

EXPERIENCE SUMMARY

Danielle is a biological systems engineer and GIS specialist with a background in hydrology and hydraulics, erosion control, floodplain modeling, and non-point source modeling. She has expertise in GIS analysis and cartography, integrating LiDAR data, and the Soil and Water Assessment Tool (SWAT).

EXPERTISE

GIS Analysis and Data Management
HEC-RAS and HEC-GeoRAS
LiDAR Data Integration
Agricultural Watersheds
Nonpoint Source Modeling
Hydrologic Analysis
Hydraulic Analysis
Erosion Analysis
Field Monitoring
Cartography

REGISTRATION

- Engineer in Training (E.I.T.)
Wisconsin #1511509-500
- WI Certified Soil Erosion Inspector

EDUCATION

- B.S. in Biological Systems
Engineering, at the University of
Wisconsin-Madison (2008)
- Graduate Certificate in Geographic
Information Systems (GIS) at the
University of Wisconsin-Madison
(expected completion spring 2012)

PROFESSIONAL HISTORY

- Montgomery Associates: Resource
Solutions, Staff Engineer (2008 –
Present)

PROFESSIONAL AFFILIATIONS

- Engineers Without Borders (2004 –
Present, EWB-MAPC Treasurer 2010-
present)
- Wisconsin Land Information
Association- 2010 – Present

SOFTWARE USED

ArcGIS with Spatial and 3-D Analyst
Extensions, AutoCAD, ArcSWAT, SWAT
Editor, HEC-RAS, HEC-GeoRAS, Microsoft
Office, Adobe Photoshop, Illustrator,
Dreamweaver, and InDesign

SELECTED PROJECT EXPERIENCE

Erosion Control Plan, Alliant Energy and ATC Utility Projects, Multiple Locations and Dates

- Prepared multiple erosion control plans for projects throughout Wisconsin meeting both state and local permitting criteria.
- Used ArcGIS to map project route and identify potential areas where resources could be impacted.

Black Earth Creek Remeandering and Environmental Improvements, Town of Cross Plains, WI (2011)

- Prepared a design to remeander Black Earth Creek that simulates a natural channel, minimizing floodplain impacts.
- Updated the current FEMA floodplain model for Black Earth Creek to include LiDAR data as well as cross section and bridge survey information.
- Developed the hydraulic model for the planned design of Black Earth Creek and incorporated storm water management features.

Erosion Control Analysis Toolset (2011)

- Developed an ArcGIS toolset to quickly identify and graphically depict areas requiring Best Management Practices based on a calculated soil loss.

Lake Koshkonong Restoration Plan, Rock, Jefferson, and Dane Counties, WI (2010-2011)

- Developed lake restoration plan layout options, and evaluated costs.
- Assisting in pilot project design, analysis, and permitting.
- Conducted supporting field work.

Yahara CLEAN Assessment of Sediment and Phosphorus Load to Yahara Lakes (2009-2011)

- Analyzed manure application locations, methods and timing throughout the Yahara Lakes watershed.
- Assembled and modified geodata for model preparation.
- Worked on team to conduct SWAT modeling of sediment and phosphorus.
- Prepared final report and GIS maps for public dissemination of complex data and model results.

DANIELLE Y. LEE, E.I.T.
WATER RESOURCES ENGINEER

FIELD CAPABILITIES

- Water level monitoring
- Water quality and streamflow monitoring
- Soil sampling and testing
- Bathymetric measurement
- Construction site environmental monitoring for erosion control

AWARDS

- In Business Magazine's Top 40 Under 40 for 2009
- Recipient of the Harry Clarke Scholarship, Vicky Lee Hirsh Endowment for Conservation Scholarship, Laurence and Anella Dexter Scholarship for Academic Excellence

The Implications of Climate Change and Flooding in the McCaslin Creek Watershed, Octonto County, WI (2011)

- A capstone project through the University of Wisconsin-Madison GIS Certificate Program.
- Developed a hydrologic analysis of 10, 50, and 100-year flood discharges (USGS regression methods) for current predicted precipitation.
- Modified existing hydraulic model to account for land use changes. Compared current affected parcels and flooded areas to future predictions.

Floodplain Hydrologic & Hydraulic Analysis with Remapping, Town of Dekorra, WI (2010)

- Developed a hydrologic analysis of 100-year flood discharge (USGS regression & gage transfer methods).
- Assisted in construction of hydraulic model of 2 streams in a branched network to determine Base Flood Elevation & floodplain boundary, using HEC-RAS.
- Integrated field survey data into the floodplain surface model.

Town Hall Floodplain Modification Feasibility Study, Town of Beaver Dam, WI (2010)

- Conducted feasibility study for a salt storage site near the Town Hall currently in the floodplain.
- Multiple scenarios for culvert sizes and materials were evaluated with HEC-RAS as the hydraulic model.

Engineers Without Borders Rwanda Agricultural Assessment Team (2008-2009)

- Assisted in development of a soil assessment in Muramba, Rwanda for potential for improvements.
- Travelled to Muramba to conduct assessment in January 2009. After sampling and analyzing soil, a general lack of nitrogen and a low pH in was typical in agricultural soils. The team set up an experimental test plot in conjunction with the Rwandan agricultural university to demonstrate best management practices over three years.

Surface Water Analysis, Spring Green, WI (2008)

- Conducted well monitoring and analyzed results.
- Investigated stage and flow in the Wisconsin River in relation o water levels in monitoring wells.