

YVETTE K. ORTEGA

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EDUCATION

B.A. Environmental Sciences, University of California, Berkeley, CA, 1992
M.S. Wildlife and Fisheries Biology, University of Vermont, Burlington, VT, 1998

CURRENT INTERESTS & RECENT ACTIVITIES

My primary interest lies in building understandings of ecological patterns and processes in order to improve the management of natural systems. Current applications include evaluating impacts of exotic weed invasion on native plants, cascading effects on consumers, and efficacy of weed control tools in mitigating these impacts. Studies consider population and community level attributes and organisms from plants and invertebrate to birds and their predators. I am also conducting a common garden experiment with Dr. Dean Pearson examining effects of climate change on invasibility of exotic plants and their susceptibility to control by natural enemies. In collaboration with Dr. Erick Greene at the University of Montana, I am exploring a new technique for assessing habitat quality for songbirds based on local song structure. In all this work, I apply knowledge of spatial modeling and multivariate statistics to develop novel methodologies for analysis of ecological data, with application to management settings.

PROFESSIONAL EXPERIENCE

- *Ecologist*, USDA Forest Service, Rocky Mountain Research Station, Missoula, MT (1998-).
- *Faculty Affiliate*, College of Forestry and Conservation, University of Montana, Missoula, MT (2000-).
- *Research Assistant*, University of Vermont, Burlington, VT (1994-1998).
- *Biological Technician*, USDA Forest Service, Misty Fjords National Monument, AK (1993).
- *Biological Aid*, USDA Forest Service, Ketchikan Ranger District, AK (1992).
- *Field Biologist*, Romberg Tiburon Center for Environmental Studies, Tiburon, CA (1991-1992).
- *Research Assistant*, Tilden Regional Park, Kensington, CA (1991).
- *Research Intern*, UC Berkeley Department of Plant Genetics, Berkeley, CA (1990).

PUBLICATIONS

- Ortega, Y. K., and D. E. Pearson. *In review*. Effects of picloram application on native functional groups at differing levels of spotted knapweed invasion.
- Pearson, D.E., Y.K. Ortega, and S.J. Sears. *In review*. Plant invasions as multi-species phenomena: examining plant traits at the community scale.
- Ortega, Y. K., and D. E. Pearson. 2010. Effects of picloram application on community dominants vary with initial levels of spotted knapweed (*Centaurea stoebe*) invasion. *Invasive Plant Science and Management* 3:70-80.
- Zwolak, R., D. E. Pearson, Y. K. Ortega, and E. E. Crone. 2010. Fire and mice: Seed predation moderates fire's influence on conifer recruitment. *Ecology* 91:1124-1131.
- Hansen, A. K., Y. K. Ortega, and D. L. Six. 2009. Comparison of ground beetle (Coleoptera: Carabidae) assemblages in Rocky Mountain savannas invaded and un-invaded by an exotic forb, spotted knapweed. *Northwest Science* 83:348-360.
- Pearson, D. E., and Y. K. Ortega. 2009. Managing invasive plants in natural areas: moving beyond control. Pp. 1-21 *in* (ed.) F. Columbus, *Weeds: Management, Economic Impacts and Biology*. Nova Publishers, NY.
- Ortega, Y. K., K. S. McKelvey, and D. L. Six. 2006. Invasion of an exotic forb impacts reproductive success and site fidelity of a migratory songbird. *Oecologia* 149:340-351.
- Sturdevant, N., S. Kegley, Y. Ortega, and D. Pearson. 2006. Evaluation of establishment of *Cyphocleonus achates* and its potential impact on spotted knapweed. USDA FS FHP General Technical Report 06-08:1-9.
- Ortega, Y. K., and D. E. Pearson. 2005. Weak versus strong invaders of natural plant communities: assessing invasibility and impact. *Ecological Applications* 15:651-661.
- Ortega, Y. K., D. E. Pearson, and K. S. McKelvey. 2004. Effects of biological control agents and exotic plant invasion on deer mouse populations. *Ecological Applications* 14:241-253.
- Pearson, D. E., Y. K. Ortega, and L. F. Ruggiero. 2003. Trap-induced mass declines in small mammals: implications for mass as a population index. *Journal of Wildlife Management* 67:684-691.
- Schwartz, M. K., L. S. Mills, Y. K. Ortega, L. F. Ruggiero, and F. W. Allendorf. 2003. Landscape location affects genetic variation of Canada Lynx (*Lynx canadensis*). *Molecular Ecology* 12:1807-1816.
- Ortega, Y. K., and D. E. Capen. 2002. Roads as edges: effects on birds in forested landscapes. *Forest Science* 48:381-390.
- Ortega Y. K., and D. E. Pearson. 2001. Occurrences of the western skink (*Eumeces skiltonianus*) in grasslands of western Montana. *Northwestern Naturalist* 82:125-126.
- Pearson, D. E., and Y. K. Ortega. 2001. Evidence of an indirect dispersal pathway for spotted knapweed, *Centaurea maculosa*, seeds via deer mice, *Peromyscus maniculatus*, and great horned owls, *Bubo virginianus*. *Canadian Field Naturalist* 115:354.
- Pearson, D. E., Y. K. Ortega, K. S. McKelvey, and L. F. Ruggiero. 2001. Small mammal communities and habitat selection in Northern Rocky Mountain bunchgrass: implications for exotic plant invasions. *Northwestern Science* 75:107-117.
- McKelvey, K.S., K. A. Aubry, and Y. K. Ortega. 2000. History and distribution of lynx in the contiguous United States. Pages 207-264 *in* *Ecology and Conservation of Lynx in the*

