

CURRICULUM VITAE for GREGORY L. BRULAND

Principia College
Biology & Natural Resource Department
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RESEARCH INTERESTS

Biogeochemistry, biometry, coastal ecology and management, diffuse reflectance spectroscopy, freshwater ecology, indigenous ecological knowledge, natural resource management, soil and water conservation, soil carbon, water quality, watershed management, wetland ecology and restoration.

PROFESSIONAL EXPERIENCE

Professor (Full) of Biology and Natural Resources, Biology and Natural Resources Department, Principia College, *7/2016-Present*.

Graduate Affiliate Faculty, Natural Resources & Environmental Management (NREM) Department, College of Tropical Agriculture and Human Resources (CTAHR), University of Hawai'i Mānoa (UHM), *8/2012-Present*.

Associate Professor of Biology and Natural Resources, Biology and Natural Resources Dept., Principia College, *8/2012-6/2016*.

Associate Professor of Coastal Ecology, Watersheds, and Soil and Water Conservation, NREM Dept., CTAHR, UHM, *8/2011-7/2012*.

Assistant Professor of Coastal Ecology, Watersheds, and Soil and Water Conservation, NREM, CTAHR, UHM. Tenure-track appointment, *1/2006-7/2011*.

Affiliate Researcher, UHM Water Resources Research Center (WRRC), *10/2010-7/2012*.

Graduate Faculty, Department of Natural Resources & Environmental Management, CTAHR, UHM. *4/2010-5/2012*. (Associate Graduate Faculty Dept. of NREM, *9/2007-3/2010*)

Post-Doctoral Research Associate, Soil & Water Science Department, IFAS, University of Florida, Advisor: Dr. Sabine Grunwald, *6/2004-12/2005*.

Wetland Biogeochemistry Research Assistant, Nicholas School of the Environment & Earth Sciences, Duke University, *8/1998-5/2004*.

EDUCATION

Ph.D. Nicholas School of the Environment & Earth Sciences, Duke University, Advisor: Dr. Curtis J. Richardson, *2004*.

B.S. Principia College, *Major: Environmental Chemistry, Minor: Biology, 1997*.

AWARDS

- Horace Edwin Harper Jr. and Evelyn Wright Harper Award for Teaching Excellence (\$1,500). This award is given for exemplary teaching across the following criteria: (1) effective student learning; (2) continual teaching and course improvement based on assessment; (3) fair and clear grading of student performance; (4) accessibility as a teacher on academic issues; (5) innovative teaching; and (6) support as teachers for Principia Policies 5, 8, 10, and 12. Elsah, IL, 5/2021.
- Undergraduate senior thesis advisee Taylor Bookout won the Michael Booth Research Award, Elsah, IL, 5/12/2017.
- Undergraduate capstone advisee Vanessa Waller won the Michael Booth Research Fellowship Award (\$500), Elsah, IL, 3/13/2015.
- 2012 Governor's Award for Team Excellence Award of Merit (Team of the Year) along with other faculty and staff of the NREM Dept, Honolulu, HI, 7/31/2012.
- M.S. student advisee Lesley Jantz won the NREM Best M.S. Student Oral Presentation Award, 2012 CTAHR Student Research Symposium, Honolulu, HI, 4/14/2012.
- Undergraduate advisee Anne Quidez won the CTAHR Undergraduate Poster Presentation Award of Merit, 2011 CTAHR Student Research Symposium, Honolulu, HI, 4/8/2011.
- Travel Award from the University Research Council (URC) to attend the Soil Science Society of America Annual Meeting, Long Beach, CA, 11/2010. (\$1,545)
- Undergraduate advisee Leena Muller won the NREM Undergraduate Student Presentation Award, 2010 CTAHR Student Research Symposium, Honolulu, HI, 4/10/2009.
- Travel Award from the URC to attend the Society of Wetland Scientists Annual Meeting, Madison, WI, 6/2009. (\$1,500)
- Undergraduate advisee Emily Phares won the NREM Undergraduate Student Presentation Award, 2009 CTAHR Student Research Symposium, Honolulu, HI, 4/12/2009.
- Selected as one of 10 *Scholars of the Second Millennium* in the *Principia Purpose*, the Alumni Magazine of Principia College, 6/2008.
- M.S. student advisee Meris Bantilan-Smith won the Gamma Delta Sigma M.S. Student Oral Presentation Award of Merit, 2008 CTAHR Student Research Symposium, Honolulu, HI, 4/12/2008.
- M.S. student advisee Meris Bantilan-Smith won the Graduate Student Poster Award Contest, 2007 Hawai'i Conservation Conference, Honolulu, HI, 7/27/2007.
- Selected for inclusion in the *Marquis Who's Who in America 2008* and *2009 Editions* that profile the country's most accomplished men and women from across all fields of endeavor, 6/07, 6/08.
- Travel Award from the URC to attend the Joint Ecological Society of American and Society for Ecological Restoration Meetings, San Jose, CA, 7/2007. (\$1,400)

UHM Center for Teaching Excellence (CTE) Faculty Showcase. Bruland was one of 3 faculty across the UHM campus whose teaching and research were highlighted in a showcase in Kuykendall Hall, *Spring 2007*.

Travel Award from the URC to attend the World Congress of Soil Science Meeting, Philadelphia, PA, *7/2006*. (\$1,600)

Travel Grant for NSF-funded Computational Science for Natural Resource Managers Workshop, Knoxville, TN, *4/2006*. (\$550)

Best Paper Award for the Internet-Based Teaching/Distance Learning session at the 3rd International Conference on Education and Information Systems: Technologies and Applications, Orlando, FL, *7/2005*.

Ohio State University Distinguished Postdoctoral Fellowship Award (Declined), *2004*. (\$20,000)

Honorable Mention, Student Presentation at the Society of Wetland Scientists Annual Meeting, *2002*.

North Carolina Center for Transportation & the Environment Graduate Fellowship, *2001-2002*. (\$15,000)

Principia College Trustee Scholarship recipient, *1993-1997*.

INSTRUCTIONAL EXPERIENCE

Principia College (*Fall 2012-Present*)

BNR 115, Intro. to Restoration Ecology (General Education Science Laboratory [GESL] Liberal Arts Distribution Requirement [LADR] course, 1 semester)

BNR 190, Global Environmental Issues (General Education Science Non-Laboratory [GESN] Liberal Arts Distribution Requirement [LADR] course, 9 semesters)

BNR 215, Biometry (6 semesters [taught as BNR 380-Advanced Ecology Seminar in Fall 2014])

BNR 225, Indigenous Ecological Knowledge (5 semesters)

BNR 255, Natural Resource Management (Lab, 4 semesters)

BNR 315, Freshwater Ecology (Lab, 4 semesters)

BNR 317, Wetland Ecology (Lab, 6 semesters)

BNR 391, Soil & Water Conservation (6 semesters)

BNR 401, Senior Thesis (8 semesters)

CHEM 111, Environmental Chemistry (General Education Science Laboratory [GESL] LADR course, 1 semester)

University of Hawai‘i Mānoa (2006-2012)

NREM 301, Natural Resource Management (Undergraduate, Co-Instructor, 6 semesters)

NREM 301L, Natural Resource Management Laboratory (Undergraduate, Co-Instructor, 6 semesters)

NREM 461, Soil and Water Conservation (Undergraduate, 2 semesters)

NREM 499, Independent Study (Undergraduate, 3 semesters)

NREM 612, Degradation of Human-Dominated Ecosystems (Graduate, 7 semesters)

NREM 665, Coastal and Wetland Ecology and Management (Graduate, 3 semesters)

University of Florida (Fall 2004-Fall 2005)

GIS in Land Resource Management On Campus Section (Co-Instructor, 2 semesters)

GIS in Land Resource Management Distance Education Section (Co-Instructor, 2 semesters)

Wetland Ecology and Soil Chemistry Teaching Assistant, Duke University, 2000-2003.

Environmental Educator, Leelanau Outdoor Center, Maple City, MI, *Spring 1998*.

GRADUATE AND UNDERGRADUATE ADVISING

Ph.D. Advisor of:

- Noelani Puniwai, NREM, CTAHR, UHM. 2007-2012. ‘Ike i ke au nui, me ke au iki: Management implications in complex social and physical seascapes of Hawai‘i island.

Member of the Ph.D. Committees of (7 total):

- Noelani Puniwai, NREM, CTAHR, UHM. 2012-2015. Thesis title: ‘Ike i ke au nui, me ke au iki: Management implications in complex social and physical seascapes of Hawai‘i island.
- Cheryl Lohr, NREM, 2009-2012. Thesis title: Developing Efficient Management Strategies for Introduced Wildlife in the Hawaiian Islands Through Stakeholder Acceptance Capacity and Decision Theory.
- Nicole Scheman, NREM, 2006-2009, 2015-2016. Thesis title: Underground Corrosion of 1040 Medium Carbon Steel in a Hawaii Tropical Soil.
- Su Kwan Jung, NREM, 2009-2011. Thesis title: An Integrated Approach for Municipal Solid Waster Landfill Site Selection: A Case Study on the Island of Oahu.
- Lara Kozloff, NREM, 2008-2010. Thesis title: Application of Stated Preference Choice Experiment Technique on Oahu: Assessment of Residents’ and Tourists’ Attitudes About Beach Attributes and Near Shore Coastal Water Quality Policy.
- Hamidou Konare, Tropical Plant & Soil Sciences, UHM, 2006-2007. Thesis title: Alternative Methods for Soil Carbon Assessment in the Sahel Region of Africa.

- Rosanna Rivero, Interdisciplinary Ecology, School of Natural Resources & the Environment, University of Florida. 2006. Thesis title: Development of Predictive Models of Soil Phosphorus in Water Conservation Area-2A (Everglades), Integrating Remote Sensing, GIS, and Geostatistics.

M.S. Thesis Advisor of (9 total):

- Lesley Jantz, NREM. May 2012. Thesis title: Ingestion of Plastic Marine Debris by Longnose Lancetfish (*Alepisaurus ferox*) in the Hawai‘i-based Shallow-set Longline Fishery.
- Victor Bovino-Agostini, NREM. Dec. 2011. Thesis title: Spatial and Temporal Dynamics and Effects of Feral Pigs (*Sus scrofa*) on Enterococci In Soils and Runoff of a Forested Hawaiian Watershed.
- Shawn Carrier, NREM. Dec. 2011. Thesis title: A Survey of the Demographics and Perceptions of Coastal Resource Managers in Hawai‘i.
- Sandra Magriner, NREM. Dec. 2011. Thesis title: Rapid Assessment of the Condition of Tidal Fringe Wetlands in Hawai‘i.
- Dashiell Dunkell, NREM. Dec. 2009. Thesis title: Runoff, Erosion, Fecal Indicator Bacteria, and Effects of Feral Pig (*Sus scrofa*) Exclusion in Mānoa Watershed.
- Carolyn Unser, NREM. May 2009. Thesis title: Use of Native Plants and Coir Fiber Logs for Nitrogen Uptake in Waimānalo Stream.
- Gwen DeMent, NREM. Dec. 2008. Thesis title: Quantifying the Phosphorus Sorption Capacity of Coastal Lowland Wetlands of Hawai‘i.
- Meris Bantilan-Smith, NREM. May 2008. Thesis title: A Quantitative Investigation of the Vegetation and Soils of Coastal Lowland Wetlands in Hawai‘i.
- Chad Browning, NREM. May 2008. Thesis title: A Preliminary Investigation of the Effects of Feral Pigs (*Sus scrofa*) on Water Quality and Soil Loss within a Hawaiian Watershed.

