

# Curriculum Vitae: Sean Mark Watts

Lecturer, Environmental Studies Institute  
500 El Camino Real, Santa Clara University, Santa Clara, CA 95053-0350  
Phone: 408.551.3000 x6453; Fax: 408.554.2312 [SWatts@scu.edu](mailto:SWatts@scu.edu)

## Education:

Ph.D. Ecology, Evolution, & Marine Biology; University of California, Santa Barbara, CA  
Dissertation Title: The Ecological and Evolutionary Influences of Belowground  
Herbivory on Plant Defense and Community Structure  
Dissertation Advisor: Dr. O. J. Reichman (awarded Sept 2005)

B.A. Biology; University of Virginia, Charlottesville, VA (awarded June 1995)

## Teaching Positions:

### Lecturer (Santa Clara University):

- Introduction to Environmental Science (F 2008)
- Environmental Proseminar (F 2008)
- Experiences in Undergraduate Research (F 2008)
- Outdoor Leadership Expedition (F 2008)
- Plant Ecology in the Tropics (Su 2008)

### Teaching & Research Postdoctoral Fellowship (Santa Clara University):

Sponsors: Drs. Peter Kareiva & Michelle Marvier

- Environmental Fixes: Cures or Cons? (W 2008)
- Introduction to Environmental Science (F 2005, Su, W 2006, Sp, Su, F 2007, Sp 2008)
- US Environmental Policy (Sp 2006)
- Outdoor Leadership Expedition (Sp, F 2006, Sp, F 2007, Sp 2008)
- Ecology of California Plant Communities (Lab & Lecture; Sp 2007)

### Teaching Assistantships (University of California Santa Barbara):

- Biodiversity and Conservation Biology (W 2001)
- Intro Bio Series: Mol/Cell/Dev Bio (F 2000, 2001, 2003), Ecol/Evol/Phys (W 2002, 2005), Biodiversity (Sp 2001, F 2004), Gen Botany (W 2004)
- The California Channel Islands (Sp 2002)
- Animal Communication (Sp 2004, 2005)

## Mentor for Undergraduate Independent Research:

### Santa Clara University:

- 2008 - : C. Melisi. Influence of habitat quality and connectivity on threatened native herpetofauna of Santa Clara County.  
E. Storelli. Measuring the impact of outdoor education in career choice.
- 2007 - : J. Reimer, B. Purner, C. Melisi, P. Guzman. Tradeoffs between host availability & exposure to herbivory and restoration success in endangered hemiparasitic plants.  
D. Sumpter. Shortfalls or windfalls? Industry vs. environmental advocacy group estimates of the costs of pollution technologies.
- 2006 -07: M. Uhl, S. Maurano, J. Reimer. Multiple interacting threats challenge restoration of a rare hemiparasitic plant: *Cordylanthus rigidus* ssp. *littoralis*.  
R. Alexander, K. Stasun. Shortfalls or windfalls? Industry vs. environmental advocacy group estimates of the costs of pollution technologies.
- 2005 - 06: M. Uhl, S. Maurano, R. Alexander. Multiple interacting threats challenge restoration of a rare hemiparasitic plant: *Cordylanthus rigidus* ssp. *littoralis*.

## UC Santa Barbara:

2003: 5 students; 2002: 7; 2001: 9; 2000: 1 (4 students for three consecutive years; 3 for two)

Students were involved in two field studies:

**Experiments on Plant Tolerance to Root Herbivory (2000-2003)** Field techniques, plant identification and preparation of herbarium specimens, data collection and analysis

**Gopher Diet Choice Experiments (2001, 2003)** Capture and care of pocket gophers (*Thomomys bottae*), Institutional Animal Care and Use Committee (IACUC) authorization, diet choice trials, data collection and analysis

## **Institutional Service:**

### **Integrated Summer Field Course in Behavioral & Plant Ecology (Summer 2008)**

(With M. Bezanson- Anthropology) As part of this interdisciplinary field course in Costa Rica (ANTH 197/ENVS 134), nine students from six departments designed and completed independent research projects on primate behavior and rain forest ecology. Students were encouraged to undertake projects that combined plant and behavioral ecology. Projects included work on ethnobotany, natural history and conservation studies, behavioral ecology, and plant-animal interactions.

### **Undergraduate Science & Engineering Symposium (USES; Spring 2008)**

(Project Director with Katherine Preston) This symposium and workshop exposed new majors to the culture of research and is intended to improve recruitment and retention in the sciences. Student presenters gained useful experience in preparing talks for professional meetings.

### **Member of The Nature Conservancy Conservation Science Internship Advisory Panel**

This program is designed to help TNC draw broadly from a variety of socio-cultural experiences, to build diversity in conservation, and to increase conservation science capacity. Qualified interns are matched with TNC programs and mentors throughout the world. The advisory panel matches students to mentors, and helps define the program's mission and direction.

