

Bruce D. Maxwell

Professor of Agroecology
Land Resources & Environmental Science Department
Montana State University, Bozeman, MT

Professional Preparation:

Montana State University	Botany	B.S.	1977
Montana State University	Agronomy	M.S.	1984
Oregon State University	Forest Ecology/Crop Science	Ph.D.	1990

Appointments:

2008-2009	Interim Department Head, Land Resources & Environmental Science, Montana State University
2002-present	Professor, Land Resources & Environmental Science, Montana State University
1995-present	Faculty Affiliate, Ecology Department, Montana State University
1992-2001	Associate Prof., Plant, Soil & Environmental Science Dept, Montana State University
1990-1992	Assistant Professor, Dept. of Agronomy & Plant Genetics, University of Minnesota

Publications (10 most recent):

Rew, L.J., Maxwell, B.D. Dougher, F.D., Aspinall, R. 2006. Searching for a needle in a haystack: evaluating survey methods for sessile species. *Biological Invasions* 8:523-539

Winnie, J. Jr., S. Creel, D. Christianson, B. Maxwell. 2006. Rules for habitat selection by elk are simplified by the presence of wolves. *Behavioral Ecology and Sociobiology* 61:277-289.

Smith, R.G., B.D. Maxwell, F.D. Menalled, and L.J. Rew. 2006. Lessons from agriculture may improve the management of invasive plants in wildland systems. *Frontiers of Ecology and the Environment* 4:428-434.

Parks CG, Radosevich SR, Endress BA, Naylor BJ, Anzinger D, Rew LJ, Maxwell BD & Dwire KA. 2005. Natural and land use history of the Northwest Mountainous Ecoregions (U.S.A.) in relation to patterns of plant invasions. *Perspectives in Plant Ecology, Evolution and Systematics*. 7:137-158.

Creel, S., J. Winnie, Jr., B. Maxwell, K. Hamlin and M. Creel. 2005. Elk alter habitat selection as an antipredator response to wolves. *Ecology* 86: 3387-3397

Theobald, D.M., T. Spies, J. Kline, B. Maxwell, N.T. Hobbs and V.H. Dale. 2005. Ecological support for rural land use planning and policymaking. *Ecological Applications* 15:1906-1914.

Maxwell, B.D. and L.C. Luschei. 2005. Ecological justification for site-specific weed management. *Weed Science* 53:221-227.

Rew, L.J., Maxwell, B.D., Aspinall, R. 2005. Predicting the occurrence of non-indigenous species using environmental and remotely sensed data. *Weed Science* 53:236-241.

Wright, A., A. Hansen, R. Kennedy, W. Cohen, U. Langner, R. Lawrence, R. Aspinall, B. Maxwell, A. Gallant. 2003. Vectors of Change in the American West: The Greater Yellowstone Ecosystem 1975-95. *Ecological Applications* 13:687-703.

Hansen, A., R. Rasker, B. Maxwell, J. Rotella, J. Johnson, A. Wright, U. Langner, W. Cohen, R. Lawrence, M. Kraska. 2002. Ecological causes and consequences of demographic change in the new west. *Bioscience* 52:151-162.

Synergistic Activities:

Leading an interdisciplinary group to develop bioeconomic invasive species management decision support GIS models for federal lands. Multidisciplinary collaboration on NSF-Biocomplexity project of Northern Range of Yellowstone National Park (D. McGinnis et al.). Currently collaborating with S. Creel on NSF funded project where we are studying the interaction of elk, wolves and invasive plants. Recently completed a collaborative (a. Hansen et al.) study on human residential development in the Greater Yellowstone Ecosystem funded by EPA. Collaborating with L. Rew on inventory and monitoring of invasive plants in Yellowstone National Park.