Member of the M.S. Committees of (13 total):

- Ben Laws, NREM. 2016 (planned). Thesis title: An Investigation of Landscape Response to Feral Cattle Removal at Kohala Mountain, Hawai‘i Island.
- Joshua Silva, TPSS, 2013. Thesis title: Developing a Simple Method to Estimate Clay Content for Tropical Soils that Resist Dispersion.
- Ryan Long, NREM. 2012. Thesis title: Consumer Preferences and Willingness to Pay in Certified Sustainable Ecotourism in Hawai‘i.
- Danica Zupic, NREM. 2011. Thesis title: A Portfolio Analysis of Hawai‘i’s Bay-Watershed Education and Training (BWET) Grants Program.
- Tammy Summers, NREM. 2010. Thesis title: Monitoring of Green (*Chelonia mydas*) and Hawksbill (*Eretmochelys imbricata*) Sea Turtles at a Nearshore Foraging Area in the Northern Mariana Islands using an Indigenous Approach.
- Brianna McDowell, NREM. 2010. Thesis title: Trends in sheltering and welfare at the Hawaiian Humane Society, O‘ahu, Hawai‘i from 1975-2008.
- Lasha Salbosa, NREM. 2009. Thesis title: Analyzing Feral Pig (*Sus scrofa*) Movement in a Hawaiian Wet-Mesic Forest Using GPS Satellite Collars.
- Dana Ogle, NREM. 2009. Thesis title: Effects of Recent Fire and Sword Fern (*Nephrolepis multiflora*) Invasion of Fire Behavior in Mesic Forests of Hawai‘i Volcanoes National Park.
- Lukas Shield, NREM. 2009. Thesis title: Conjoint Choice Analysis of Stakeholders’ Management Preferences for Instream Flow Attributes in Watersheds of Hawai‘i.
- Fang Yang, NREM. 2008. Thesis title: Farmer’s Preference for Crofton Weed Control Programs: The Case of Chuxiong, Yunnan, China.

- Lynna Thomas, NREM. 2008. Thesis title: Analysis of Farm Household Preferences for Control Program Attributes: The Case of *Miconia calvescens* in Hawai'i.
- Katya Boehle, NREM. 2007. Thesis title: Valuation of Spinner Dolphins in Hawai'i.
- Colette Cortez, NREM. 2006. Thesis title: Assessment of Coastal Water Resources in 3 National Parks of the Big Island, Hawai'i.

Undergraduate Senior Thesis Advisor (5 Total):

- Taylor Bookout, 2016. Thesis title: Assessment of the Hydrology, Soils, Vegetation and Amphibians of a Restored Wetland in West-Central Illinois.
- Colleen Klehm, 2016. Thesis title: Frog Call Survey and Habitat Analysis of Streams and Wetlands on the Principia College campus.
- Vanessa Waller, 2015. Thesis title: Fecal Indicator Bacteria Dynamics in a Surface Flow Constructed Wetland in Southwestern Illinois, USA.
- Nathan Boyer-Rechlin, 2014. Thesis Title: The Effects of Agricultural Land Use on Benthic Macroinvertebrate Communities in Jersey County, Illinois Headwater Streams.
- Allison Lauria, 2014. Thesis Title: Comparison of Soil Properties Between Paired No-till and Conventional Tillage Systems in Central Illinois.

Undergraduate Advisees:

- Advised 18 undergraduate BNR students in various stages of their bachelors degree program at Principia College.
- Advised 11 undergraduate NREM students in various stages of their bachelors degree program at UHM.

DEPARTMENT, COLLEGE, AND UNIVERSITY SERVICE

College Representative, Principia Chief Executive Search Committee, *Spring 2022*.

Data Team Member, RPK College Academic Portfolio Analysis, *Fall 2021-Spring 2022*.

Acting Department Chair, Biology & Natural Resources, *Fall 2021*.

Member, Math & Natural Sciences Division Promotion Committee. *Fall 2020*.

Member, Humanities Division Promotion Committee. *Fall 2020*.

Member, Search Committee for the Assistant Dean of Academics-Student Services, *Fall 2020, Spring 2021*.

Member, Principia College Land Stewardship Advisory Board. *1/2017-Present*.

Chair, Principia College Curriculum Committee (CCC). *1/2017-6/2019*.

Principia College Biology and Natural Resource Department Assistant Land Stewardship Biologist Search Committee, *Spring 2018*.

Principia College Math & Natural Sciences Division CCC Representative. *4/2014-8/2017*.

Principia College Chemistry Department Lab Coordinator Search Committee, *Spring 2016*.

NREM Undergraduate Advisor and Committee Chair. *9/2011-5/2012*.

NREM Dept. Undergraduate Program Committee. *2/2006-6/2012*.

NREM Dept. Search Committee for the Ecosystem Management Faculty Position. *5/2006-2/2007*.

Judge for the Ph.D. Oral Presentations at the 19th, 21st, and 22nd Annual CTAHR Student Research Symposiums. *4/2007, 4/2009, 4/2010*.

University-wide New Faculty Orientation Committee for Fall 2006. *5/2006-10/2006*.

RESEARCH GRANTS FUNDED (17 total)

17. Eckert, S.E., **G.L. Bruland**, J. Lovseth. 2019. Mitigating the Effects of Spire Natural Gas Pipeline Construction and Maintenance on Principia College's West Farm Threatened Species and Habitats. Budget \$999,875, Principia College, *1/2019-12/2022*.
16. Litton, C.M., **G.L. Bruland**, C. Chan-Halbrendt, S.E. Crow, J.B. Friday, J. Leary, and T. Miura. 2012. Field Vehicle to Enhance Forestry Research, Extension and Education on Hawaii Island. Budget \$35,000. CTAHR Capacity Improvement Projects, *2012*.
15. Deenik, J.L., **G.L. Bruland**, L. Cox, and R. Yamakawa. 2010. Alternative Nitrogen Fertilizer Management Strategies to Improve Water Quality and Fertilizer Recovery in Wetland Taro Production Systems. CTAHR Hatch Research/Extension Supplemental Funds Program, \$40,000, *1/2011-12/2012*.
14. Uehara, G., **G.L. Bruland**, M. Robotham, and J.L. Deenik. 2010. Interpreting and Predicting Behavior and Performance of Tropical Soils Lacking Particle Size Distribution Data. Natural Resources Conservation Service Soil Survey Research Grant, Budget \$40,000, *9/2010-8/2012*.
13. MacKenzie R.A., **G.L. Bruland**, D. Infante, and R. Nishimoto. 2010. Impacts of Altered Stream Flow on Native Shrimp Production, Recruitment, and Food Web Structure. Hawaii Fish Habitat Partnership Program, Budget \$10,000, *1/2011-1/2012*.
12. **Bruland, G.L.** 2010. Climate Change Impacts on Hawaiian Biodiversity and Fresh Water Resources: Building Capacity for Research, Education, and Community-based Mitigation. United States Forest Service Research Joint Venture, Budget \$357,076, *7/2010-12/2014*.
11. **Bruland, G.L.**, J.L. Deenik, R.S. Uchida, and S. Grunwald. 2009. Using Diffuse Reflectance Spectroscopy to Quantify and Predict Soil Carbon Content in Agricultural Soils of Hawai'i. USDA/CSREES/TSTAR Program, Budget \$197,772, *9/2009-8/2012*.
10. **Bruland, G.L.** 2008. Effects of Feral Pigs (*Sus scrofa*) on Water Quality and Pathogen Transport in Forested Hawaiian Watersheds. McIntire-Stennis Forestry Research Program, Budget \$91,500, *10/2008-9/2012*.

9. Miura, T., and **G.L. Bruland**. 2008. A Remote Sensing- and GIS-based Analysis of Land-based Pollution Influences on the Coastal Environment in Hawai'i. College of Tropical Agriculture and Human Resources Hatch Program, Budget \$7,500, *10/2008-9/2011*.
8. Deenik, J.L., **G.L. Bruland**, B. Popp, and J. Tiejde. 2008. Anammox Activity and Nitrogen Dynamics in a Flooded Agricultural System. USDA/CSREES/NRI, Budget \$396,000, *9/2008-8/2010*.
7. MacKenzie, R.M., K. McDermid, **G.L. Bruland**, M. McRae, and T. Holitzki. 2008. Assessing the Environmental Impacts of Invasive Poeciliid Mosquitofish on Hawaiian Stream Ecosystems. NSF EPSCoR Hawai'i REAP Program, Budget \$24,968, *9/2008-8/2009*.
6. Grunwald, S., N. Comerford, W. Harris, and **G.L. Bruland**. 2007. Rapid Assessment and Trajectory Modeling of Changes in Soil Carbon Across a Southeastern Landscape. USDA/CSREES/NRI, Budget \$398,706 (Bruland Subcontract \$41,700), *9/2007-8/2010*.
5. Hood, A., and L. Ferrintinos. 2007. Innovations in Stream Phytoremediation and Erosion Control of Degraded Stream Banks. 319(h) Clean Water Act Grant Fund, Budget \$200,000 (**Bruland** Subcontract \$63,502), *6/30/07-6/29/09*.
4. Evensen, C.E. 2007. Water Quality Research and Extension Coordination in Hawai'i. USDA/CSREES Integrated Research, Education, and Extension Competitive Grants Program - National Integrated Water Quality Program (NIWQP). 2007, Budget \$150,000 (**Bruland** Subcontract \$15,000), *9/2006-9/2007*.
3. **Bruland, G.L.** 2006. Emerging Technologies for Soil and Water Conservation in Tropical and Sub-Tropical Watersheds. College of Tropical Agriculture and Human Resources Hatch Program, Budget \$66,500, *10/2006-9/2012*.
2. **Bruland, G.L.**, R.A. MacKenzie, C. McGuire, C. Ramsey, and A. Henry. 2006. Assessment and Monitoring of the Water Quality and Habitat Functions of Natural, Restored, and Created Wetlands of the Hawaiian Islands. Environmental Protection Agency, Budget \$143,713, *9/2006-1/2010*.
1. Mills-Packo, P., R.S. Yost, J. Yanagida, A.I. El-Kadi, and **G.L. Bruland**. 2006. Demonstrating Watershed Participatory Assessment and Action. Environmental Protection Agency, Budget \$223,873, *9/2006-8/2007*.

