

# ZACHARY T. WOOD

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Orono, ME 04469

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## EDUCATION

### University of Maine, Orono, ME

- Ph.D. Ecology and Environmental Sciences, beginning September 2015

### Dartmouth College, Hanover, NH

- B.A. Biology with high honors, *cum laude*, conferred June 2015
  - Honors thesis: *Producers and their environment in Greenlandic kettle lakes*
  - 3.64 G.P.A.
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## PUBLISHED MANUSCRIPTS

**Wood, Z.T.**; Peart, D.R.; Palmiotto, P.A.; Kong, L.; Peart, N.V. (2015): Asymptotic allometry and transition to the canopy in *Abies balsamea*. *Journal of Ecology* 103, 1658-1666.

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## MANUSCRIPTS IN PREPARATION

Culler, L.E.; **Wood, Z.T.**; Diaz, J.; Ayres, M.P.: Trout streams in an uninhabited watershed differ in their sensitivity to changes in air temperature. In preparation for *Freshwater Science*.

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## AWARDS AND HONORS

American Academy for the Advancement of Science	2015
Christopher G. Reed Biologist Award, Dartmouth College	2015
Florence Fletcher Charles Botany Prize, Dartmouth College	2015
Associate Member Nomination, Sigma Xi	2015
Presidential Scholars, Dartmouth College	2013-2014
Third Honors, Dartmouth College	2013-2014
Francis L. Town Prize in Biology, Dartmouth College	2013
Sophomore Scholars, Dartmouth College	2012-2013
Third Honors, Dartmouth College	2012-2013
US Army Achievement Award, Intel International Science and Engineering Fair	2011
Second Place, National Junior Sciences and Humanities Symposium	2011

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## RESEARCH EXPERIENCE

### UNIVERSITY OF MAINE, Orono, ME

#### Graduate Research Assistant with Dr. Michael T. Kinnison, 2015-Present

##### *Eco-evolutionary trophic cascades in aquatic ecosystems*

- Designed experiments to test for tradeoffs between predation escape and competitive ability in divergent populations of *Gambusia* mosquitofish
- Developed corresponding Matlab individual based models to predict how rapid evolution could exacerbate or dampen trophic cascades
- Reared phytoplankton, zooplankton, mosquitofish, and bass in large-scale lab operation

### DARTMOUTH COLLEGE, Hanover, NH

#### Field Assistant with Ph.D. Candidate Jessica V. Trout-Haney, 2013-2015

##### *Ecology of Greenlandic lakes*

- Surveyed 20 lakes near Kangerlussuaq, Greenland
- Adapted light, multiprobe, SONAR, zooplankton, and other surface survey techniques to arctic field environments
- Conducted nutrient enrichment microcosm experiments (see “Conference Posters”)
- Studied insect-cyanobacterial interactions (see “Manuscripts in Preparation”)

#### Research Assistant with Dr. Kathryn L. Cottingham, 2012-2015

##### *Density dependence in the blue-green alga *Gloeotrichia echinulata**

- Used R software to create density dependent models of *Gloeotrichia* blooms in Lake Sunapee, NH (see “Conference Presentations”)

##### *Tradeoffs of inducible defenses in the zooplankter *Daphnia lumholtzi**

- Directed experiments examining the relationship between perceived predation, inducible defenses, and fecundity in *Daphnia lumholtzi*
- Maintained lab populations of sunfish, *Daphnia*, *Scenedesmus* (green alga), and *Cryptomonas* (protozoan)

#### Research Assistant with Dr. David R. Peart, 2012-2015

##### *Allometry and the environment in *Abies balsamea**

- Developed and tested multivariate forest allometry models across elevation and local canopy gradients using R software
- Prepared manuscript for publication (see “Accepted Manuscripts”)

##### *Niche theory in high elevation New England trees*

- Analyzed distributions of trees across a mountainscape
- Examined functional differences in tree allometry between several species

**Assistant Field Coordinator** with Dr. Matthew P. Ayres and Dr. Ross A. Virginia, 2014

*Stable isotopes in Greenlandic lakes*

- Developed field sites near Kangerlussuaq, Greenland
- Coordinated a team of scientists in collecting terrestrial and aquatic plant and invertebrate samples

**Research Assistant** with Ph.D. candidate (now Dr.) Lauren E. Culler, 2013-2014

*Predicting stream temperature and fish movement*

- Created a multivariate, time-lagged model predicting stream temperature in several streams in northern New Hampshire using R software
- Coauthored manuscript in preparation (see “Manuscripts in Preparation”)

*Predation risk and thermal physiology in damselflies*

- Maintained lab populations of sunfish, damselflies, and *Daphnia*
- Processed samples to measure intake and excretion of material by damselflies (see Culler *et al.* 2014, *Oecologia*)

**STATE UNIVERSITY OF NEW YORK AT ALBANY, Albany, NY**

**Research Assistant** with Dr. George R. Robinson, 2008-2011

*Beech Bark Disease and the forest ecosystem*

- Conducted a three-year survey of forest health and leaf-litter decay at the Edmund Niles Huyck Preserve, Rensselaerville, NY
- Collected samples for carbon and nitrogen concentration analyses
- Developed a theoretical model for disease severity and nutrient cycling in American beech (see “Conference Presentations”)

## TEACHING EXPERIENCE

**The University of Maine, Orono, ME**

**Graduate Teaching Assistant**, inquiry biology (BIO 200), 2016 (one semester)

- Taught organism identification and classification
- Mentored students in inquiry biology, i.e. guided students through independent research and experimentation

**Dartmouth College, Hanover, NH**

**Undergraduate Teaching Assistant**, ecology (BIOL 16), 2013-2015 (six terms)

- Taught plant, bird, and insect identification
- Instructed students on key models in ecology, including life tables and community dynamics (e.g. Lotka-Volterra)
- Led exam review sessions

**National Science Foundation** Joint Science Enrichment Program, Greenland

**Guest Lecturer**, summers 2013-2015

- Lectured to international high school students on lake formation and classification
  - Led field demonstrations of arctic limnology techniques
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## CONFERENCE POSTERS AND PRESENTATIONS

(Presenter underlined)

**Wood, Z. T.**; Trout-Haney, J. V.; Cottingham, K. L.: Nutrient limitation in Greenlandic kettle lakes. Poster Presentation. Ecological Society of America Meeting, Baltimore, Maryland. 2015.

Cottingham, K. L.; **Wood, Z. T.**; Eliassen, M.; Herren, C. M.; Greer, M. L.; Ewing, H. A.; Carey, C. C.; Weathers, K. C.: Density-Dependence in cyanobacteria? Population dynamics of *Gloeotrichia echinulata* at daily time scales. Oral Presentation. Joint Aquatic Sciences Meeting, Portland Oregon. 2014.

**Wood, Z. T.**; Trout-Haney, J. V.; Culler, L. E.: Midge larvae (genus: *Cricotopus*) in colonial Greenlandic cyanobacteria (*Nostoc pruniforme*). Poster Presentation. Joint Aquatic Sciences Meeting, Portland Oregon. 2014.

Trout-Haney, J. V.; **Wood, Z. T.**; Cottingham, K. L.: Benthic colonial cyanobacteria (genus: *Nostoc*) and the occurrence of cyanotoxins in low-nutrient arctic lakes of southwestern Greenland. Poster Presentation. Joint Aquatic Sciences Meeting, Portland Oregon. 2014.

**Wood, Z. T.** Ground and stand level factors in a northeast North American forest with Beech Bark Disease. Oral Presentation. E. N. Huyck Preserve annual symposium, Rensselaerville, NY. 2011.