

# Macdonald Hugh Burgess

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## EDUCATION

**Ohio University**                      Master of Science in Environmental Studies      Athens, Ohio  
Graduate Certificate in Geographic Information Science

- ◆ Anticipated Completion: November, 2006. GPA: 3.7
- ◆ Research thesis in progress: Biohydrology of Dysart Woods, Where do Big Trees Get Their Water?
- ◆ Graduate coursework completed:
  - Hydrogeology
  - Environmental Law
  - Quantitative Methods in Plant Biology
  - Ecosystem Ecology
  - Plant Systematics
  - Principles of GIS
  - Geographic Information Analysis
  - GIS Applications
  - Natural Resource Conservation
  - Plant Physiological Ecology

**Humboldt State University**      BS, Physical Science, awarded May 2003      Arcata, CA

- ◆ Natural science coursework including:
  - Probabilistic Analysis of Environmental Systems
  - Systems Analysis (Environmental Engineering)
  - Biology of Fleshy Fungi
  - Plant Ecology
  - Environmental Health Engineering
  - Intro to Soil Science
  - Origin and Classification of Soils
  - Agroforestry

**University of California, Santa Barbara**      Attended 1993-1998      Santa Barbara, CA

- ◆ Completed 188.5 quarter units towards a BS in Mechanical and Environmental Engineering including:
  - All prerequisite Math, Physics, Chemistry, etc.
  - Coastal Engineering
  - Circuits and Electronics
  - Thermoscience (three quarters)
  - Materials Science
  - Materials in Manufacturing
  - Numerical Analysis (FORTRAN)
  - Fluid Mechanics (two quarters)

## PROFESSIONAL EXPERIENCE

**Research Assistant** Spring 2005 - present      Forest Ecophysiology Lab      Ohio University

- ◆ Supervised three undergraduate research projects investigating physical properties of soils.
- ◆ Maintain and calibrate instrumentation and dataloggers

**Teaching Assistant** Winter 2005      PBIO 103 "Plants & People"      Ohio University

**Lecturer** Spring 2004      Soils 260 "Intro to Soils" Lab      Humboldt State University

**Lab Instructor** Spring & Fall 2003      Community Agriculture      Humboldt State University

**Farm Manager** (2003), **Farm Intern** (2001-2002)

March 2001 - Dec 2003      Arcata Educational Farm      Arcata, CA

- ◆ Managed a 1.6 acre garden generating over \$20,000 in annual sales of 50+ varieties of vegetables

**Woodworker & Machinist** (full time summer, part time while attending HSU)

2001-2002      Whit McLeod Furniture      Arcata, CA

- ◆ Handcrafted fine furniture from wood salvaged from old buildings and wine casks
- ◆ Maintained, refurbished, and helped fabricate custom woodworking equipment

**Production Manager** (full time 1997-1999), **Machinist** (part time 1995-1996)

1995-1999

Stratos Sports / Onsport

Santa Barbara, CA

- ◆ Set up, programmed and operated CNC machine tools and industrial robots
- ◆ Developed databases for inventory management, material requirements planning, and engineering document control

**Lab Technician** (part time)

Summer 1996

UCSB Ocean Engineering Laboratory

Santa Barbara, CA

- ◆ Designed and fabricated components for remote-controlled multi-axis positioning systems for instrumentation in sediment transport flumes, wave tanks, and wind tunnels

## GRANTS & FELLOWSHIPS AWARDED

- ◆ 2005-2006 Voinovich Center for Leadership and Public Affairs, Graduate Assistantship, \$10,106.
- ◆ Winter 2005 Ohio University Graduate Student Senate Original Work Grant, \$488.96. Where Do The Trees of Dysart Woods Get Their Water?

## PRESENTATIONS

**Burgess, M., K. Brown.** 2006 . Stable isotope methods for determining the water sources of an old-growth eastern deciduous forest and predicting the effects of longwall coal mining on a forest ecosystem. Ecological Society of America Annual Meeting. Contributed oral presentation

Wakely, G., **M. Burgess, K. Brown.** 2006. Spatial variability of soil physical properties and soil water potential at Dysart Woods, an old-growth oak forest in southeastern Ohio.

**Burgess, M., K. Brown.** 2005. The biohydrology of Dysart Woods. Ohio DNR/Division of Mineral Resources Management Applied Research Conference. Poster presentation.

**Burgess, M.** 2005, Spatial and Temporal Dynamics of Soil Moisture at Dysart Woods. Ohio University PBIO Graduate Student Research Symposium. Oral presentation

**Burgess, M., K. Brown, M. Stoertz, P. Schillig.** 2005. Biohydrology of Dysart Woods: Where do big trees get their water? Ohio University Graduate Research Symposium. Poster presentation

**Burgess, M.** Nov 2004: Forest Road Removal, Re-contouring, and De-commissioning in Northern California. Ohio University ES 659 Environmental Studies Seminar. Oral presentation & discussion

Amaning, K., **M. Burgess,** T. Burks, W. Carlson, F. Cocina, S. Dodson, A. Hovart, A. Huffer, R. King, J. Kleski-Chapman, K. Grodzicki, C. Meyer, L. Rose, M. Stoertz, and M. Wunderle., 2004. Hydrologic and water-chemistry functions of the Zaleski wetland. Unpublished report to the Raccoon Creek Watershed Partners, McArthur, Ohio.

## PROFESSIONAL SOCIETIES AND OTHER AFFILIATIONS

- ◆ American Geophysical Union
- ◆ Ecological Society of America
- ◆ Rural Action- Working Together to Revitalize Appalachian Ohio

## TECHNICAL AND COMPUTER SKILLS

- ◆ Current proficiency: MS Windows/Office, ARCGIS 9.1, R, basic web publishing, NCSS, SigmaPlot
- ◆ Campbell Scientific: CR10X, meteorological and soil moisture instrumentation, loggernet 2.0
- ◆ Wescor PSYPRO system, HOBO dataloggers, Decagon ECH<sub>2</sub>O, LICOR-6400 photosynthesis system
- ◆ Skilled in use of hand and machine tools to fabricate fixtures and tools for custom applications
- ◆ Small tractors, planters, tillage and cultivation implements, skid loaders
- ◆ Past experience: CADKEY, SURFCAM, PRO/ENGINEER, PageMaker, FORTRAN 90, MATLAB