RESEARCH GRANTS PENDING

None as of Aug. 15, 2022.

RESEARCH GRANTS APPLIED, NOT SELECTED FOR FUNDING (18 total)

18. Lepczyk, C.A., G. Kudray, and **G.L. Bruland**. 2015. Developing a Rapid Assessment Method for US Pacific Island Coastal Wetlands. Environmental Protection Agency, Budget \$267,885, *9/2015-8/2018*.

17. Lepczyk, C.A., G. Kudray, and **G.L. Bruland**. 2014. Developing a Rapid Assessment Method for US Pacific Island Coastal Wetlands. Environmental Protection Agency, Budget \$168,177, 9/2014-8/2017.
16. Strauch, A.M., P. Selmants, R.A. MacKenzie, C.P. Giardina, C.M. Litton, and **G.L. Bruland**. 2012. Impacts of Climate Change on Sediment Transport and Water Quality. University of Hawaii Water Resource Research Center 2013 Research Grant, Budget \$25,411, 4/2013-4/2014.
15. Litton, C.M., **G.L. Bruland**, R.A. MacKenzie, P.C. Selmants, and A.M. Strauch. 2012. Impacts of Strawberry Guava (*Psidium cattleianum*) and Feral Pig (*Sus scrofa*) Invasions on Soil Erosion in Hawaiian Tropical Montane Wet Forests. National Institutes for Water Resources, Institute for Water Resources, U.S. Army Corps of Engineers Water Resources Program, Budget \$199,858, 1/2013-8/2014.
14. Lepczyk, C.A., and **G.L. Bruland**. 2012. Developing Rapid Assessment Methods for Monitoring and Mapping Hawaiian Wetlands. Environmental Protection Agency, Budget \$318,000, 8/2012-7/2015.
13. Yost, R.S., J.L. Deenik, **G.L. Bruland**, and R. Uchida. 2010. Strengthening and Transforming CTAHRs Agricultural Diagnostic and Service Center (ADSC) - Upgrading the Fertilizer Advice and Consulting System (FACS). CTAHR Hatch Research/Extension Supplemental Funds Program, \$100,000, 1/2011-12/2012.
12. **Bruland, G.L.** 2009. Calibrating and Finalization of the Hawaii Method for Assessing Wetland Functions. Hawaii Department of Transportation, Budget \$279,215, 7/2009-6/2012.
11. Roumasset, J.A., K. Burnett, T. Giambellucca, and **G.L. Bruland**. 2009. Sustainable Science for Watershed Management: A Mountain-to-the-Sea Assessment of the Manoa Watershed. National Science Foundation (NSF) Urban Long-Term Research Area Exploratory Awards (ULTRA-Ex), Budget \$299,864, 1/1/2010-12/31/2011.
10. Rappa, P., C. Ray, J.A Roumasset, C.R. Glenn, **G.L. Bruland**, et al. 2009. Sustainability 360: Water for Islands Under Changing Climate Regime. Office of the Vice Chancellor for Research and Graduate Education, UH Mānoa, Budget \$1,000,000, 6/2009-5/2011.
9. Roumasset, J.A, K.A. Burnett, G.C. Daily, **G.L. Bruland**, T.W. Giambelluca, C.R. Glenn, H. Dulaiova, L.H. Endress, and A.C. McLain. 2009. Sustainable Science for Watershed Management: A Mountain-to-the-Sea Assessment of the Mānoa Watershed. Office of the Vice Chancellor for Research and Graduate Education, UH Mānoa, Budget \$999,992, 6/2009-5/2011.
8. **Bruland, G.L.**, C.A. Lepczyk, and C.E. Evensen. 2009. An Ecosystem-Based Management Approach to Balancing Protection, Preservation and Use of Marine Resources Across the Hawaiian Archipelago. The National Center for Ecological Analysis and Synthesis. Budget \$90,000, 6/2009-5/2011.
7. Lepczyk, C.A. and **G.L. Bruland**. 2009. Quantifying Potential Risks of Invasions from Pet Stores Across the Hawaiian Islands. Hawaii Invasive Species Council. Budget \$14,231, 3/2009-3/2010.

6. **Bruland, G.L.**, R.A. MacKenzie, and F. Hughes. 2008. Determining the Impacts of Kiawe (*Prosopis palida*) on the Nitrogen Dynamics in Kaloko-Honokohau National Historical Park. Budget \$200,000, 1/2009-12/2010.
5. **Bruland, G.L.**, K. Chaston, and T. Idol. 2007. Coastal Area Readiness Literature Review. Kaulunani Urban and Community Forestry Program, Hawaii Department of Land and Natural Resources, Budget \$23,929, 4/2007-12/2007.
4. **Bruland, G.L.**, J.L. Deenik, R. Yost, and S. Grunwald. 2006. Quantification and Prediction of Soil Carbon Content in Agricultural Soils of Hawai'i with Diffuse Reflectance Spectroscopy. USDA/CSREES/TSTAR Program, Budget \$166,412, 8/2007-8/2010.
3. **Bruland, G.L.**, and R.A. MacKenzie. 2006. Impacts of Human Activities on the Ecosystem Function of Streams and Mangroves in Micronesia. University of Hawaii Sea Grant College Program, Budget \$110,158, 2/2007-1/2009.
2. **Bruland, G.L.**, and C. Gopalakrishnan. 2006. Mitigating Impacts of Changes in Watershed Vegetation on Source Water Quality and Quantity: A Comprehensive Review and Assessment. American Water Works Association Research Foundation, Budget \$241,431, 1/2007-12/2008.
1. **Bruland, G.L.**, MacKenzie, R.M., and C. McGuire. 2006. Use of Naturally-Occurring Stable Isotopes and Radionuclides to Quantify Nutrient Sources and Sedimentation in Hawaiian Wetlands. NSF EPSCoR Hawai'i REAP Program, Budget \$21,642, 9/2006-8/2007.

PUBLICATIONS IN PEER-REVIEWED SCIENTIFIC JOURNALS (48 published; 3 currently in review or preparation; †Undergraduate Advisee, ‡M.S. advisee, §Ph.D. advisee, #Post Doctoral Advisee)

48. †Lauria, A.M., and **G.L. Bruland**. 2020. Comparison of Soil Properties between Paired No-till and Conventional Tillage Systems in Central Illinois. *Transactions of the Illinois State Academy of Sciences* 113:9-15.
47. †Bookout, T., and **G.L. Bruland**. 2019. Assessment of a restored wetland in West-Central Illinois. *Northeastern Naturalist* 26(2):392-409.
46. #Strauch, A.M., R.A. MacKenzie, C.P. Giardina, **G.L. Bruland**. 2018. Climate influences on sediment and particulate carbon yields from tropical island watersheds. *Geomorphology* 306:28-39. DOI: 10.1016/j.geomorph.2017.12.030.
45. #Strauch, A.M., C.P. Giardina, R.A. MacKenzie, C. Heider, E. Salminen, T. Giambelluca, and **G.L. Bruland**. 2017. Modeled effects of climate change and plant invasion on watershed function across a steep tropical rainfall gradient. *Ecosystems* 20(3):583-600. DOI: 10.1007/s10021-016-0038-3.
44. †Boyer-Rechlin, N.J., **G.L. Bruland**, and M.A. Rechlin. 2016. The Effects of agricultural land use on benthic macroinvertebrate communities and the applicability of family level bioassessment metrics in Southern Illinois headwater streams. *Transactions of the Illinois State Academy of Sciences* 109:49-56.
43. #Strauch, A.M., **G.L. Bruland**, R.A. MacKenzie, C.P. Giardina. 2016. Initial soil and hydrological responses to feral pig (*Sus scrofa*) exclusion from native and strawberry guava (*Psidium*

- cattleianum*)-invaded Hawaiian forests. *Geoderma* 279:53-60. DOI: 10.1016/j.geoderma.2016.05.021.
42. †Waller, V.L., and **G.L. Bruland**. 2016. Fecal indicator bacteria dynamics in a surface flow constructed wetland in Southwestern Illinois, USA. *Wetlands* 36:539–546. DOI 10.1007/s13157-016-0763-6.
 41. #Strauch, A.M., R.A. MacKenzie, **G.L. Bruland**, and C. Giardina. 2015. Climate driven changes to rainfall and streamflow patterns in a model tropical island hydrological system. *Journal of Hydrology* 523:160–169.
 40. Knox, N.M., S. Grunwald, #M.L. McDowell, **G.L. Bruland**, D.B. Myers, and W.G. Harris. 2015. Modelling soil carbon fractions with VNIR and MIR spectroscopy. *Geoderma* 239-240:229-239.
 39. Silva, J.H.S., J.L. Deenik, R.S. Yost, **G.L. Bruland**, and S. Crow. 2015. Improving clay measurement techniques for oxidic and volcanic ash soils of Hawai‘i by manipulating dispersant concentration and ultrasonic energy levels. *Geoderma* 237-238:211-223.
 38. #Strauch, A.M., R.A. MacKenzie, **G.L. Bruland**, R. Tingley III, and C.P. Giardina. 2014. Climate change and land use drivers of fecal bacteria in tropical Hawaiian rivers. *Journal of Environmental Quality* 43:1475–1483.
 37. Penton, C.R., J.L. Deenik, B. Popp, **G.L. Bruland**, P. Engstrom, J. Mueller, A. Worden, and J. Tiedje. 2014. Denitrification losses and nitrogen functional gene abundances in flooded Hawaiian taro fields. *Soil Science* 179:2–10.
 36. ‡Margriter, S., **G.L. Bruland**, G. Kudray, and C.L. Lepczyk. 2014. Using indicators of land-use development intensity to assess the condition of coastal wetlands in Hawaii. *Landscape Ecology* 29:517–528.
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 32. #McDowell, M.L., **G.L. Bruland**, J.L. Deenik, and S. Grunwald. 2012. Effects of sub-setting by carbon content, soil order, and spectral classification on prediction of soil total carbon with diffuse reflectance spectroscopy. *Applied and Environmental Soil Science, Quantitative Soil Spectroscopy Special Issue*, Article ID 294121:1-14 (doi:10.1155/2012/294121).
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†Keller, T.T., and **G.L. Bruland**. A Review of the indigenous Saami traditional ecological knowledge and its coverage in scientific literature from 1986 to 2016. To be submitted to *Ambio*.

Bruland, G.L., S. Grunwald, T.Z. Osborne, K.R. Reddy, and S. Newman. An investigation of relationships among water, soil, vegetation, and landscape properties in a subtropical wetland. To be submitted to *Wetlands*.