### **Recruiting and Retaining a Stronger, more Diverse Environmental Workforce:**

#### **The Green Support Network for Diversity (October 2007- Ongoing)**

This working group was formed during the Summit 2007: Diverse Partners for Environmental Progress Meeting (Charlotte, SC). We are developing a centralized database of environmental organizations and entities engaged in outreach. We will also develop a resource guide associated with this network to facilitate participation of a diversity of stakeholders in the environmental movement from early outreach through service organizations and donors. This database and resource guide will be housed online at the Center for Diversity and the Environment (Portland, OR); we will also distribute hard copy versions to communities with limited internet access.

### **Minority Representation in the Natural & Environmental Sciences (Spring 2006)**

(Project Director) Developed a program to 1) recognize minority undergraduate students in the sciences, 2) clarify their importance as underrepresented members of the scientific community and their potential for contributing to environmental justice, 3) to provide them with information about pursuing careers in the sciences, and 4) to lay the groundwork for future initiatives to promote minority representation in the sciences.

### **Advanced Placement @ Redesign Commission, Center for Educational Policy Research (Spring 2006)**

Introduction to Environmental Science (2005/06) identified as an exemplary practice course. A panel of national experts in Environmental Science sought to identify best practices college courses to inform the redesign of AP courses in Environmental Science. This designation was awarded to only five courses (of 53) in the study.

### Professional Societies:

Ecological Society of America (1999), Society of Conservation Biology (2000)

### Fellowships and Awards:

2007	Santa Clara University, Dean's Grant	\$1000	(Travel to Summit 2007)
	SCU, Dean's Grant	\$1700	(USES)
	SCU, Dean's Grant	\$4030	(Research)
2006	SCU, Center for Multicultural Learning	\$4800	(Summer stipends)
	SCU, Dean's Grant	\$2000	(Supplies & travel)
	SCU, Center for Multicultural Learning	\$400	(Minorities in Sciences)
2004	UCSB Graduate Dissertation Fellowship	\$3000	
2000	UC Natural Reserve System Award	\$1143	
1999	Sigma Xi Grants-in-Aid-of-Research	\$800	
2000	Sigma Xi GIAR	\$800	
1999-03	UC Regents Predoctoral Fellowship	\$60,000	

### Publications:

Watts, S. M. 2006. Belowground Herbivory. 2006 McGraw-Hill Yearbook of Science & Technology. pp. 24-26.

Kareiva P, Watts S, McDonald R, Boucher T. 2007. Domesticated nature: Shaping landscapes and ecosystems for human welfare. *Science* 316: 1866-1869.

Watts, S. M. *In press*. Pocket gophers and the invasion and restoration of native bunchgrass communities. *Restoration Ecology*.

Watts, S. M., C. D. Dodson, and O. J. Reichman. *In prep*. Subterranean herbivores select for strong chemical and compensatory defenses to root herbivory.

Watts, S. M., M. M.Uhl, S. P. Maurano, & E. E. Nuccio. *In prep*. Multiple interacting threats challenge restoration of a rare hemiparasitic plant: *Cordylanthus rigidus* ssp. *littoralis*.

### Presentations at Professional Societies:

Co-organizer (with Renee Mullen & Tosha Comendant of The Nature Conservancy) of Discussion Group: Conservation Internships: Building collaborations between conservation organizations, universities, and societies to facilitate student learning, promote diversity, and advance conservation. 22<sup>nd</sup> Annual Society for Conservation Biology Meeting, Chattanooga, TN. (July 2008)

Multiple interacting threats challenge restoration of a rare hemiparasitic plant: *Cordylanthus rigidus* ssp. *littoralis*. 92<sup>nd</sup> Ecological Society of America Meeting, San Jose, CA. (Aug 2007)

Contrasting functional traits between native and exotic California plants. 21<sup>st</sup> Annual Society for Conservation Biology Meeting, Port Elizabeth, South Africa. (July 2007)

Evolutionary response of plants to root herbivory. 6<sup>th</sup> California Islands Symposium, Ventura, CA. (Dec 2003)

Evolutionary response of plants to root herbivory. 88<sup>th</sup> Ecol. Soc. of Amer. Meeting, Savannah, GA. (Aug 2003)

Evolutionary response of plants to root herbivory. 8<sup>th</sup> Int'l Theriological Congress, Sun City, So. Africa. (Aug 2001)

### Media:

KRON-4 San Francisco Bay Area News commentary:

2007: Ozone hole reaches greatest extent ever recorded.

2007: San Francisco Bay Delta water use issues related to conservation of Delta Smelt.

"Breathe California" show (San Jose & Palo Alto Comcast cable systems; 411,000 subscribers): Fifteen minute

interview on topics related to climate change and air pollution. (16 Jan 2008)