



CURRICULUM VITAE

NAME

Cynthia Brown

ADDRESS

Bioagricultural Sciences and Pest Management
College of Agricultural Sciences

Plant Sciences
Plant Sciences

PHONE

(970) 491-1949

EDUCATION

1998 Ph D, University of California Davis

1986 BS, Stanford University

1986 MS, Stanford University

ACADEMIC POSITIONS

2017-2018 - Professor (College of Agricultural Sciences)

2016-2017 - Professor (College of Agricultural Sciences)

2015-2016 - Associate Professor (College of Agricultural Sciences)

2014-2015 (College of Agricultural Sciences)

2013-2014 (College of Agricultural Sciences)

2012-2013 (College of Agricultural Sciences)

2011-2012 (College of Agricultural Sciences)

2010-2011 (College of Agricultural Sciences)

2009-2010 (College of Agricultural Sciences)

OTHER POSITIONS

2009 - Present Associate Professor, Bioagricultural Sciences and Pest Management, Colorado State University.

2002 - 2009 Assistant Professor, Bioagricultural Sciences and Pest Management, Colorado State University.

1999 - 2002 Postdoctoral Researcher, University of Minnesota.

1998 - 1999 Postdoctoral Researcher, Department of Agronomy and Range Science, University of California, Davis.

1993 - 1999 Principal-Researcher, Department of Agronomy and Range Science, University of California, Davis.

1992 - 1993 Co-Investigator, Sustainable Agriculture Research and Education Program, University of California, Davis.

1991 - 1992 Graduate Researcher, Department of Agronomy and Range Science, U.C. Davis, Contract with The Nature Conservancy.

PUBLISHED WORKS

Refereed Journal Articles

Seabloom, E. W., Borer, E. T., Buckley, Y. M., Cleland, E. E., Davies, K. F., Firn, J., Harpole, W. S., Hautier, Y., Lind, E. M., MacDougall, A. S., others, Brown, C. S. (2015). Plant species/origin predicts dominance and response to nutrient enrichment and herbivores in global grasslands. *Nature communications*, 6., Peer Reviewed/Refereed

West, A., Kumar, S., Wakie, T., Brown, C. S., Stohlgren, T. J., Laituri, M. J., Bromberg, J., others (2015). Using High-Resolution Future Climate Scenarios to Forecast Bromus tectorum Invasion in Rocky Mountain National Park. *PLoS one*, 10(2), e0117893., Peer Reviewed/Refereed

Brown, C. S. (2013). Fire promotes downy brome (Bromus tectorum L) seed dispersal. *Biological Invasions*, 15, 1113-1123., Peer Reviewed/Refereed

Brown, C. S. (2013). Managing Downy brome (Bromus tectorum) in the Central Rockies: Land manager perspectives. *Invasive Plant Science and Management*, 6, 521-535., Peer Reviewed/Refereed

Chambers, J. C., Bradley, B. A., Brown, C. S., Carla, D. D., Germino, M. J., Grace, J. B., Hardegree, S. P., Miller, R. F., Pyke, D. A. (in press). Resilience to stress and disturbance, and resistance to Bromus tectorum L. invasion in cold desert shrublands of North America. *Ecosystems*(DOI 10.1007_s10021-013-9725-5)., Peer Reviewed/Refereed

Colautti, R. I., Parker, J. D., Cadotte, M. W., Petr, P., Brown, C. S., Sax, D. F., Richardson, D. M. (in press). The biological basis of invasiveness. *Neobiota*, Peer Reviewed/Refereed

(2012). Canada thistle (Cirsium arvense) response to clipping and seeding of competitive grasses. *American Journal of Plant Sciences*, 3, 1252-1259., Peer Reviewed/Refereed

(2012). Drivers of variation in ANPP differ across a broad precipitation gradient. *Ecology*,, Peer Reviewed/Refereed

(2011). Abundance of introduced species at home predicts abundance away in temperate grasslands. *Ecology Letters (online 2010)*, 14, 274–281., Peer Reviewed/Refereed

(2011). Distributional changes and range predictions of downy brome in Rocky Mountain National Park. *Invasive Plant Science and Management*, 4, 173-182., Peer Reviewed/Refereed

