JOELLE M LAING

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Professional Mission

As a follower of Christ and an ever-inquisitive admirer of the natural world He has made, I believe that scientific study is a powerful way to discover the nature of God and to develop a love and care for His creation. With this in view, I enjoy using my diverse scientific knowledge base to foster curiosity and a heart for environmental stewardship in the next generation of students.

By equipping students with research and critical thinking skills, they can become fearless members of the scientific community. In this context, students can use their grounding in both ecological theory and in the Word of God to address future environmental problems with innovation and a heart for the Kingdom.

EDUCATION

University of Florida — Gainesville, FL
Ph.D., Interdisciplinary Ecology — 2016

North Carolina State University — Raleigh, NC
M.S., Natural Resources: Restoration Ecology option, Soil Science minor — 2009

Berry College — Rome, GA
B.S., Biology — 2003

SUMMARY OF QUALIFICATIONS

My background includes professional experience in higher education, government, private, and non-profit sectors. My time in these arenas included teaching, field and laboratory-based research, and practical restoration and management of ecosystems. The following summarizes my qualifications:

- Experience with practicum-style, field-based, lecture-based, and interdisciplinary courses;
- Strong background in ecology, as well as botany, soil science, hydrology, conservation biology, and other disciplines pertaining to environmental science;
- Nine years of research experience in ecology, wetlands, and aquatic ecosystems;
- Strong desire to integrate faith with ecological sciences for the purpose of stewarding Creation.

TEACHING EXPERIENCE

Covenant College Lookout Mountain, GA
Visiting Assistant Professor Biology August 2023-present

At Covenant College, I steward the college's Ecology and Environmental Science concentration and plan to teach courses in general ecology, conservation and restoration, botany, freshwater ecology, and related topics. Currently, I act as the college's Academic Representative for Au Sable Institute, a center for field-based scientific education. Additionally, I oversee the college's Environmental Stewardship & Sustainability certificate and act as the faculty advisor for the Campus Sustainability Committee.

Toccoa Falls College Toccoa, GA
Assistant Professor of Biology August 2020-present

During my time at Toccoa Falls College, I launched a new Ecology and Environmental Science program. This entailed developing a program of study and curriculum for five new ecology and environmental science courses. Additionally, I worked on the following:

- Designed and supervised summer field research internships
- Initiated planning for an on-campus restoration area for the endangered American chestnut
- Co-led a spiritual formation group for female students
- Spoke in chapels and incorporated Biblical content into course materials

University of Florida Gainesville, FL
Teaching Assistant Spring 2012- Fall 2014

Courses Taught or Assisted:

- *Environmental Issues in Water Resources*: Collaborated with five other graduate students across disciplines to develop and instruct an honors course on water resources in Florida.
- *Environmental Science and Humanities Lab***:** Instructed a field-based senior capstone course exploring local issues in environmental science.
- *International and Comparative Environmental Law Skills* Practicum: Assisted in the creation of this environmental law course, which was a collaborative student practicum based in Universidad de Costa Rica. The students in the course investigated and addressed policy concerns for current water resources issues throughout Costa Rica.

RESEARCH EXPERIENCE

University of Florida Water Institute Gainesville, FL
Graduate Research Fellow: Interdisciplinary Ecology 2011-2016

Dissertation Title: Relationships between redox potential and sediment organic matter characteristics and consequences for restoration of aquatic vegetation.

As a member of the fellowship program, I collaborated with five other research fellows to investigate issues related to Florida's water resources. In my individual research I studied Florida freshwater spring systems to explore management options for replanting submerged aquatic vegetation in sites dominated by algae. My research integrated theoretical concepts from biogeochemistry, hydrology, and botany. While in the field, I supervised and mentored undergraduate volunteers interested in future environmental research.

North Carolina State University Department of Forestry Raleigh, NC
Research Assistant: Restoration Ecology 2007-2009

Thesis Title: How management strategies have affected Atlantic White-cedar forest recovery after massive wind damage in the Great Dismal Swamp, North Carolina.

In my primary study I compared post-disturbance management approaches for an Atlantic White-cedar wetland in an altered hydrologic environment. Research required extensive field work and supervision of multiple volunteers. Secondarily, I assisted with field work for a study on groundwater hydrology and organized restoration plantings for prairie and riparian ecosystems.

North Carolina State University Department of Soil Science Raleigh, NC
Research Technician/Assistant 2009- 2010

Here I implemented and helped plan a study on the impact of agricultural practices on water quality.

Colorado Natural Heritage Program Fort Collins, CO
Wetland Research Associate March - July 2011

For this position I acted as a field leader for the Environmental Protection Agency's National Wetland ConditionAssessment. Collectively our crew gathered detailed soils and vegetation field data in various wetlands throughout Colorado and Wyoming.