BOOK CHAPTERS (6 published; 0 in press; ‡M.S. advisee)

6. Larkin, D., **G.L. Bruland**, and J.B. Zedler. 2016. Heterogeneity theory and ecological restoration. Chapter 10, p. 271-300 in M.A. Palmer, J.B. Zedler, and D.A. Falk (Eds.), *Foundations of Restoration Ecology, 2nd edition*. Island Press, Washington, D.C.
5. Richardson, C.J., **G.L. Bruland**, M.F. Hanchey, and A.E. Sutton-Grier. 2015. Soil restoration: The foundation of successful wetland reestablishment. Chapter 19, p. 469-493 in M.J. Vepraskas and C.B. Craft (Eds.), *Wetland Soils: Genesis, Hydrology, Landscapes, and Classification, 2nd Edition*. CRC Press, Boca Raton, FL.
4. **Bruland, G.L.**, ‡C.A. Browning, and C.I. Evensen. 2010. Effects of feral pigs (*Sus scrofa*) on watershed health in Hawai'i: A literature review and preliminary results on runoff and erosion. Chapter 11, p. 251-277 in J. Roumassett, K. Burnett, and A. Balisacan (Eds.), *Sustainability Science for Watershed Landscapes*. Institute of Southeast Asian Studies; Los Banos, Philippines: Southeast Asian Regional Center for Graduate Study and Research in Agriculture.
3. Grunwald, S., G.M. Vasques, N.B. Comerford, **G.L. Bruland** and C.M. Bliss. 2010. Regional modeling of carbon, nitrogen and phosphorus geospatial patterns. Chapter 9, p. 293-310 in G. Hanrahan (Ed.), *Modeling of Pollutants in Complex Environmental Systems, Volume II*. ILM Publications, Hertfordshire, UK.
2. Grunwald, S., B. Hoover, and **G.L. Bruland**. 2009. An eLearning portal to teach geographic information sciences. Chapter 18, p. 234-245 in M. Syed (Ed.), *Methods and Applications for Advancing Distance Education Technologies: International Issues and Solutions*. IGI Global, Hershey, PA.

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EXTENSION PUBLICATIONS (4 total; ‡M.S. advisee)

4. Deenik, J.L., C.R. Penton, and **G.L. Bruland**. 2013. Nitrogen Cycling in Flooded Taro Agriculture. Soil Crop Management Brief, College of Tropical Agriculture and Human Resources (CTAHR), University of Hawaii Manoa. SCM-31, Dec. 2013.
3. ‡Margritter, S., and **G.L. Bruland**. 2010. Assessing the condition of Hawaiian coastal wetlands using a multi-scaled approach. Johns Hopkins Global Water Magazine (<http://globalwater.jhu.edu/index.php/magazine/C66/>), published online Oct. 4.
2. **Bruland, G.L.**, T.Z. Osborne, K.R. Reddy, S. Grunwald, S. Newman, and W.F. DeBusk. 2007. Recent changes in soil total phosphorus in the Everglades: Water Conservation Area 3. Soil & Water Science Research Bits.
1. **Bruland, G.L.**, S. Grunwald, T.Z. Osborne, S. Newman, and K.R. Reddy. 2006. Spatial distribution of soil properties in Water Conservation Area 3 of the Everglades. Soil & Water Science Research Brief, SWS-06-02.

INVITED TALKS, SEMINARS, & PANELS (26 total; †Undergraduate Advisee, ‡M.S. advisee, §Ph.D. advisee, #Post Doctoral Advisee)

26. **Bruland, G.L.**, K. Haire, & G. Starr LeBeau. 2016. Panel Discussion on Academic Publishing: 1 of 3 Panelists from different disciplines. Principia College, April 13.
25. **Bruland, G.L.** 2015. Principia Upper School Commencement Address: "Deepening and Enlarging Your Connections." May 30.
24. **Bruland, G.L.** 2015. From Duke to Florida, Hawaii to the Heartland: My Wetland Career Journey. Duke University Wetland Center 25th Anniversary Career Symposium, Durham, NC, Feb. 2.
23. **Bruland, G.L.** 2014. Soils, Wetlands, and Watersheds: Advances and Implications. Principia College Deans Research Colloquium, Elsah, IL, Mar. 26.
22. **Bruland, G.L.** 2012. Continued Collaboration with NREM. NREM Departmental Seminar, Honolulu, HI, May 11.
21. #McDowell, M.L., **G.L. Bruland**, S. Grunwald, J.L. Deenik, and R. Uchida. 2010. Diffuse Reflectance Spectroscopy for Total Carbon Analysis of Hawaiian Soils. NREM Departmental Seminar Series, University of Hawai'i Mānoa, Honolulu, HI, Nov. 29.
20. Grunwald, S., G.M. Vasques, D.B. Myers, W.G. Harris, N.B. Comerford, and **G.L. Bruland**. 2010. Change in Soil Organic Carbon Patterns Across a Large Mixed-Use Landscape in the Southeastern

U.S. *Soil Change Symposium*, Science Society of America Annual Meeting, Long Beach, CA, Nov. 6, 2010.

19. **Bruland, G.L.** 2010. New Research Results and Directions in Coastal Ecology and Soil Conservation Across the Hawaiian Islands. NREM Departmental Seminar Series, University of Hawai‘i Mānoa, Honolulu, HI, Apr. 12.
18. MacKenzie, R.A., **G.L. Bruland**, C.L. Kryss, T. Holitzki, and K. McDermid. 2009. Impacts of Invasive Poeciliids on Hawaiian Coastal Ecosystems. Tropical Conservation Biology and Environmental Science (TCBES) Graduate Seminar Series, University of Hawai‘i Hilo, Hilo, HI, Nov. 18.
17. ‡Dunkell, D., **G.L. Bruland**, and C.I. Evensen. 2009. Influence of Feral Pigs (*Sus scrofa*) on Runoff, Sediment Transport, and Water Quality of the Manoa Watershed. *Impacts of Sediments in Hawaiian Stream Ecosystems Symposium*, Hawai‘i Conservation Conference, Honolulu, HI, Jul. 29.
16. **Bruland, G.L.** 2009. Assessment of Vegetation, Soils, Water Quality, & Fish Communities of Coastal Wetlands in Hawaii. Hawai‘i Department of Health, Brown Bag Lunch Seminar Series, Honolulu, HI, Apr. 20.
15. **Bruland, G.L.** 2009. Vegetation, Soils, Water Quality, & Fish of Coastal Hawaiian Wetlands. Hilo Natural History Seminar Series, Institute of Pacific Island Forestry, Hilo, HI, Apr. 7.
14. **Bruland, G.L.** 2008. Role of Coastal Wetlands in Reducing Impacts of Land-Based Pollutants. Water Resources Research Center Fall 2008 Seminar Series, Honolulu, HI, Nov. 20.
13. **Bruland, G.L.**, ‡C.A. Browning, and C.I. Evensen. 2008. An Preliminary Investigation of the Effects of Feral Pigs on Water Quality and Soil Loss in the Mānoa Watershed. Region 9 National Integrated Water Quality Program (NIWQP) Project Review, Honolulu, HI, Sept. 17.
12. ‡Browning, C.A., and **G.L. Bruland**. 2008. An Examination of the Effects of Feral Pigs (*Sus scrofa*) on Water Quality and Soil Loss within a Hawaiian Watershed. *Issues in Ungulate Management Symposium*, Hawai‘i Conservation Conference, Honolulu, HI, Jul. 31.
11. **Bruland, G.L.**, ‡M. Bantilan-Smith, R.A. MacKenzie, C. Ryder, and A. Henry. 2008. Assessment of Vegetation, Soils, and Water Quality of Hawai‘i’s Coastal Wetlands. *Ecology and Management of Coastal Lowland Wetlands in Hawai‘i: The Past, Present, and Future Symposium*, Hawai‘i Conservation Conference, Honolulu, HI, Jul. 29.
10. MacKenzie, R.A., **G.L. Bruland**, and C.L. Kryss. 2008. Impacts of Invasive Fish Communities on Hawaiian Coastal Wetlands. *Ecology and Management of Coastal Lowland Wetlands in Hawai‘i: The Past, Present, and Future Symposium*, Hawai‘i Conservation Conference, Honolulu, HI, Jul. 29.
9. ‡DeMent, G., and **G.L. Bruland**. 2008. Quantifying the Phosphorus Sorption Capacity of Coastal Wetlands of Hawai‘i. *Ecology and Management of Coastal Lowland Wetlands in Hawai‘i: The Past, Present, and Future Symposium*, Hawai‘i Conservation Conference, Honolulu, HI, Jul. 29.
8. MacKenzie, R.A., C. Kryss, and **G.L. Bruland**. 2008. Honu‘apo Estuary. Meeting of Na Ohana O Honu‘apo, Naalehu, HI, Mar. 6.

7. **Bruland, G.L.**, C.A. Browning, and C.I. Evensen. 2007. Effects of Feral Pigs on Runoff and Water Quality in the Mānoa Watershed: Experimental Design and Preliminary Results. Sustainability Science for Watershed Landscapes Conference, Honolulu, HI, Nov. 14.
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5. **Bruland, G.L.**, and C.J. Richardson. 2006. Mimicking Natural Microtopographic Heterogeneity in a Restored Wetland: Preliminary Hydrologic, Edaphic, and Vegetative Responses. *Upstart Perspectives on Restoration Icons Symposium* at the Ecological Society of America Annual Meeting, Memphis, TN, Aug. 8.
4. **Bruland, G.L.** 2005. Effects of Land Management and Erosion on Adjacent Coastal Areas. University of Hawai'i Mānoa, Department of Natural Resources & Environmental Management, Honolulu, HI, Jun. 27.
3. **Bruland, G.L.** 2005. Soil Landscape Analysis in the Greater Everglades and a Mixed-use Watershed in Florida. University of Hawai'i Mānoa, Department of Natural Resources & Environmental Management, Honolulu, HI, Jun. 26.
2. **Bruland, G.L.** 2004. An Observational, Geostatistical, and Experimental Assessment of Soil Properties and Processes in Restored and Natural Wetlands in the Southeastern Coastal Plain. Department of Biology, West Virginia University, Morgantown, WV, Jan. 30.
1. **Bruland, G.L.** 2003. Beyond Principia: My Adventures in Graduate School. Principia College Biology and Natural Resources Department, Elsah, IL, Oct. 31.

PRESENTATIONS (117 total; °Oral Presentation, °Poster; †Undergraduate Advisee, ‡M.S. advisee or technician, §Ph.D. advisee, #Post Doctoral Advisee).