Collaborators & Other Affiliations:

J. Antle	D. Goodman	D. Patten
R. Aspinall	A. Hansen	R. Rasker
D. Buschena	J. Johnson	L. Rew
S. Creel	D. McGinnis	D. Theobald
M. Gilpin	P. Miller	

Graduate and Post Doctoral Advisors

P. Fay, Montana State University, M.S. advisor
S. Radosevich, Oregon State University, Ph.D. advisor

Thesis Advisor and Postgraduate-Scholar Sponsor (past 3 years in bold), Current Position:

Post Doc Sponsor:

- V. Backus**, current MSU post doc
- R. Smith**, Assistant Professor of Cropping Systems, U. of Minnesota
- M. Smith-Cross**, Scientist World Wildlife
- L. Rew, Montana State University
- M. Jasieniuk, UC-Davis
- K. Puettmann, Oregon State Univ.

Ph.D. Advisees:

- T. Skurski**, MSU student
- M. Bridges**, MSU student
- K. Neff**, MSU student
- E. Lehnhoff**, Director of Research Center for Invasive Plant Management
- N. Wagner, USDA FSA Washington, DC
- A. Hulting, Oregon State Univ.
- S. Sing, USFS
- L. VanWychen, WSSA Congressional Liaison, Washington, DC
- E. Luschei, U. of Wisconsin

M.S. Advisees:

- B. Dorsey**, MSU student
- P. Davis**, Research technician MSU
- J. Weise**, Land Rehabilitation Consultant
- T. Siepel**, PhD student, Switzerland
- B. Bauer, The Nature Conservancy
- F. Pollnac, PhD student at Montana State Univ.
- R. Taylor, Post doc at University of Montana

Courses taught in last 3 years:

LRES 110, Land Resources and Environmental Science (co-teach.)
LRES 443, Weed Ecology and Management

LRES 543, Agroecology
LRES 569, Ecology of Invasive Plants In the Greater Yellowstone Ecosystem
LRES 528, Bridging Principles and Practices of Sustainability
Graduate Course in Argentina, Applying Simulation Models in Agroecosystems

Grants and Contracts: Total (for last five years) \$6,363,886

Selected Grant Titles:

WildFIRE PIRE: Feedbacks and consequences of altered fire regimes in the face of climate and land-use change in Tasmania, New Zealand, and the western U.S. NSF-PIRE.
Understanding carbon dynamics: Agronomic, socioeconomic, and biophysical tradeoffs in the sustainability of multifunctional cropping systems in the Northern Great Plains. USDA–AFRI LTAP
A decision support prioritization framework for non-indigenous plant population management. USDA-NRI
The relationship between elk feeding habits, wolf distribution and non-indigenous plant distribution and forage quality. NSF-Biocomplexity Program (supplement).
Development and integrating tools for assessing the impacts of invasive plants for prioritization of management on federal lands. USDA-ERS PREISM Program.
Reducing site-to-site and year-to-year variation in crop yield loss functions. USDA-NRI.
Causes and consequences of land cover change in a greater ecosystem: trend and risk assessment, monitoring, and outreach. NASA.
Invasive Plant Inventory and Monitoring Methods for Yellowstone National Park, USDI-NPS

Current Number of Graduate Students: 3

Professional Interests:

Landscape ecology in agroecosystems and wild land fringe; Ecology of invasive plant species; Population and community ecology of weeds in agricultural ecosystems; Simulation modeling; Integrated Pest Management with an emphasis on multi-trophic interactions; Evolution of herbicide resistance.

Honors and Awards:

1989	Graduate Student of the Year, Weed Science Soc. of Am.
1991	Outstanding Paper in Weed Technology, Weed Science Soc.
1993	Nominated Outstanding Young Weed Scientist, Weed Sci. Soc. of Am.
1998	National Research Council: Future Use of Pesticides in US Agriculture
1999	National Research Council: Ecologically Based Pest Management
2004	Outstanding Teacher Award, Weed Science Soc. of Am.
2007	Fulbright Senior Specialist Award to teach in Argentina
2009	Outstanding Paper in Invasive Plant Science and Management

Publications:

Chapters: 11
Refereed Papers: 82
Reviewed Papers: 25
Papers Presented At Meetings: 165
Theses: 14
Dissertations: 9