USDA Forest Service, Rocky Mountain Research Station Flagstaff, AZ
Forestry Technician: Fire Ecology 2004 - 2005

To support the USDA fire management program, I collected and entered field data on Ponderosa pine for a study on post-fire mortality.

PROFESSIONAL EXPERIENCE

Environmental Consulting & Design Gainesville, FL
Project Manager 2016 - 2019

Using interdisciplinary restoration knowledge, I managed and restored over 8,000 acres of Florida wetlands and pine flatwoods. Management included development and implementation of ecological site restoration plans and budgets, all aspects of federal and state permitting, and ongoing field data collection and analysis.

ECS Carolinas, LLP Raleigh, NC
Staff Scientist: Wetlands June - Nov 2006

Implementing official Army Corps of Engineers protocols, I delineated wetlands by identifying plant species, appropriate hydrology, and wetland soils. Here I also developed wetland restoration planting plans.

The Nature Conservancy, Southern ME/MA Chapter Moody, ME
Fire/Conservation Technician Apr - Sept 2004

At multiple preserves throughout Maine and Massachusetts I worked as part of a field team to implement fire and conservation activities on over 2,000 acres of land.

The Nature Conservancy, Albany Pine Bush Preserve Latham, NY
Field Botany Intern May - Aug 2003

In a locally rare pine-scrub oak ecosystem I monitored species in two restoration sites to determine the effectsof management activities on sensitive species.

MEMBERSHIPS

Ecological Society of America, Southeastern Chapter

- Aquatic Ecology Section

Society for Ecological Restoration, Southeast Chapter

- Large-Scale Ecosystem Restoration Section

Tri-Beta, National Biological Honor Society

PRESENTATIONS AND PUBLICATIONS

Laing, J.M. 2016. Relationships between sediment redox potential and vegetation characteristics in Florida springsystems: Implications for restoration. Ph.D. Dissertation. University of Florida, Gainesville, FL.

Laing, J.M. and Frazer, T.K. 2016. Restoration strategies for submerged aquatic vegetation on sites high in sedimentorganic matter. Poster presented at the 6th National Conference for Ecosystem Restoration. Coral Springs, FL. April 2016.

Laing, J.M. and Frazer, T.K. 2016. Restoration strategies for *Vallisneria americana* on sites high in sediment organicmatter. Oral presentation at the 5th Annual University of Florida Water Institute Symposium: Trends, Cycles, and Extreme Events. Gainesville, FL, Feb. 2016.

Arnold, T.E.; Henson, W.E.; **Laing, J.M.**; Reijo, C.J.; Weinkam, G.B.; Nealis, C.P. 2015. Enhancing introductory hydrology curriculum by integrating perspectives from multidisciplinary graduate fields of study. Poster presented at the 47th annual meeting for the American Geophysical Union. San Francisco, CA. Dec. 2015.

Laing, J. M. and Frazer, T. K. 2015. Sediment redox conditions in spring-bottom sediments: Implications for restoration. Poster presented at the 48th Annual Meeting of the American Geophysical Union. San Francisco, CA. Dec. 2015.

Reijo, C.; Arnold, T.E.; Burkett, V.; Henson, W.R.; **Laing, J.M.**; Weinkam, G. 2012. Characterization of nutrient uptake kinetics in a spring-fed north Florida stream. Poster presented at the 3rd Annual University of Florida Water Institute Symposium: Nutrient Dynamics, Policy, and Management in Watersheds. Gainesville, FL. Feb. 2012.

Laing, J. M., Shear, T. H., & Blazich, F. A. (2011). How management strategies have affected Atlantic white-cedarforest recovery after massive wind damage in the Great Dismal Swamp. *Forest Ecology and Management, 262*, 1337–1344.

Laing, J.M., How management strategies have affected Atlantic white-cedar forest recovery after massive wind damagein the Great Dismal Swamp. Symposium: The Ecology and Management of Atlantic White Cedar Ecosystems. Greenville,NC. June, 2009.

REFERENCES

Dr. Brian Peek
Department Head
Department of Natural Sciences and Mathematics
Toccoa Falls College
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706-886-7299 x 5480

Brian Peek is my current supervisor and colleague in the Department of Natural Sciences and Mathematics at Toccoa Falls College.

Leslie Dowler
Assistant Professor of Mathematics
Toccoa Falls College
Toccoa, GA
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706-886-7299 x 5466

Leslie Dowler is my colleague in the Department of Natural Sciences and Mathematics at Toccoa Falls College. We have co-led spiritual formation groups with female students.

Dr. Mark Clark
Associate Professor, Wetland Ecology
Department of Soil and Water Sciences
University of Florida
Gainesville, FL
clarkmw@ufl.edu
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Mark Clark was a member of my graduate advising committee at University of Florida.