117. †°Bookout, T., and **G.L. Bruland**. 2017. Assessment of the hydrology, soils, vegetation and amphibians of a restored wetland in West-Central Illinois. Society of Wetland Scientists Annual Meeting, San Juan, Puerto Rico, June 6.
116. °**Bruland, G.L.**, C. McCallister, S. Eckert, and J. Lovseth. 2016. Recent evolution of undergraduate research in the Biology and Natural Resources Department at Principia College. St. Louis Ecology, Evolution, and Conservation (SLEEC) Annual Retreat, Elsah, IL, Sept. 17.
115. °Richardson, C.J., **G.L. Bruland**, and S. Winton. 2015. The Effects of restoring organic matter, microtopography and hydrology on hydric soil structure and functions. Symposium-Hydric Soil Management for Wetland Restoration and Creation, Soil Science Society of America Annual Meeting, Minneapolis, MN, Nov. 17.
114. °MacKenzie, R.A., A.M. Strauch, R. Tingley, T. Frauendorf, M. Riney, P. Foulk, C.P. Giardina, D. Infante, R. Ostertag, and **G.L. Bruland**. 2015. Impacts of declining rainfall on the hydrological and ecological function of Hawaiian streams. Association of Tropical Biology and Conservation Annual Meeting, Honolulu, HI, July 14.

113. °#Strauch, A.M., R.A. MacKenzie, **G.L. Bruland**, and C.P. Giardina. 2015. Climate driven alterations to watershed hydrology mediates sediment and carbon yields from three Hawaiian watersheds. Association of Tropical Biology and Conservation Annual Meeting, Honolulu, HI, July 13.
112. °#Strauch, A.M., **G.L. Bruland**, and R.A. MacKenzie. 2015. Consequences of feral pig (*Sus scrofa*) exclusion on sediment and bacteria in runoff from both native and strawberry guava (*Psidium cattleianum*)-invaded tropical montane forests in Hawai'i. Association of Tropical Biology and Conservation Annual Meeting, Honolulu, HI, July 15.
111. °†Boyer-Rechlin, N.J., **G.L. Bruland**, and M.A. Rechlin. 2014. Macroinvertebrate community structure in relation to agricultural land use in southern Illinois headwater streams. Joint Aquatic Sciences Meeting, Portland, OR, May 18.
110. °#Strauch, A.M., R.A. MacKenzie, **G.L. Bruland**, and C.P. Giardina. 2014. Climate change impacts on tropical sediment loads and water quality. Joint Aquatic Sciences Meeting, Portland, OR, May 18.
109. °‡Frauendorf, T.C., R.A. MacKenzie, A. Strauch, P. Foulk, and **G.L. Bruland**. 2014. Aquatic invertebrate biomass and production across a rainfall gradient: implications of climate change on stream communities in Hawai'i. Joint Aquatic Sciences Meeting, Portland, OR, May 18.
108. °‡Strauch, A.M., R.A. MacKenzie, **G.L. Bruland**, R. Tingley III, and C.P. Giardina. 2013. Drivers of surface water quality in tropical rivers: The influence of mean annual rainfall and land-use/land-cover change on fecal indicator bacteria load. Ecological Society of America Annual Meeting, Minneapolis, MN, Aug. 5.
107. °‡Strauch, A.M., R.A. MacKenzie, **G.L. Bruland**, C.P. Giardina. 2013. Effects and interactions of mean annual rainfall and land-use change on fecal indicator bacteria load in tropical rivers. Hawaii Conservation Conference, Honolulu, HI, Jul. 18.
106. °‡Frauendorf, T.C., R.A. MacKenzie, and **G.L. Bruland**. 2013. Effects of decreasing rainfall on food resources and aquatic consumers in Hawaiian streams. Hawaii Conservation Conference, Honolulu, HI, Jul. 17.
105. °‡Strauch, A.M., R.A. MacKenzie, **G.L. Bruland** and C.P. Giardina. 2013. Climate change and water quality in the tropics: The influence of mean annual rainfall on fecal indicator bacteria in hawaiian rivers. Society for Freshwater Science Annual Meeting, Tampa, FL, May 22.
104. °‡Frauendorf, T.C., R.A. MacKenzie, P. Foulk, and **G.L. Bruland**. 2013. Aquatic invertebrate diversity and biomass across a rainfall gradient: Implications of climate change on stream communities in Hawaii. Society for Freshwater Science Annual Meeting, Tampa, FL, May 22.
103. °#A.M. Strauch, R.M. MacKenzie, **G.L. Bruland**, C.P. Giardina. 2013. Impacts of climate change on stream flow, turbidity, and bacteria. Hawaii Island Water Resource Meeting, Hilo, HI, Mar. 25.
102. °MacKenzie, R.M., C.P. Giardina, **G.L. Bruland**, #A.M. Strauch, R.W. Tingley, ‡T. Frauendorf, P. Foulk, M. Riney, and R. Ostertag. 2013. The Hamakua/Hilo Region as a model system to understand how climate change and invasive species impact Pacific Island streams. Hawaii Island

Water Resource Meeting, Hilo, HI, Mar. 25.

101. °‡Frauendorf, T.C., R.A. MacKenzie, P.B. Foulk, and **G.L. Bruland**. 2013. Organic matter dynamics along the Hilo-Hamakua stream rainfall gradient: Effects of climate change on food resources for aquatic fauna. Hawaii Island Water Resource Meeting, Hilo, HI, Mar. 25.
100. °Silva, J., J. Deenk, R. Yost, and G.L. Bruland. 2012. Developing a simple method to estimate clay content for tropical soils that resist dispersion. Soil Science Society of America Annual Meeting, Cincinnati, OH, Oct. 19.
99. °#Strauch, A.M., C. Giardina, R.A. MacKenzie, and **G.L. Bruland**. 2012. Modeling the effects of climate change and invasive plants on stream flow in tropical island watersheds using the distributed hydrology-soil-vegetation model. Ecological Society of America Annual Meeting, Portland, OR, Aug. 5.
98. °‡Frauendorf, T.C., R.A. MacKenzie, #A.M. Strauch, and **G.L. Bruland**. 2012. Insect emergence across a precipitation gradient in Hawaiian streams: Potential effects of climate change on terrestrial food resources. Hawaii Conservation Conference, Honolulu, HI, Aug. 4.
97. °Deenik, J.L., **G.L. Bruland**, and R. Yamakawa. 2012. Evaluating slow release N fertilizer and an organic fish/blood meal product for wetland taro production. Kauai Taro Growers Association, Hanalei, HI, Apr. 18.
96. °‡Jantz, L.A., **G.L. Bruland**, C.A. Lepczyk, and C. Morishige. 2012. The ingestion of plastic debris by longnose lancetfish (*Alepisaurus ferox*) in the Hawai'i-based shallow-set Fishery. CTAHR Student Research Symposia, Honolulu, HI, Apr. 14.
95. °Silva, J., J.L. Deenik, G. Uehara, and **G.L. Bruland**. 2012. Developing a simple method to estimate clay content for tropical soils that resist dispersion. CTAHR Student Research Symposia, Honolulu, HI, Apr. 13.
94. °Long, R., L.J. Cox, J. Cusick, and **G.L. Bruland**. 2012. Consumer preferences and willingness to pay in certified sustainable ecotourism in Hawai'i. CTAHR Student Research Symposia, Honolulu, HI, Apr. 13.
93. °#McDowell, M.L., **G.L. Bruland**, J.L. Deenik, S. Grunwald, and N.M. Knox. 2011. Diffuse reflectance spectroscopy for total carbon analysis of Hawaiian soils. Soil Science Society of America Annual Meeting, San Antonio, TX, Oct. 19.
92. °Knox, N.M. **G.L. Bruland**, S. Grunwald, D.B. Myers, M.L. McDowell, A. Stoppe, W.G. Harris, and N.B. Comerford. 2011. Prediction of soil carbon fractions using MIR spectroscopy across Florida. Soil Science Society of America Annual Meeting, San Antonio, TX, Oct. 19.
91. °‡Bovino Agostini, V., **G.L. Bruland**, C. Litton, and C.I. Evensen. 2011. Spatial and temporal dynamics and effects of feral pigs (*Sus scrofa*) on Enterococci in soils and runoff of a forested Hawaiian watershed. Hawaii Conservation Conference, Honolulu, HI, Aug. 4.
90. °Penton C.R., **G.L. Bruland**, A. Worden, J. Tiedje, J.L. Deenik. 2011. Use of a novel whole core technique for assessing the fate of fertilizer N in Hawaiian flooded agricultural sediments. American Society for Microbiology Annual Meeting, New Orleans, LA, May 24.

89. †Bovino Agostini, V., **G.L. Bruland**, C. Litton, and C.I. Evensen. 2011. Affects of feral pigs (*Sus scrofa*) on fecal indicator bacteria (*Enterococci*) in soils and runoff of a Hawaiian watershed. CTAHR Student Research Symposia, Honolulu, HI, Apr. 9.
88. †Carrier, S., **G.L. Bruland**, L.J. Cox, C.A. Lepczyk. 2011. A Survey of the demographics and perceptions of Hawai'i's coastal resource managers. CTAHR Student Research Symposia, Honolulu, HI, Apr. 9.
87. §Puniwai, N., **G.L. Bruland**, C. Lepczyk. 2011. Using linguistic variables to map Hawaii Islands' ocean currents. CTAHR Student Research Symposia, Honolulu, HI, Apr. 8.
86. †Quidez, A., **G.L. Bruland**, and #M.L. McDowell. 2011. A Comparison of soil carbon across Hawaiian agricultural lands. CTAHR Student Research Symposia, Honolulu, HI, Apr. 8.
85. †Jantz, L., **G.L. Bruland**, C.A. Lepczyk, and K. McElwee. 2011. The occurrence of plastic debris in the stomachs of longnose lancetfish (*Alepisaurus ferox*) in the Hawaii-based pelagic longline fishery. CTAHR Student Research Symposia, Honolulu, HI, Apr. 8.
84. †Pawlowski, M., S.E. Crow, and **G.L. Bruland**. 2011. Variations in carbon storage within soil aggregates under three management regimes in Maui. CTAHR Student Research Symposia, Honolulu, HI, Apr. 8.
83. †Jung, S.K., J. Yanagida, T. Miura, M. Robotham, **G.L. Bruland**, and J. Moncur. 2011. An Integrative approach for municipal solid waste landfill selection: A Case study of Oahu, Hawai'i. International Conference on Solid Waste Technology and Management, Philadelphia, PA, Mar. 28.
82. †Deenik, J.L., C.R. Penton, **G.L. Bruland**, B. Popp, P. Engström, J. Mueller, and J. Tiedje. 2010. Quantifying nitrogen loss from flooded Hawaiian taro fields. American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 13-17.
81. †Penton, C.R., **G.L. Bruland**, B. Popp, P. Engström, J. Tiedje, G. Brown, and J.L. Deenik. 2010. Use of novel whole core incubations to measure the fate of fertilizer N in a flooded agricultural system. American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 13-17.
80. †#McDowell, M.L., **G.L. Bruland**, J.L. Deenik, S. Grunwald, and R. Uchida. 2010. Diffuse reflectance spectroscopy for total carbon analysis of Hawaiian soil. American Geophysical Union Annual Meeting, San Francisco, CA, Dec. 13-17.
79. †**Bruland, G.L.**, M.L. McDowell, J. Deenik, R. Uchida, and S. Grunwald. 2010. Using diffuse reflectance spectroscopy to assess soil total carbon in agricultural soils of Hawaii and other Pacific Islands. Soil Science Society of America Annual Meeting, Long Beach, CA, Nov. 1, 2010.
78. †Bovino, V., and **G.L. Bruland**. 2010. Variability of Enterococci in soils and runoff and effects of feral pig exclusion in the Mānoa watershed. Hawai'i Conservation Conference, Honolulu, HI, Aug. 2.
77. †Deenik, J.L., C.R. Penton, B. Popp, **G.L. Bruland**, and J. Tiedje. 2010. Anammox activity and nitrogen dynamics in taro soils of Hawaii. National Institute of Food and Agriculture, Soil Processes Program, Project Director's Meeting, Washington, DC, Jun. 3.

