

# Fredric W. Pollnac

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## EDUCATION

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- Montana State University, Bozeman, MT** **2012**  
Ph.D, Environmental Science and Ecology  
Dissertation Title: “Non-native plant species in mountain systems: A case study of Dalmatian toadflax ” Advisor: Dr. Lisa Rew.
- Montana State University, Bozeman, MT** **2006**  
M.S., Land Resources and Environmental Sciences  
Thesis Title: “Spatio-temporal dynamics of weed community diversity and density in organic and conventional systems: potential effects on spring wheat growth” Advisors: Dr. Bruce Maxwell, Dr. Fabian Menalled.
- University of Rhode Island, Kingston, RI** **2002**  
B.S., Wildlife Biology and Management

## RESEARCH EXPERIENCE

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- Montana State University** **September 2008-Present**  
*Graduate Research Assistant* (Climatic limitation of invasive plants)
- Montana State University** **April 2007-September 2008**  
*Research Technician* (Vehicle based weed seed dispersal)
- Montana State University** **May 2004-December 2006**  
*Graduate Research Assistant* (Crop weed community structure)
- University of Rhode Island Center for Vector Borne Disease** **January-March 2004**  
*Laboratory Technician* (Lyme disease epidemiology)
- University of Rhode Island Center for Vector Borne Disease** **May 2002- May 2004**  
*Undergraduate Research Fellow* (Lyme disease epidemiology)
- University of Rhode Island, Kingston, RI** **May 1999-September 2003**  
*Laboratory Technician* (Invasive Hawaiian plant mycorrhizal associations)
- University of Rhode Island, Kingston, RI** **May 1999-December 2000**  
*Undergraduate Research Fellow* (Soil carbon storage)

## TEACHING EXPERIENCE

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### **Montana State University**

Dept. of Land Resources and Environmental Sciences

*Teaching Assistant*, Introduction to Land Resources and Environmental Science, 2011, 2006, and 2004

*Teaching Assistant*, Weed Ecology & Management, 2005

### **Manhattan Middle School, Manhattan, MT**

*NSF GK-12 Inquiry Based Science Teaching Fellow*, 2008-2009

## PUBLICATIONS

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Pollnac, F.W. and Rew L.J. *In Review*. Factors affecting upper elevation range limits of non-native and native plants in mountainous areas: A case study of *Linaria dalmatICA* and *Castilleja miniata* in the Greater Yellowstone Ecosystem.

Pollnac, F.W., Maxwell, B.D., Taper, M.L., and Rew, L.J. *In Prep*. The fate of native and non-native plant species in mountain systems: Species specific examples in the Greater Yellowstone Ecosystem.

Pollnac, F.W. and Rew L.J. *In Prep*. Using directional ecological filtering as a model for the expansion of a non-native species (*Linaria dalmatICA*) in mountain systems.

Pollnac, F.W., Seipel, T., Repath, C., and Rew, L. 2012. Plant invasion at landscape and local scales along roadways in the mountainous region of the Greater Yellowstone Ecosystem. *Biological Invasions* 14:1753-1763.

Taylor K, Pollnac F, Brummer T, Mangold J and Rew LJ. 2011. Washing vehicles to prevent weed seed dispersal. MontGuide MT201106AG Montana State University

Rew, L.J., and Pollnac, F.P. 2010. Seed Dispersal by Vehicles. News from the Center for Invasive Plant Management, April 2010. <http://www.weedcenter.org/archive.html>

Harbuck, K.S.B., F.D. Menalled, and F.W. Pollnac. 2009. Impact of cropping systems on the weed seed banks in the northern Great Plains, USA. *Weed Biology and Management* 9:160-168.

Pollnac, F.W., B.D. Maxwell, and F.D. Menalled. 2009a. Using Species-Area Curves to Examine Weed Communities in Organic and Conventional Spring Wheat Systems. *Weed Science* 57:241-247.

Pollnac, F.W., B.D. Maxwell, and F.D. Menalled. 2009b. Weed community characteristics and crop performance: a neighbourhood approach. *Weed Research* 49:242-250.

Pollnac, F.W., L.J. Rew, B.D. Maxwell, and F.D. Menalled. 2008. Spatial patterns, species richness and cover in weed communities of organic and conventional no-tillage spring wheat systems. *Weed Research* 48:398-407.

