.

**Cattau, M. E.** August 2012. *COS 154-3 - The Bornean orangutan (*Pongo pygmaeus*) in a vanishing peat swamp forest: Increasing habitat connectivity in the former Mega Rice Project, Indonesia*. Oral presentation. Annual meeting, **Ecological Society of America**. Portland, Oregon.

**Cattau, M. E.** April 2012. *Lions (*Panthera leo*) in Tete Province, Mozambique*. Oral presentation. E3B Department Research Seminar. **Columbia University**, New York, NY.

Harrison, M. E., Marchant, N. C., Boyd, N., Capella, R. P., **Cattau, M. E.**, Cheyne, S. M., Dragiewicz, M. L., Husson, S. J., Perlett, E. D., and D'Arcy, L. J. March 2012. *Are we conserving what we say we are? Ecological monitoring to support conservation in Kalimantan's peat-swamp forests*. Contributor for oral presentation. Asia Pacific Annual Chapter meeting, **Association of Tropical Biology and Conservation**. Kishuangbanna, China.

**Cattau, M. E.** 2011. *Tropical peat swamp forest loss in Indonesia: linking landscape connectivity, seed dispersal, and carbon storage*. Oral presentation. E3B Department Research Seminar, **Columbia University**. New York, NY.

**Cattau, M. E.** April 2010. *Apes and Carbon in Indonesia: Using ecosystem service value of habitat areas for conservation*. Oral presentation. Nicholas School Masters of Environmental Management Colloquium, **Duke University**. Durham, NC.

**Cattau, M. E.** March 2010. *Apes and Carbon in Indonesia: Using ecosystem service value of habitat areas for conservation*. Oral presentation. Student Conference on Conservation Science, **University of Cambridge**. Cambridge, UK.

**Cattau, M. E.** November 2009. *Orangutan population assessment, former Mega Rice Project, Indonesia*. Oral presentation. **Student International Discussion Group**, Nicholas School, Duke University. Durham, NC.

## **PUBLICATIONS**

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**Cattau, M. E.**, 2013. *Feedbacks between fire, vegetation, and landscape configuration: Peat swamp forest dynamics in the changing tropical landscape*. *Journal of Indonesian Natural History*, Students' research projects 1: 48.

**Cattau, M. E.**, Husson, S., and Cheyne, S. M., *in press*. *Population status of the Bornean orang-utan, Pongo pygmaeus, in a vanishing forest, the former Mega Rice Project, Indonesia*. *Oryx*.

Jacobson, A. P. , **Cattau, M. E.**, Riggio, J. S., Petracca, L. S., and Fedak, D.A., 2013. *Distribution and abundance of lions in northwest Tete Province, Mozambique*. *Tropical Conservation Science* 6(1): 87-107.

Jacobson, A., **Cattau, M.**, Riggio, J., Fedak, D., Petracca, P., and van Aarde, R. June 2012. *Distribution and abundance of lions in northwest Tete Province, Mozambique*. Peer-reviewed report. Nicholas School of the Environment, Duke University, 29pp.

## **ADDITIONAL SKILLS**

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**Languages:** Native English speaker, proficient Spanish, proficient Indonesian.

**Computer skills:** R, ArcGIS, ENVI, ERDAS Imagine, IDRISI, PC-ORD, Portfolio, Maxent, Markov, Variogram, QuickBooks, Aatrix, web page design, Dreamweaver, Garage Band.

**Other:** Worked as an aerial dance and trapeze performer and instructor. 2002 - present.