76. °†Muller, L., #M.L. McDowell, and **G.L. Bruland**. 2010. Using diffuse reflectance spectroscopy to assess total carbon content in soils of Hawai‘i and Palau. CMORE Scholars Undergraduate Student Research Symposia, Honolulu, HI, May 7.
75. °†Muller, L., #M.L. McDowell, and **G.L. Bruland**. 2010. Assessing soil carbon in Hawaii wetland soils with diffuse reflectance spectroscopy. CTAHR Student Research Symposia, Honolulu, HI, Apr. 10.
74. °Jung, S.K., T. Miura, **G.L. Bruland**, and J. Yanagida. 2010. An integrative approach for municipal solid waste (MSW) landfill selection: A case study of the island of Oahu, Hawaii. CTAHR Student Research Symposia, Honolulu, HI, Apr. 9.
73. °†Muller, L., and **G.L. Bruland**. 2009. Assessing soil carbon using diffuse reflectance spectroscopy. CMORE Scholars Undergraduate Student Research Symposia, Honolulu, HI, Dec. 11.
72. °MacKenzie, R.A., **G.L. Bruland**, and C.L. Kryss. 2009. Impacts of invasive fish in Hawaiian wetlands. Coastal and Estuarine Research Federation’s 20th Biennial Conference, Portland, OR, Nov. 10.
71. °‡Margriter, S., **G.L. Bruland**. 2009. Coastal wetland condition assessments at Hawaiian National Historic Parks. Hawaii Congress of Planning Officials/Hawaii Geographic Information Coordinating Council Conference, Honolulu, HI, Sep. 23-25.
70. °**Bruland, G.L.**, M. Bantilan-Smith, R. MacKenzie, C. Ryder, and A. Henry. 2009. Assessment of the vegetation, soils, and water quality of Hawaii’s coastal wetlands. Joint Society of Wetland Scientists Annual Meeting and Wetland Biogeochemistry Symposium, Madison, WI, Jun. 22-26.
69. °**Bruland, G.L.**, and ‡G. DeMent. 2009. Phosphorus sorption dynamics of Hawaii’s coastal wetlands. Joint Society of Wetland Scientists Annual Meeting and Wetland Biogeochemistry Symposium, Madison, WI, Jun. 22-26.
68. °MacKenzie, R.A., **G.L. Bruland**, and C. Kryss. 2009. Impacts of invasive poeciliid fish on nutrient dynamics in Hawaiian coastal wetlands. Joint Society of Wetland Scientists Annual Meeting and Wetland Biogeochemistry Symposium, Madison, WI, Jun. 22-26.
67. °‡Dunkell, D., **G.L. Bruland**, and C.I. Evensen. 2009. Influence of feral pigs (*Sus scrofa*) on water quality and pathogen transport in the Mānoa Watershed. CTAHR Student Research Symposia, Honolulu, HI, Apr. 3-4.
66. °‡Unser, C., **G.L. Bruland**, A. Hood, and K. Duin. 2009. Using native plants and coconut fiber coir logs for nitrogen accumulation in Hawaiian Streams. CTAHR Student Research Symposia, Honolulu, HI, Apr. 3-4.
65. °‡Margriter, S., **G.L. Bruland**. 2009. Assessing the condition of coastal wetlands in Pacific Islands National Parks. CTAHR Student Research Symposia, Honolulu, HI, Apr. 3-4.
64. °†Phares, E., and **G.L. Bruland**. 2009. Trends in water quality of coastal wetlands across the Hawaiian Islands. CTAHR Student Research Symposia, Honolulu, HI, Apr. 3-4.

63. ^PDeenik, J.L., J. Tiedje, **G.L. Bruland**, B. Popp, and C.R. Penton. 2009. Anammox activity and nitrogen dynamics in flooded taro soils of Hawaii. CSREES NRI Soil Processes Investigators Meeting, East Lansing, MI, Mar. 15.
62. ^PGrunwald, S., N.B. Comerford, W.G. Harris, **G.L. Bruland**, G.M. Vasques, D.B. Myers, D. Sarkhot, A. Stoppe, and E. Azuaje. 2009. Rapid assessment and modeling of soil carbon pools across Florida. 2nd North American Carbon Program All-Investigator Meeting, San Diego, CA, Feb 17-20.
61. ^PSarkhot, D.V. S. Grunwald, N.B. Comerford, W.G. Harris, and **G.L. Bruland**. 2008. Effect of land use on soil carbon content across a large subtropical soilscape. Joint Annual Meeting of the Soil Science Society of America and the Geological Society of America, Houston, TX, Oct. 8.
60. ^OGrunwald, S., G.M. Vasques, N.B. Comerford, **G.L. Bruland**, C.M. Bliss, and J.O. Sickman. 2008. Biogeochemical soil-landscape modeling. 3rd Global Workshop on Digital Soil Mapping, Logan, UT, Sept. 30 - Oct. 3.
59. ^OSarkhot, D.V., S. Grunwald, N.B. Comerford, W.G. Harris, and **G.L. Bruland**. 2008. Development of a strategic spatial sampling design for measuring soil carbon storage and turnover in Florida. Soil and Water Science Department Research Forum, Gainesville, FL, Sept. 12.
58. ^OGrunwald, S., **G.L. Bruland**, R. Corstanje, R.G. Rivero, P. Goovaerts, and K.R. Reddy. 2008. Landscape models for spatial upscaling of biogeochemical parameters. Greater Everglades Ecosystem Restoration Planning, Policy, and Science Meeting, Naples, FL, Jul. 29.
57. ^OOsborne, T.Z., S. Newman, P.I. Kalla, D.J. Scheidt, **G.L. Bruland**, M.J. Cohen, and L.J. Scinto. 2008. Landscape scale patterns of significant nutrients and contaminants in the Greater Everglades Ecosystem: Past, present, and future. Greater Everglades Ecosystem Restoration Planning, Policy, and Science Meeting, Naples, FL, Jul. 28.
56. ^{P†}Margruter, S., **G.L. Bruland**, S. Beavers, P. Cutillo, and B. Gibson. 2008. Assessment of land-based threats to coastal resources at Kaloko-Honokōhau National Historical Park. Hawai'i Conservation Conference, Honolulu, HI, Jul. 31.
55. ^{P†}Unser, C., **G.L. Bruland**, A. Hood, and K. Duin. 2008. Nutrient uptake and implementation of pre-planted coconut coir logs for the purpose of stream phytoremediation and erosion control in Waimānalo and Kahawai Streams on Oahu. Hawai'i Conservation Conference, Honolulu, HI, Jul. 31.
54. ^PKryss, C.L., R.A. MacKenzie, **G.L. Bruland**, and L.M. Shimizu. 2008. Impacts of invasive fish on nitrogen dynamics in Hawaiian coastal wetlands. Hawai'i Conservation Conference, Honolulu, HI, Jul. 29-31.
53. ^OSarkhot, D., S. Grunwald, N.B. Comerford, W.G. Harris, and **G.L. Bruland**. 2008. Development of a strategic spatial sampling design for the State of Florida. Southern Regional Cooperative Soil Survey Conference, Gainesville, FL, Jul. 16.

52. °‡Bantilan-Smith, M., and **G.L. Bruland**. 2008. A Quantitative investigation and inventory of the vegetation and soils of coastal lowland Hawaiian Wetlands. CTAHR Student Research Symposia, Honolulu, HI, Apr. 10.
51. °‡Browning, C.A., **G.L. Bruland**, and C.I. Evensen. 2008. An Examination of the effects of feral pigs (*Sus scrofa*) on water quality and soil loss within a Hawaiian Watershed. CTAHR Student Research Symposia, Honolulu, HI, Apr. 10.
50. °‡DeMent, G., and **G.L. Bruland**. 2008. A Quantification of the phosphorus sorption capacity of coastal lowland wetlands in Hawaii. CTAHR Student Research Symposia, Honolulu, HI, Apr. 10.
49. °‡Unser, C., **G.L. Bruland**, A. Hood, and K. Duin. 2008. Nutrient uptake by native Hawaiian sedges for the purpose of stream phytoremediation and erosion control. CTAHR Student Research Symposia, Honolulu, HI, Apr. 9.
48. °Deenik, J., †P. Filer, **G.L. Bruland**, and A. McClellan. 2007. Hot water extractable carbon: An integrative and sensitive measure of changes in soil quality. Soil Science Society of America Annual Meeting, New Orleans, LA, Nov. 7.
47. °**Bruland, G.L.**, ‡M. Bantilan-Smith, R.A. MacKenzie, C. Ryder, and A. Henry. 2007. A Comprehensive, quantitative assessment of the soils of coastal wetlands in Hawai'i. Soil Science Society of America Annual Meeting, New Orleans, LA, Nov. 7.
46. °Rivero, R.G., S. Grunwald, **G.L. Bruland**, M.W. Binford, K.R. Reddy, T.Z. Osborne, and S. Newman. 2007. Spectral inferential modeling of soil phosphorus using hybrid geostatistical methods. Soil Science Society of America Annual Meeting, New Orleans, LA, Nov. 7.
45. °Grunwald, S. G.M. Vasques, N.B. Comerford, **G.L. Bruland**, C.M. Bliss, D.A. Graetz, and J. Sickman. 2007. Integration of carbon, nitrogen and phosphorus into a spatially-explicit soil-landscape model using geostatistical methods. Soil Science Society of America Annual Meeting, New Orleans, LA, Nov. 7.
44. °Grunwald, S., G.M. Vasques, **G.L. Bruland**, C.M. Bliss, N.B. Comerford, D.A. Graetz, and J.O. Sickman. 2007. Hybrid geostatistical modeling of soil carbon, nitrogen and phosphorus within a large Florida watershed. TIES Conference - International Envirometrics Society, Mikulov, Czech Republic, Aug. 16-20.
43. °**Bruland, G.L.**, R.A. MacKenzie, C. McGuire, A. Henry, C. Ramsey, and ‡M. Bantilan-Smith. 2007. Assessment of the water quality and habitat functions of natural, restored, and created wetlands of the Hawaiian Islands. Joint Ecological Society of America and Society for Ecological Restoration International Annual Meeting, San Jose, CA, Aug. 8.
42. °**Bruland, G.L.**, R.A. MacKenzie, C. McGuire, A. Henry, C. Ramsey, and ‡M. Bantilan-Smith. 2007. Comprehensive inter-island assessment of coastal lowland wetland ecosystems of the Hawaiian Islands. Hawai'i Conservation Conference, Honolulu, HI, Jul. 25-27.
41. °‡Bantilan-Smith, M., **G.L. Bruland**, R.A. MacKenzie, C. McGuire, C. Ramsey, and A. Henry. 2007. A Quantitative investigation and inventory of the soils and vegetation of coastal lowland Hawaiian wetlands. Hawai'i Conservation Conference, Honolulu, HI, Jul. 25-27.