- United States. Ruggiero, L.F., K.A. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires (eds.). University Press of Colorado and USDA Forest Service Rocky Mountain Research Station, Fort Collins, CO.
- McKelvey, K. S., and Y. K. Ortega. 2000. Canada lynx habitat and topographic use patterns in north central Washington: a reanalysis. Pages 307-336 *in* Ecology and Conservation of Lynx in the United States. Ruggiero, L. F., K. A. Aubry, S. W. Buskirk, G. M. Koehler, C. J. Krebs, K. S. McKelvey, and J. R. Squires (eds.). University Press of Colorado and USDA Forest Service Rocky Mountain Research Station, Fort Collins, CO.
- Ortega, Y. K., and D. E. Capen. 1999. Effects of forest roads on habitat quality for Ovenbirds in a forested landscape. *Auk* 116:937-946.

GRANTS

- USDA Forest Service, Competitive Research Initiative (2010-2013)
\$127,000 – Effects of climate change on the invasiveness and biological control of spotted knapweed
- USDA Forest Service, Biological Control Research Program (2007-2010)
\$330,000 – Abiotic factors affecting spotted knapweed's invasiveness and susceptibility to biological control
- USDA Forest Service, Rangeland Research Competitive Program (2008-2009)
\$27,900 – Long-term Efficacy of Broadleaf Herbicide Treatment for Restoration of Weed-invaded Rangelands
- USDA Forest Service, Bitterroot Ecosystem Management Research Program (2005-2006)
\$50,000 – Impacts of invasive plants on songbirds: using song structure as an indicator of habitat quality
- Joint Fire Sciences Program (2003-2005)
\$161,300 – Evaluating effects of fuels treatments on native flora and fauna: restoration in weed-invaded landscapes
- USDA Forest Service, Bitterroot Ecosystem Management Research Program (2002-2004)
\$56,000 – Evaluating effects of forest restoration treatments on native plants and wildlife
- USDA Forest Service Pesticide Impact Assessment Program (2001-2003)
\$93,330 – Evaluating effects of herbicide and prescribed fire treatments on arthropod and songbird communities
- USDA Forest Service, Bitterroot Ecosystem Management Research Program (1999-2001)
\$230,400 – Effects of weed invasion on native flora and fauna

PRESENTATIONS

Professional Meetings: 17

Training & Public/Educational Seminars: 25

HONORS, AWARDS, AND SERVICE

Rocky Mountain Research Station Award for Best Scientist Publication (2008).

USDA Certificate of Merit for substantial contribution to scientist search committee (2008).

Rocky Mountain Research Station Award for Best Early Career Scientist Publication (2005).

Mentor for project TRAIN, exposing Native American college students to science (2003).

Mentor for high school Science Fair program (2002-).

Mentor for undergraduate & graduate students (2000-).

USDA Certificate of Merit for research contributions (1999).

Reviewer for major scientific journals (1998-).

Graduate Student Award for Outstanding Service (1997).

Phi Beta Kappa (1991-).

RESEARCH FEATURED IN POPULAR ARTICLES

The Tao of Treating Weeds: Reaching for Restoration in the Northern Rocky Mountains. JFSP
Fire Science Brief (by Lisa-Natalie Anjozian) Issue 18, October 2008.

Knocking out knapweed. *Missoulian* feature photo, front page, Montana section. April 20, 2007.

Goll-ly! The impact of nonnative plants and animals on deer mice. Article for middle school
education journal. *USDA Forest Service Natural Inquirer*, Spring, 2006.

Non-target effects of biological control agents on deer mice. Cover of *Ecological Society of
America Bulletin*, October, 2003.

Double Agent. *Natural History*, May 2002.