(2011). Productivity is a poor predictor of plant species richness. *Science*, 333, 1750-1752., Peer Reviewed/Refereed

(2011). The influence of chilling requirements on the southern distribution limit of exotic Russian olive (Elaeagnus angustifolia) in western North America. *Biological Invasions In press.*, Peer Reviewed/Refereed

(2010). Effects of belowground resource use complementarity on invasion of constructed grassland plant communities. *Biol Invasions*, 12, 1319-1334., Peer Reviewed/Refereed

(2010). Linking concepts in the ecology and evolution of invasive plants. *Evol Appl*, 3, 193- 202., Peer Reviewed/Refereed

(2010). The role of adaptive trans-generational plasticity in biological invasions of plants. *Evol Appl*, 3, 179-192., Peer Reviewed/Refereed

(2010). Tumbling: Using diffuse knapweed to examine an understudied dispersal mechanism. *Invasive Plant Science and Management*, 3, 301- 309., Peer Reviewed/Refereed

(2009). The Influence of Soil Inoculum and Nitrogen Availability on Restoration of High-Elevation Steppe Communities Invaded by *Bromus tectorum*. *Restor Ecol*, 17, 686-694., Peer Reviewed/Refereed

(2008). First-year responses of cheatgrass following *Tamarix* spp control and restoration-related disturbances. *Restor Ecol*, 16, 129-135., Peer Reviewed/Refereed

(2008). Native Plant Growth and Seedling Establishment in Soils Influenced by *Bromus tectorum*. *Rangeland Ecol Manag*, 61, 630-639., Peer Reviewed/Refereed

(2004). Are functional guilds more realistic management units than individual species for restoration? *Weed Technol*, 18, 1566-1571., Peer Reviewed/Refereed

Non-Refereed Journal Articles

Paschke, M. W., Meiman, P., Romme, W. H., Brown, C. S. Using native annual plant species to suppress weedy invasive species in post-fire habitats., Not Peer Reviewed/Refereed

La Pierre, K. J., Blumenthal, D. M., Brown, C. S., Klein, J. A., Smith, M. D. (2016). Drivers of Variation in Aboveground Net Primary Productivity and Plant Community Composition Differ Across a Broad Precipitation Gradient. *Ecosystems*, 19(3), 521-533., Not Peer Reviewed/Refereed

West, A., Kumar, S., Brown, C. S., Stohlgren, T. J., Bromberg, J. (2016). Field validation of an invasive species Maxent model. *Ecological Informatics*, 36, 126-134. <http://dx.doi.org/10.1016/j.ecoinf.2016.11.001>, Not Peer Reviewed/Refereed

West, A. M., Kumar, S., Wakie, T., Brown, C. S., Stohlgren, T. J., Laituri, M., Bromberg, J. Using high resolution future climate scenarios for predicting invasion in national parks. *Biological Invasions*., Not Peer Reviewed/Refereed

Dudley, M. M., Jacobi, W. R., Brown, C. S. Sodium chloride and magnesium chloride effects on the germination of fifteen native grasses and forbs. *Journal of Water, Air, and Soil Pollution*., Not Peer Reviewed/Refereed

La Pierre, K. J., Blumenthal, D. M., Brown, C. S., Klein, J. A., Smith, M. D. Drivers of variation in ANPP differ across a broad precipitation gradient. *Ecology*., Not Peer Reviewed/Refereed

Knudson, J., Meiman, P., Brown, C. S., Beck, K. G., Paschke, M. W., Redente, E. (2012). Canada thistle (*Cirsium arvense*) response to clipping and seeding of competitive grasses. *American Journal of Plant Sciences*, 3(9), 1252., Not Peer Reviewed/Refereed

Rowe, H. I., Brown, C. S., Paschke, M. W. (2009). The Influence of Soil Inoculum and Nitrogen Availability on

Restoration of High-Elevation Steppe Communities Invaded by *Bromus tectorum*. *Restoration Ecology*, 17(5), 686–694., Not Peer Reviewed/Refereed