40. [¶]MacKenzie, R.A., **G.L. Bruland**, C. McGuire, A. Henry, C. Ramsey, and [‡]M. Bantilan-Smith. 2007. Fish community structure in Hawaiian coastal wetlands. Hawai'i Conservation Conference, Honolulu, HI, Jul. 25-27.
39. [°]Hartman, W.H., C.J. Richardson, C.J., R. Vilgalys, and **G.L. Bruland**. 2007. Environmental and anthropogenic controls over bacterial assemblages in freshwater wetland soils, and their relation to bacterially-derived soil phosphorus pools. 10th Symposium on Wetland Biogeochemistry, Annapolis, MD, Apr. 3.
38. [¶]Grunwald, S., C.M. Bliss, **G.L. Bruland**, I. Lopez-Zamora, N.B. Comerford, and D.A. Graetz. 2006. SCORPAN-based soil-landscape modeling in North-East Florida. World Congress of Soil Science, Philadelphia, PA, Jul. 9-15.
37. [¶]**Bruland, G.L.**, T.Z. Osborne, K.R. Reddy, S. Grunwald, S. Newman, and W.F. Debus. 2006. Space-time trajectories of soil total phosphorus in a large subtropical wetland. World Congress of Soil Science, Philadelphia, PA, Jul. 9-15.
36. [°]Sutton-Grier, A.E., C.J. Richardson, and **G.L. Bruland**. 2006. Understanding soil processes: The next frontier of wetland restoration. World Congress of Soil Science, Philadelphia, PA, Jul. 9-15.
35. [°]**Bruland, G.L.**, C.M. Bliss, S. Grunwald, N.B. Comerford, and D.A. Graetz. 2005. Soil nitrate-in forested versus non-forested land-uses in the Santa Fe River Watershed. Soil Science Society of America Annual Meeting, Salt Lake City, UT, Nov. 7.
34. [¶]Bliss, C.M., **G.L. Bruland**, I. Lopez-Zamora, N.B. Comerford, D.A. Graetz, and S. Grunwald. 2005. Carbon, nitrogen, and phosphorus in soil size fractions: influence of land use and soil type in a north Florida watershed. Soil Science Society of America Annual Meeting, Salt Lake City, UT, Nov. 7.
33. [¶]**Bruland, G.L.**, S. Grunwald, T.Z. Osborne, K.R. Reddy, and S. Newman. 2005. Spatial distribution of soil properties and soil physical-chemical diversity in the Greater Everglades Ecosystem. Soil Science Society of America Annual Meeting, Salt Lake City, UT, Nov. 8.
32. [¶]Osborne, T.Z., **G.L. Bruland**, S. Newman, K.R. Reddy, and S. Grunwald. 2005. Spatial distribution and linkages of soil biogeochemical properties in the Everglades National Park. Soil Science Society of America Annual Meeting, Salt Lake City, UT, Nov. 8.
31. [°]Grunwald, S., C.M. Bliss, **G.L. Bruland**, I. Lopez-Zamora, N.B. Comerford, and D.A. Graetz. 2005. Geospatial modeling of phosphorus within a multi-functional and multi-use watershed. Soil Science Society of America Annual Meeting, Salt Lake City, UT, Nov. 8.
30. [°]Comerford, N.B., S. Grunwald, C.M. Bliss, I. Lopez-Zamora, D.A. Graetz, and **G.L. Bruland**. 2005. Geotemporal estimation and visualization of nitrogen in a mixed-use watershed. Florida Forestry Association. Oct. 26.
29. [°]Grunwald, S., **G.L. Bruland**, P. Goovaerts, and S.A. Bloom. 2005. Independent validation of soil Predictions - The Act of testing the truth? Pedometrics 2005 – International Meeting of Commission 1.5 of the International Union of Soil Sciences. Naples, FL, Sept. 12.

28. °**Bruland, G.L.**, S. Grunwald, K.R. Reddy, T.Z. Osborne and S. Newman. 2005. A spatially-explicit Mantel test framework to investigate relationships among soil, water, landscape and vegetative properties. *Pedometrics 2005 – International Meeting of Commission 1.5 of the International Union of Soil Sciences*. Naples, FL, Sept. 12.
27. °Lamsal, S., **G.L. Bruland**, C.M. Bliss, S. Grunwald, and N.B. Comerford. 2005. Modeling of regional soil nitrate-nitrogen patterns using a mixed geospatial modeling approach. *Pedometrics 2005 – International Meeting of Commission 1.5 of the International Union of Soil Sciences*. Naples, FL, Sept. 12.
26. °**Bruland, G.L.**, C.M. Bliss, S. Grunwald, N. B. Comerford and D.A. Graetz. 2005. Contrasting soil nitrate-nitrogen across land-uses and soil orders in a north-central Florida watershed. *Soil and Water Science Department Research Forum*, Gainesville, FL, Sept. 2.
25. °Lamsal, S., S. Grunwald, C.M. Bliss, **G.L. Bruland**, and N.B. Comerford. 2005. Regional modeling of soil nitrate-nitrogen with auxiliary environmental datasets in the Santa Fe River Watershed. *Soil and Water Science Department Research Forum*, Gainesville, FL, Sept. 2.
24. °**Bruland, G.L.** 2005. Geostatistical analyses of soils data from the Greater Everglades Ecosystem. *Short Course on Geostatistical Analysis of Environmental Data*, University of Florida, Gainesville, FL, Aug. 11.
23. °Grunwald, S., and **G.L. Bruland**. 2005. Expanding distance education in the spatial sciences. *International Conference on Education and Information Systems: Technologies and Applications*, Orlando, FL, Jul. 14.
22. °Richardson, C.J., P.V. Sundareshwar, W.H. Hartman, and **G.L. Bruland**. 2005. Chemical speciation of phosphorus as an index of alterations in ecosystem structure and function. 9th *Symposium on Wetland Biogeochemistry*, Baton Rouge, LA, Mar. 21.
21. °**Bruland, G.L.**, S. Grunwald, T.Z. Osborne, K.R. Reddy, and S. Newman. 2005. Geostatistical analyses of soils data from Water Conservation Area 3, South Florida. 9th *Symposium on Wetland Biogeochemistry*, Baton Rouge, LA, Mar. 20.
20. °Grunwald, S., R. Corstanje, **G.L. Bruland**, T.Z. Osborne, R.G. Rivero, S. Newman, and K.R. Reddy. 2005. Geospatial mapping of soil total phosphorus in the Greater Everglades Ecosystem. 9th *Symposium on Wetland Biogeochemistry*, Baton Rouge, LA, Mar. 20.
19. °Grunwald, S., **G.L. Bruland**, R. Corstanje, R.G. Rivero, T.Z. Osborne, K.R. Reddy, and S. Newman. 2005. Geostatistical modeling of soil property variability within the Greater Everglades Ecosystem. *International Association of Landscape Ecology*, Syracuse, NY, Mar. 16.
18. °Grunwald, S., **G.L. Bruland**, S. Lamsal, C.M. Bliss, N.B. Comerford, and M.W. Clark. 2004. Development of predictive geospatial soil nitrate-nitrogen models in the Santa Fe River Watershed, Florida. *CSREES National Water Quality Conference*, San Diego, CA, Feb. 7-9.
17. °**Bruland, G.L.**, S. Grunwald, T.Z. Osborne, K.R. Reddy, and S. Newman. 2004. Statistical and geostatistical analyses of soils data from Water Conservation Area 3, South Florida. *National Conference on Ecosystem Restoration*, Orlando, FL, Dec. 6.

16. ^PLamsal, S., S. Grunwald, C.M. Bliss, I. Zamora-Lopez, **G.L. Bruland**, M.W. Clark and N.B. Comerford. 2004. Comparison of multivariate methods for predictive modeling of soil properties in a mixed-use watershed in Florida. Soil Science Society of America Annual Meeting, Seattle, WA, Nov. 4.
15. ^P**Bruland, G.L.**, R.G. Rivero, R. Corstanje, S. Grunwald, T.Z. Osborne, S. Newman, and K.R. Reddy. 2004. Spatial distribution of soil phosphorus in the Greater Everglades Ecosystem. Soil and Water Science Department Annual Research Forum, Gainesville, FL, Sept. 3.
14. ^oJones, A.D., **G.L. Bruland**, S. Agrawal, and D. Vasudevan. 2004. Factors influencing the sorption of oxytetracycline to soils. American Chemical Society National Meeting, Philadelphia, PA, Aug. 24.
13. ^o**Bruland, G.L.**, and C.J. Richardson. 2004. Spatial variability of denitrification and related soil properties in paired mitigation and natural wetlands. Ecological Society of America Annual Meeting, Portland, OR, Aug. 3.
12. ^PSutton-Grier, A.E., **G.L. Bruland**, and C.J. Richardson. 2004. Pre-restoration characterization of spatial soil variability in a piedmont floodplain riparian wetland in North Carolina. Ecological Society of America Annual Meeting, Portland, OR, Aug. 5.
11. ^oHartman, W.H., P.V. Sundareshwar, **G.L. Bruland**, R. Vilgalys, and C.J. Richardson. 2004. Linking microbial diversity and soil biogeochemistry across wetland disturbance gradients. Ecological Society of America Annual Meeting, Portland, OR, Aug. 5.
10. ^oSundareshwar, P.V., W.H. Hartman, **G.L. Bruland**, and C.J. Richardson. 2004. Phosphorus speciation as a tool for assessing anthropogenic impact and ecosystem restoration efforts. Ecological Society of America Annual Meeting, Portland, OR, Aug. 3.
9. ^oJones, A.D., **G.L. Bruland**, S. Agrawal, and D. Vasudevan. 2003. Factors influencing oxytetracycline sorption to soils. Soil Science Society of America Annual Meeting, Denver, CO, Nov. 4.
8. ^o**Bruland, G.L.**, and C.J. Richardson. 2003. Using geostatistics and Mantel tests to investigate spatial variability, soil properties, and P sorption in riparian wetlands. Ecological Society of America Annual Meeting, Savannah, GA, Aug. 5.
7. ^PHartman, W.H., P.V. Sundareshwar, R. Vilgalys, **G.L. Bruland**, and C.J. Richardson. 2003. Linking microbial diversity and ecosystem functioning across land use patterns. Ecological Society of America Annual Meeting, Savannah, GA, Aug. 7.
6. ^P**Bruland, G.L.**, and C.J. Richardson. 2003. An Evaluation of soil properties across a chronosequence of Virginia Department of Transportation mitigation wetlands. Society of Wetland Scientists Annual Conference, New Orleans, LA, Jun. 12.
5. ^o**Bruland, G.L.**, and C.J. Richardson. 2003. Spatial variability of soil properties in paired mitigation and natural wetlands. Society of Wetland Scientists Annual Conference, New Orleans, LA, June 12.

