

# Ryan C. Wicks

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## Objective

Acquire an engaging position where my experience with sustainable systems allows me to make significant contributions to improving water or energy management practices and sustainable infrastructure development.

## Education

**M.S. Sustainability Science, University of Massachusetts Amherst**

**Dec. 2015 (Anticipated Graduation)**

**B.S. Applied Physics, Rensselaer (RPI)**

**December 2011**

## Coursework Highlights

**Hydrology** - Used HEC-HMS, GIS tools, and local precipitation data to develop a calibrated process-based hydrological model for the Green River Watershed in Williamstown, MA. Worked in collaboration with project teammates to refine the model for use to predict worst-case storm scenarios and to make recommendations for development patterns in the region which would maximize economic value but minimize increased flood risk.

**Phytoremediation** - Developed a comprehensive phytoremediation strategy to mitigate Acid Mine Drainage (AMD) and reclaim slurry impoundment soils in strip mines in West Virginia. Particular attention was paid to decreasing leaching rates, increasing soil stability, neutralizing acidic conditions, and the hyperaccumulation of heavy metals.

**Solar Thermal Collection** - Proficient with solar resource availability prediction methods and solar thermal collector system design analysis.

**ArcGIS** - Strong aptitude using ArcGIS spatial analysis tools, techniques, and map design principles. Currently engaged in a project investigating water withdrawals relative to annual precipitation to identify regions with a high risk of developing strained water resources.

**Benefit-Cost Analysis** - Proficient with benefit-cost analysis techniques to evaluate the potential social and economic impacts of proposed public projects or policy changes. Familiar with techniques to assess both market and nonmarket value of resources.

**Applied Environmental Microbiology** - Conducted laboratory and field work studying the microbial community in a tributary of Lake George, NY. Experienced in: DNA collection via silica matrix, DNA spectrophotometry quality analysis, Gel Electrophoresis, Polymerase Chain Reaction (PCR) using Peltier devices, Plasmid vector insertion with chemically competent bacteria, Restriction Fragment Length Polymorphism (RFLP), DNA sequence analysis of 16s rDNA using Ribosomal Database.

**Public Service Internship** - Engaged in civic learning as a volunteer at the Albany Damien Center for HIV-positive persons. Authored a report on the societal role of the Center and its importance in our culture's response to the HIV/AIDS epidemic.

## Work Experience

**University of Massachusetts, Amherst, MA**

**September 2014 - Present**

### Computer Science Department Teaching Assistant

- Lead students in laboratory exercises and hold office hours to help facilitate mastery the material.
- Responsible for grading of lab work and exams.
- Cover basic HTML coding, UNIX-based programs and functions, and Excel utility.

**Knox School, Saint James, NY**

**March 2013 - May 2014**

### Residential Boarding School Faculty - Mathematics & Science

- Taught physics, pre-calculus, and statistics to junior and seniors.
- Coached Cross Country and Crew.

- Lived in-dorm as senior boys' Dorm Parent ensuring the dormitory was safe, organized, and conducive to studying.
- Lead the establishment of hiking and trail maintenance opportunities for students.

**University of Maine 4-H Cooperative Extension at Blueberry Cove Camp, St George, ME** **Summer 2010 - 2012**  
**Island and Sea Adventure Trip Leader and Camp Counselor**

- Co-designed and led 5-day wilderness excursion trips. Responsible for safety and quality of trips.
- Co-directed route planning, site scouting and preparation, land use negotiation, gear and inventory purchases, food planning and preparation to accommodate dietary and medical needs of participants.
- Certified in lifeguarding and first aid. Skilled in camping, navigation, and canoe and sailing instruction.

**YMCA Camp Chingachgook, Kattskill Bay, NY** **Summer 2009**  
**Adventure Trip Leader**

- Led 5-day wilderness experience trips. Responsible for safety and quality of trips.

**Albany Molecular Research, Inc. (AMRI) Intern, Rensselaer, NY** **Summer 2008**  
**Summer Intern**

- Tracked production equipment flow throughout the factory using Oracle software. Gathered and analyzed data for the development of a Kanban (Just-in-Time) system in order to minimize unnecessary inventory.

## **Personal Interests**

**Radio-Controlled Aircraft**

- Experienced in construction and design. Participated in various flying clubs with continued interest in the hobby. Experienced using both Nx and X-Plane computer-assisted design software packages.

**Private Pilot's License**

- 30 hours of flight time in Cessna 152's and 172's in pursuit of private pilot's license.