Milchunas, D. G., Lauenroth, W. K., Knapp, A. K., Klein, J. A., Conant, R. T., Burke, I. C., Brown, C. S., Webb, C. T., Augustine, D. J., Angert, A. L., others (2007). Long-term ecological research on Colorado shortgrass steppe. *Colorado State University. Libraries.*, Not Peer Reviewed/Refereed

Milchunas, D. G., Lauenroth, W. K., Knapp, A. K., Klein, J. A., Conant, R. T., Burke, I. C., Brown, C. S., Webb, C. T., Augustine, D. J., Angert, A. L., others (2007). Long-term ecological research on Colorado shortgrass steppe. *Colorado State University. Libraries.*, Not Peer Reviewed/Refereed

Non-Refereed Chapters in Books

Brown, C. S. (2013). Invasive Plants. *Fundamentals of Weed Science*.: Fundamentals of Weed Science, Fourth Edition London: Academic Press., Not Peer Reviewed/Refereed

Non-Refereed Proceedings or Transactions

Brown, C. S., Brydge, M. K., Smith, T. E., Conant, R. T., Pickering, K. A., Wall, D. H. (2009). PS 84-106: Training the next generation of environmental problem solvers: The School of Global Environmental Sustainability at Colorado State University. *The 94th ESA Annual Meeting*.: Not Peer Reviewed/Refereed

Management handbook

Mealor, B. A., Mealor, R. D., Kelley, W. K., Bergman, D. L., Burnett, S. A., Decker, T. W., Fowers, B., Herget, M. E., Noseworthy, C. E., Richards, J. L., Brown, C. S., Beck, K. G., Fernandez-Gimenez, M. (2013). *Cheatgrass Management Handbook: Managing an Invasive Annual Grass in the Rocky Mountain Region*.: University of Wyoming., Not Peer Reviewed/Refereed

PAPERS PRESENTED/SYPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS

March 26, 2015, "Soil amendment application after road construction alters resource availability and can benefit native over non-native species", Science for Parks, Parks for Science, (Presenter) Ringer, L. N.

December 4, 2013, "The Rocky Mountain Cheatgrass Management Project", Colorado Weed Management Association Annual Meeting, Colorado Weed Management Association, (Presenter) Brown, C. S., Cheyenne Mountain Resort, Colorado Springs, CO.

August 7, 2013, "Landscape position influences resistance but not short-term resilience to *Bromus tectorum* invasion", Ecological Society of America Annual Meeting, Ecological Society of America, (Presenter) Brown, C. S., Minneapolis, MN.

August 7, 2013, "Using high-resolution future climate scenarios for predicting climate change effects on biological invasions in Rocky Mountain National Park", Ecological Society of America Annual Meeting, Ecological Society of America, (Presenter) West, A. M., Minneapolis, MN, peer-reviewed/refereed.

August 5, 2013, "Bromus tectorum and its relatives: Using a database to examine patterns of invasiveness and invasion in brome grasses", Ecological Society of America Annual Meeting, Ecological Society of America, (Presenter) Atkinson, S. Y., Minneapolis, MN.

August 5, 2013, "Plant community responses to cheatgrass management practices in Rocky Mountain National Park", Ecological Society of America Annual Meeting, Ecological Society of America, (Presenter) Davis, C., Minneapolis, MN.

April 9, 2013, "Cheatgrass:What's the Deal?", IGNITE Biodiversity, School of Global Environmental Sustainability, (Presenter) Brown, C. S., Fort Collins, CO.

January 8, 2013, "A systems approach to managing cheatgrass (*Bromus tectorum*): Learning to identify and manage causes not symptoms", Biology of Weedy and Invasive Species and Controlling Weedy and Invasive Plants Project Directors meeting, USDA AFRI, (Presenter) Brown, C. S., Washington, DC.

2012, "A. Monty, C.S. Brown, D. B. Johnston.

2012. Fire promotes downy brome (*Bromus*

tectorum L.) seed dispersal. *Neobiota*

2012: Halting Biological Invasions in

Europe: from Data to Decisions. 7th

European Conference on Biological

Invasions, Pontevedra, Spain September

12-14, 2012.".

2012, "A. West, T. Wakie, S. Kumar, C. Brown, T. Stohlgren, J. Bromberg, M. Laituri.