## PRESENTATIONS

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Pollnac F., Maxwell B., Taper M., and Rew L., Climbing high: Probability of occurrence and patterns of invasion of *Linaria dalmatica* along an elevation gradient. The Ecological Society of America Annual Meeting, Portland, Oregon, August 6-10, 2012

“Non-native Plant Species in Mountain Systems: A Case Study of Dalmatian toadflax”  
Fredric Pollnac, Lisa Rew, Bruce Maxwell, Matt Lavin, and Mark Taper. Weed Science Society of America Annual Meeting, Waikoloa, HI, February 7, 2012

“Factors affecting the current range limits of *Linaria dalmatica* in a mountainous area of the Northwest United States” Fredric Pollnac, Lisa Rew, Bruce Maxwell, Matt Lavin, and Mark Taper, Global Change in the World’s Mountains Conference, Perth, UK, September 28, 2010

“Life along an elevation gradient: The effects of elevation on the invasiveness of *Linaria dalmatica*” Fredric Pollnac, Lisa Rew, Bruce Maxwell, Matt Lavin, and Mark Taper, Weed Science Society of America Annual Meeting poster session, Denver, CO, February 8, 2010

“Rew, L.J., Brummer, T., and Pollnac, F.W. “Vehicles as Vectors of Seed Dispersal” with Tyler Brummer. Montana Weed Control Association Annual Meeting, Hilton Hotel, Missoula, MT, January 13, 2010.

“Effects of Abiotic and Biotic Factors on the Occurrence and Establishment on Non-Indigenous Plant Species” Fred Pollnac, Tim Seipel, Charles Repath, and Lisa Rew. International Weed Science Society Congress poster session, Vancouver, B.C. June 24, 2008.

“Spatial distribution of weeds in conventional and organic spring wheat agroecosystems”  
Fredric W. Pollnac, Bruce D. Maxwell, Fabian D. Menalled, and Lisa J. Rew, Ecological Society of America Annual Meeting, Memphis, TN, August 8 2006

“Spatial Distribution of Weed Communities in Conventional and Organic Spring Wheat Systems”, Pollnac, F., Maxwell, B., Menalled, F., and Rew, L., Western Society of Weed Science Annual Meeting, Reno, NV, March 14, 2006

“Temporal Variations of the Species Area Curve in Organic and Conventional Spring Wheat Systems”, Pollnac, F., Maxwell, B., and Menalled, F., Presented by Fabian Menalled, Ecological Society of America Annual Meeting, Montreal Canada, August 9, 2005

“Preliminary Observations of Species-Area Relationships in Organic and Conventional Spring Wheat Systems”, Pollnac, F., Maxwell, B., Menalled, F., Western Society of Weed Science Annual Meeting, Vancouver, B.C., March 8, 2005

“Organic Research at Montana State University”, Pollnac, F., and Harbuck, K., Montana Organic Grower’s Association Annual Meeting, Helena, MT, February 5, 2005

## GRANTS

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“Evaluation of weed seed dispersal by off-road vehicles”. Rew, L.J., Dougher F. and Pollnac F. Montana Noxious Weed Trust Fund, \$24,483 (2008)

“Effects of Weed Communities in Conventional and Organic Agricultural Systems”, Bruce Maxwell, Fabian Menalled, and Fredric Pollnac. \$7,536 (2006)

“Assessing Weed Seedbank Dynamics, Weed Emergence, and Weed Competition in Spring Wheat Systems”, Fabian Menalled, Kristin Harbuck, Fredric Pollnac, and Bruce Maxwell. \$10,232 (renewed 2006)

“Assessing Weed Seedbank Dynamics, Weed Emergence, and Weed Competition in Spring Wheat Systems” Fabian Menalled, Kristin Harbuck, Fredric Pollnac, and Bruce Maxwell. \$10,232 (2005)

## AWARDS AND SCHOLARSHIPS

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PhD Fellowship, Montana Institute on Ecosystems (2011-2012)

Recipient of National Science Foundation GK-12 Fellowship (2008-2009)

2<sup>nd</sup> place in Student Paper Competition, “Preliminary Observations of Species-Area Relationships in Organic and Conventional Spring Wheat Systems”, Western Society of Weed Science Annual Meeting, Vancouver, B.C. (2005)

Recipient of University of Rhode Island Coastal Fellowship Award (1999, 2002)

Recipient of University of Rhode Island Resource Development Merit Scholarship (spring and fall 2002)

Recipient of Paideia scholarship to study abroad on Rhodes, Greece (summer 2001)

New England Outdoor Writers' Association Award Nominee (2001)

Recipient of University of Rhode Island Undergraduate Scholar Award (1997)