

# REBECCA J. COLE

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## EDUCATION

2011-2014	University of Colorado- Boulder	Ecosystem Ecology (Postdoctoral)
2010	University of Hawaii- Manoa	Tropical Ecology (Postdoctoral)
2009	University of California- Santa Cruz	Environmental Studies (Ph.D.)
1996	University of Nevada- Reno	Biology (B.S.)

## PROFESSIONAL EXPERIENCE

2014-present	Research Faculty, University of Hawaii- Manoa
2011-present	Latin America Director: American Climber Science Program
2011-2013	NSF Postdoctoral Fellow in Biology, University of Colorado- Boulder
2010	Postdoctoral Research Associate, University of Hawaii- Manoa
2009-2010	Visiting Scientist, Institute of Arctic and Alpine Research, University of Colorado
2004-2009	Pre-doctoral Research Associate, University of California- Santa Cruz

## RESEARCH INTERESTS

Ecosystem restoration and management; community ecology; invasive species ecology; animal-plant interactions; soil-plant interactions; global change biology

## FUNDED GRANTS (SINCE 2005)

Litton, C.M. **Cole, R.J.**, Sparks, J and C.P. Giardina. Recovery of native plant communities and ecological processes following removal of nonnative, invasive ungulates from Pacific Island forests. Strategic Environmental Research and Development Program (SERDP). Department of Defense. \$1,094,560

All, J. D. and **R. J. Cole**. Tropical Andean climate change adaptation and ecosystem services monitoring, Cordillera Blanca, Peru. USAID, Climate Adaptation Small Grants Program. \$100,000

**Cole, R. J.** 2011. Carbon sequestration and payments for environmental services in lowland tropical rainforests. National Science Foundation Postdoctoral Research Fellowship in Biology. \$189,000

**Cole, R.J.** 2009. President's Dissertation Year Fellowship, University of California, Santa Cruz. \$30,000

**Cole, R.J.** 2006-8. Marilyn C. Davis Fellowship. \$3500

**Cole, R.J.** 2005-6. Environmental Studies Graduate Research Grant: UC-Santa Cruz . \$4500

## TEACHING AND MENTORING EXPERIENCE

2008-present Mentored >20 undergraduate and 6 graduate research experiences in the US, Costa Rica, and Peru

2011-2012 Guest lecturer: Universidad Nacional Santiago Antúnez de Mayolo, Huaraz, Peru  
 2010 Guest instructor: University of Hawaii- Hilo  
 2009 Co-instructor: Tropical Ecology and Conservation  
 2006-2008 Guest instructor: University of California- Santa Cruz  
 2006-2008 Teaching assistant: Agroecology, Restoration Ecology, Chemical and Physical Environment  
 1998-2003 High school and middle school Math and Science Teacher: *Outstanding teacher award 2002*- Boulder Valley School District

#### SELECTED PUBLICATIONS

14. Cole, R.J., and C.M. Litton. 2014. Vegetation response to removal of nonnative feral pigs from Hawaiian tropical montane wet forest. *Biological Invasions* 16:125-140.
13. Lindell, A.C., J.L. Reid, and R.J. Cole. 2013. Planting design effects on avian seed dispersers in a tropical forest restoration experiment. *Restoration Ecology* 21 (4): 515-522.
12. Loik, M., R.J. Cole, K.D. Holl, and G. Sady. 2013. Photosynthesis of seedlings of *Otoba novogranatensis* (Myristicaceae) and *Ruagea glabra* (Meliaceae) in abandoned pasture, secondary forest and plantation habitats in Costa Rica. *Revista de Biología Tropical*. In press.
11. Zahawi, R. A., K. D. Holl, R. J. Cole, and J. L. Reid. 2013. Testing applied nucleation as a strategy to facilitate tropical forest recovery. *Journal of Applied Ecology* 50:88-96.
10. Cole, R. J., C. M. Litton, M. J. Koontz, and R. K. Loh. 2012. Vegetation recovery 16 years after feral pig removal from a wet Hawaiian forest. *Biotropica* 44:463-471.
9. Lindell, C. A., R. J. Cole, K. D. Holl, and R. A. Zahawi. 2012. Migratory bird species in young tropical forest restoration sites: effects of vegetation height, planting design, and season. *Bird Conservation International* 22:94-105.
8. Cole, R. J., K. D. Holl, C. L. Keene, and R. A. Zahawi. 2011. Direct seeding of late-successional trees to restore tropical montane forest. *Forest Ecology and Management* 261:1590-1597.
7. Celentano, D., R. A. Zahawi, B. Finegan, R. Ostertag, R. J. Cole, and K. D. Holl. 2011. Litterfall dynamics under different tropical forest restoration strategies in Costa Rica. *Biotropica* 43:279-287.
6. Celentano, D., R. A. Zahawi, B. Finegan, F. Casanoves, R. Ostertag, R. J. Cole, and K. D. Holl. 2011. Tropical forest restoration in Costa Rica: the effect of several strategies on litter production, accumulation and decomposition. *Revista de Biología Tropical* 59:1323-1336.
5. Holl, K. D., R. A. Zahawi, R. J. Cole, R. Ostertag, and S. Cordell. 2011. Planting seedlings in tree islands versus plantations as a large-scale tropical forest restoration strategy. *Restoration Ecology* 19:470-479.
4. Cole, R. J., K. D. Holl, and R. A. Zahawi. 2010. Seed rain under tree islands planted to restore degraded lands in a tropical agricultural landscape. *Ecological Applications* 20:1255-1269.
3. Cole, R. J. 2010. Social and environmental impacts of payments for environmental services for agroforestry on small-scale farms in southern Costa Rica. *International Journal of Sustainable Development and World Ecology* 17:208-216.