4. °**Bruland, G.L.**, and C.J. Richardson. 2002. Soil properties and processes in natural and mitigation nontidal forested wetlands in North Carolina. Society of Wetland Scientists Annual Conference, Lake Placid, NY, Jun. 6.
3. °**Bruland, G.L.**, and C.J. Richardson. 2002. Evaluation of soil properties and processes in mitigation and natural forested wetlands in the southeastern Coastal Plain. Water Resources Research Annual Conference, Raleigh, NC, Apr. 19.
2. °**Bruland, G.L.**, M.F. Hanchey, and C.J. Richardson. 2001. Effects of agriculture and wetland restoration on hydrology, soils, and water quality of a Carolina bay complex. 7th Symposium on Biogeochemistry of Wetlands, Durham, NC, Jun. 18.
1. °**Bruland, G.L.**, M.F. Hanchey, and C.J. Richardson. 2000. A comparison of Carolina bay soil properties under agriculture, restored wetland, and reference conditions. Millennium Wetland Event, Quebec City, Canada, Aug. 10.

GUEST LECTURES (12 total)

12. **Bruland, G.L.** 2017. Diffuse Reflectance Spectroscopy for Total Carbon Analysis of Pacific Island Soils. CHEM 321, Applied Spectroscopy, Elsau, IL, Apr. 24.
11. **Bruland, G.L.** 2017. Native Hawaiian Culture and Resource Management. SOAN 240, Native American Cultures, Elsau, IL, Mar.
10. **Bruland, G.L.** 2016. Native Hawaiian Culture and Resource Management. SOAN 240, Native American Cultures, Elsau, IL, Mar.
9. **Bruland, G.L.** 2013. Diffuse Reflectance Spectroscopy for Total Carbon Analysis of Pacific Island Soils. CHEM 321, Applied Spectroscopy, Elsau, IL, Apr. 19.
8. **Bruland, G.L.** 2011. Introduction to Wetlands. NREM 600, Evaluation of Natural Resource Management, Honolulu, HI, Oct. 3.
7. **Bruland, G.L.** 2009. Research Interests and Projects. NREM 605, Research Skills, Honolulu, HI, Oct. 28.
6. **Bruland, G.L.** 2008. Role of Microtopographic Reestablishment in Wetland Restoration. NREM 691, Restoration Ecology, Honolulu, HI, Nov. 12.
5. **Bruland, G.L.** 2008. Research Interests and Projects. NREM 605, Research Skills, Honolulu, HI, Oct. 15.
4. **Bruland, G.L.** 2008. Response of Bog and Fen Communities to Warming and Water Table Manipulations. NREM 691, Ecosystem Ecology, Honolulu, HI, Mar. 12.
3. **Bruland, G.L.** 2007. Research Interests and Projects. NREM 605, Research Skills, Honolulu, HI, Oct. 31.

2. **Bruland, G.L.** 2006. Evaluation of Artificial Versus Natural Wetland Function with a Focus on Soils. NREM 600, Evaluation of Natural Resource Management, Honolulu, HI, Nov. 15.
1. **Bruland, G.L.** 2006. Research Interests and Projects. NREM 605, Research Skills, Honolulu, HI, Oct. 25.

PROFESSIONAL ACTIVITIES AND SERVICE

Affiliations: Society of Wetlands Scientists and the Soil Science Society of America.

Associate Editor, *Wetlands*. I served a 3-year term as an Associate Editor for the journal, *Wetlands*, 2009-2012.

Associate Editor, *Soil Science Society of America Journal*. I served a 3-year term as an Associate Editor for the journal, *Soil Science Society of America Journal*, 2012-2014.

Member of the Army Corps of Engineers Regional Wetland Delineation Manual Advisory Committee. I serve on a committee that is helping the Army Corps of Engineers to develop a Regional Wetland Delineation Manual for Hawai'i and the Pacific Basin. This includes developing indicators for wetland hydrology, vegetation, and hydric soils. 9/2008-8/2012.

Member of the Pacific Coast Joint Venture Hawai'i Steering Committee: I serve on the committee that helps to decide on research priorities, identify best management practices, and facilitate transfer of knowledge about Hawaiian wetlands across federal, state, and NGO organizations. 4/2006-8/2012.

Reviewer for the Scientific Journals: I have reviewed a total of 50 papers for the following 24 journals:

Applied Soil Ecology (1)
Biogeosciences (1)
Ecological Applications (1)
Ecological Engineering (1)
Ecological Restoration (1)
Environmental Management (1)
Estuaries and Coasts (1)
Functional Ecology (1)
Freshwater and Marine Research (1)
Geoderma (2)
International Journal of Biodiversity Science, Ecosystem Services & Management (1)
Journal of Environmental Management (2)
Journal of Environmental Quality (9)
Journal of the American Water Resources Association (1)
Journal of the Arkansas Academy of Science (1)
Landscape Ecology (1)
Limnology & Oceanography (1)
New Zealand Journal of Agricultural Research (1)
Pedosphere (2)
Restoration Ecology (3)
Soil Science Society of America Journal (11)

Science of the Total Environment (3)
Wetlands (2)
Wetlands Ecology and Management (2).

Reviewer for the **National Science Foundation** and the **USDA Small Business Innovation Research (SBIR) Program**: I reviewed proposals for the NSF Ecosystems Studies Division in 2006 and 2007 as well as the USDA SBIR in 2007 and 2010.

Reviewer for the **Sigma Delta Epsilon/Graduate Women in Science Fellowship 2009 Competition** and the **Society of Wetland Scientists 2010 and 2011 Student Research Grant Competitions**.

Co-organizer of the “Impacts of Sediments in Hawaiian Stream Ecosystems” Symposium at the 2009 Hawai‘i Conservation Conference that included 4 talks, a panel discussion, and was attended by >100 people, Honolulu, HI, Jul. 29.

Chair of the **Restoration of Estuarine/Coastal Wetlands Session** at the 2009 Society of Wetland Scientists Annual Meeting that included 7 talks and was attended by >80 people, in Madison, WI, June 24.

Co-organizer of “The Ecology and Management of Coastal Lowland Wetlands in Hawai‘i” Symposium at the 2008 Hawai‘i Conservation Conference that included 10 talks and was attended by >70 people. Honolulu, HI, Jul. 30.

Technical Workshops and Training:

American Red Cross Lifeguarding/First Aid/CPR/AED Certification, Jun. 2015, Jun. 2017, Jun. 2019, Jun. 2021 (2 years).

SAWW (Safety and Woods Worker) Level I Chainsaw Safety Training, Elsah, IL, Nov. 10, 2018.

ASDI Instrumentation and Chemometrics Training, Boulder, CO, Oct. 11-12, 2007.

Hazardous Material Generator and Disposal Safety Training, Honolulu, HI, Sep. 2007.

An Introduction to Structural Equation Modeling, San Jose, CA, Aug. 5, 2007.

California Rapid Assessment Method (CRAM): A Tool for Assessing the Condition of Wetland Restoration Projects, San Jose, CA, Aug. 4, 2007.

Computational Science for Natural Resource Managers, Knoxville, TN, Apr. 19-22, 2006.

Visible and Near-Infrared Diffuse Reflectance Spectroscopy Workshop, Gainesville, FL, Sep. 9-10, 2005.

Advanced Topics in GIS, Soil and Water Science Dept. Short Course, Gainesville, FL, Jul. 29-30, 2004.

Advanced Geostatistical Analysis of Spatial Data, Ann Arbor, MI, Dec. 4-5, 2003.

Instructional Training and Workshops:

College of Agriculture and Life Sciences Teaching Symposium, Gainesville, FL, Aug. 16, 2005.

Distance Education Workshop, University of Florida Soil and Water Science Department, Gainesville, FL, Nov. 16, 2004.

Introduction to College Teaching, Duke University, Fall Semester 2003.

Innovative Teaching and Active Learning in Ecology, ESA Annual Meeting, Savannah, GA, Aug. 3, 2003.

2nd Annual Leadership Conference, Duke University, Fuqua School of Business, April 25, 2003.

Instructional Use of Technology in the Classroom, Duke University, Fall Semester 2002.

Civic Involvement:

Supervisor for the Alachua County (FL) Soil and Water Conservation Board, 2004-2005.

Board Member of the *Great Rivers Land Trust*, Godfrey, IL, 2014-present.

Trustee of the *Thomas Mason Place Homeowners Association*, Ballwin, MO 2018-2020.

Volunteer Outdoor Youth Soccer Coach, K (2016), 1st (2017), 2nd (2018), 3rd (2019), 4th (2020) Grade Girls; PK3 (2017), PK4 (2018), K (2019), 1st Grade (2020), 2nd Grade (2021) Boys, & 3rd Grade boys (2022), CYC League, West County, St. Louis, MO.

Volunteer Indoor Soccer Coach, 1st (2017), 2nd (2018), 3rd (2019), & 4th (2020) Grade Girls; 1st Grade Boys (2020), and 2nd Grade Boys (2022), Vetta Sports, Manchester, MO.

Software Expertise: Arc-GIS, CART, Grams, GS+, Isatis, S+, SAS, SPSS, Statistica, Unscrambler.

Laboratory Expertise: AA and UV-Vis spectroscopy; Diffuse reflectance spectroscopy in the visible/near infrared and mid-infrared ranges; Gas and ion chromatography; Lachat autoanalyzer.

REFERENCES

- 1) Dr. Scott Eckert, Professor and Chair, Biology & Natural Resources Department, Principia College, Elsau, IL 62028. Phone (618) 374-5277; Email: scott.eckert@principia.edu.
- 2) Dr. Chrissy McAllister, Math and Natural Sciences (MNS) Division Head, Professor, Biology & Natural Resources Dept., Principia College, Elsau, IL 62028. Phone: 618-374-5273; Email: Chrissy.mcallister@principia.edu.
- 3) Dr. Sabine Grunwald, Professor, Soil and Water Science Department, University of Florida, Gainesville, FL 32611. Phone: (352) 392-1951 ext. 204; Email: sabgru@ufl.edu.
- 4) Dr. Curtis J. Richardson, Director, Duke University Wetland Center and Professor, Nicholas School of the Environment and Earth Sciences, Duke University, Durham, NC 27708. Phone: (919) 613-8006; Email: curtr@duke.edu.