2. **Cole, R. J.** 2009. Postdispersal seed fate of tropical montane trees in an agricultural landscape, Southern Costa Rica. *Biotropica* 41:319-327.
1. Sady, G.G., K.D. Holl, **R.J. Cole**, and R.A. Zahawi. 2009. Germination and survival of tree seeds in a tropical montane forest restoration study, Costa Rica. *Ecological Restoration* 28: 121–124.

#### MANUSCRIPTS IN REVIEW AND PREPARATION

- Cole, R. J. and A. R. Townsend. The role of macroinvertebrates in litter decomposition and nutrient release across a chronosequence of lowland tropical forest succession. *In preparation* (Soil Biology and Biogeochemistry)
- Cole, R. J., K. D. Holl, and R. A. Zahawi. Effects of tropical forest restoration approaches on the recovery of ground-dwelling arthropod communities. *In preparation* (Journal of Applied Ecology)
- Cole, R. J. and S. Khan. Soil biota mediate early growth responses of tree seedlings during tropical forest succession. *In preparation* (Ecology)
- Cole, R.J. and J. D. All. Litter arthropod communities across high elevation gradients in *Polylepis* forest and Puna grassland in the tropical Andes. *In review* (Journal of Tropical Ecology)

#### SELECTED PRESENTATIONS AND ABSTRACTS

13. **Invited: Cole, R. J.** and J. D. All. 2013. Differentiating climatic and anthropogenic drives of alpine vegetation change 1972-2012 in the Cordillera Blanca, Peru: USAID High Mountain Glacial Watershed Program Conference, Huaraz, Peru.
12. **Cole, R. J.** 2013. Recovery of macroinvertebrate communities and their influence on litter decomposition during tropical forest succession. Association for Tropical Biology and Conservation, San Jose, Costa Rica.
11. All, J. D., **R. J. Cole**, C. G. Schmitt, R. Sofield, P. Arnott, and E. Lapham. 2013. Integrative high alpine research. Foro Internacional Glaciares Conference, Huaraz, Peru
10. All, J.D., C. G. Schmitt, A. Celestian, W. P. Arnott, and **R. J. Cole**. 2012. New measurements of particulates in glacial snow and ice in the Cordillera Blanca of Peru. American Geophysical Union Fall Meeting, San Francisco, CA.
9. **Cole, R.J.** and C.M. Litton. 2012. Vegetation response to removal of feral pigs from tropical montane wet Hawaiian forest. Ecological Society of America Conference, Portland, OR.
8. **Cole, R.J.** and C.M. Litton. 2011. Vegetation recovery 16 years after feral pig removal from a wet Hawaiian forest. Ecological Society of America Conference, Austin, TX.
7. **Cole, R.J.**, C.M. Litton, and C.P. Giardina. 2010. Effects of feral pigs on ecosystem structure in Hawaiian wet forests. Hawai'i Ecosystems Annual Meeting, Hilo, HI.
6. **Cole, R. J.** 2010. Planting tree islands and direct seeding late-successional species as strategies to restore montane tropical forest in Costa Rica. Smithsonian Tropical Research Institute Conference. The Ecology and Ecosystem Services of Native Trees: Implications for Reforestation and Land Restoration in Mesoamerica. Panama City, Panama.
5. **Cole, R. J.**, K. D. Holl and R. A. Zahawi. 2009. Seed rain under different restoration strategies in a complex tropical agricultural landscape. Ecological Society of America Conference, Albuquerque, NM.

4. **Cole, R. J.** 2009 Secondary seed dispersal of tropical trees in degraded habitats. Front Range Student Ecology Symposium, Fort Collins, CO.
3. **Cole, R. J.** 2008. Seed dispersal in successional habitats, southern Costa Rica. Tropical Restoration and Conservation Workshop, Las Cruces Biological Station, Costa Rica.
2. **Cole, R. J.,** K. D. Holl, R. A. Zahawi, C. A. Lindell, and J. A. Rosales. 2008. Restauración de Bosque en Coto Brus. Tropical Restoration and Conservation Workshop, Las Cruces Biological Station, Costa Rica.
1. **Cole, R. J.,** and K. D. Holl. 2007. Post-dispersal seed fate of large-seeded tropical montane trees in an agricultural landscape. Ecological Society of America Conference, San Jose, CA.

#### **JOURNAL REVIEWER**

*Biotropica, Canadian Journal of Forest Research, Ecological Applications, Forest Ecology and Management, Journal of Applied Ecology, Journal of Arid Environments, Journal of Tropical Ecology, Land Degradation and Development, Plant and Soil, Restoration Ecology, Revista de Biología Tropical, Sustainability*

#### **SERVICE AND OUTREACH**

- 2011-present Latin America Director: The American Climber Science Program, a not-for profit organization. Along with collaborators, I coordinate expeditions to conduct research and conservation work in remote locations such as the Peruvian Andes and Costa Rica rainforest.
- 2009-present Restoration volunteer: Wildlands Restoration Volunteers, Boulder, CO
- 2007-2009 Founded and manage a micro-business program aimed to help rural women move towards economic self-sufficiency
- 2006 Raised funds for the purchase of an ecological coffee mill donated to a cooperative of sustainable farmers in Costa Rica
- 2005-2006 Designed an educational ecotourism program for the community of Agua Buena, Costa Rica
- 2005 Facilitated making of the film documentary: Bird song and coffee: A wake up call. Old Dog Documentaries, Inc.
- 2003-2009 Conducted yearly outreach and science education sessions for local communities and schools

#### **PROFESSIONAL AFFILIATIONS**

American Geophysical Union  
 Association for Tropical Biology and Conservation  
 Ecological Society of America  
 Society for Ecological Restoration