Predicted Distribution of Cheatgrass in

Rocky Mountain National Park. Front

Range Student Ecology Symposium, Fort

Collins, CO, February 22, 2012.".

2012, "A. West, T. Wakie, S. Kumar, C. Brown, T. Stohlgren, J. Bromberg. Potential

Changes in the Distribution of

Cheatgrass, *Bromus tectorum* under

Future Climate. Multicultural Scholars

and National Needs Fellows Programs

Project Directors Biannual Meeting,

Washington, DC, March 5-6, 2012.".

2012, "A. West, T. Wakie, S. Kumar, C.S.

Brown, T. Stohlgren, J. Bromberg.

Potential Changes in the Distribution

of Cheatgrass, *Bromus tectorum* under

Future Climate. Ecological Society of

America Annual Meeting, Portland, OR,

August 5-10, 2012.".

2012, "C. Davis, C.S. Brown, Scott Esser.

Effects of selective imazapic

application on *Bromus tectorum* and non-

target species in Rocky Mountain

Natioanl Park. High Altitude

Revegetation Workshop, Fort Collins,

CO, March 7-8, 2012 (30 minute

presentation).".

2012, "C. Davis, C.S. Brown, Scott Esser.

Effects of selective imazapic

application on *Bromus tectorum* and non-

target species in Rocky Mountain National Park. 2012 Rocky Mountain National Park Research Conference, Estes Park, CO, March 28-29, 2012 (20 minute presentation).".

2012, "C. S. Brown, E. Borer, E. Lind, E. Seabloom. Nutrient Network Observational Studies: How to Get a Big Bang for Your Research Buck. Long Term Ecological Research Network All Scientists Meeting, Estes Park, CO, September 10-13, 2012.".

2012, "M.M. Munis, C.S. Brown, R. Roath. Imazapic herbicide: A process-based tool for post-fire restoration of *Bromus tectorum* infested plant communities? High Altitude Revegetation Workshop, Fort Collins, CO, March 7-8, 2012.".

2012, "Plant invasions: Good plants gone bad? Department of Biological Sciences, University of Denver, Denver, CO, March 26, 2012. (1 hour oral presentation to about 30 attendees).".

2012, "S. Atkinson, C.S. Brown. Cheatgrass and Its Relatives: A Database of Information about Brome Grasses. High Altitude Revegetation Workshop, Fort Collins, CO, March 7-8, 2012.".

2011, "C.S. Brown, K.G. Beck, M.B. Coughenour, M.E. Fernandez-Gimenez, W.M. Frasier, W. Kelley, B. Mealor, R. Mealor, M.D. Munis, L.R. Roath, M. Verdone. Developing a decision support tool for managing *Bromus tectorum*. Colorado Weed Management Network Meeting, Colorado Division of Wildlife, Denver, CO, May 4, 2011 (20 minute presentation).".

2011, "C.S. Brown, K.G. Beck, M.B. Coughenour, M.E. Fernandez-Gimenez, W.M. Frasier, W. Kelley, B. Mealor, R. Mealor, M.D. Munis, L.R. Roath, M. Verdone. Developing a decision support tool for managing *Bromus tectorum*. Colorado Agricultural Experiment Station

Invasive Plant Research Meeting, CSU,
March 22, 2011 (15 minute presentation).".

2011, "C.S. Brown, K.G. Beck, M.B. Coughenour,
M.E. Fernandez-Gimenez, W.M. Frasier,
§W. Kelley, B. Mealor, R. Mealor, §M.D.
Munis, †L.R. Roath, §M. Verdone.
Understanding and modeling ecological
processes – A process-based approach to
managing *Bromus tectorum* plant
communities. USDA-NIFA-AFRI Weedy and
Invasive Species Project Directors
meeting, Washington, DC, July 19-20,
2011 (poster).".

2011, "C.S. Brown, M.J. Germino, J.C.
Chambers. Exotic *Bromus* grasses in
agroecosystems of the western US:
REEnet synthesis of current and future
invasions, impacts, and management.
WERA077 Invasive Weeds in Wheat,
Western Society of Weed Science annual
meeting, Spokane, WA, March 7, 2011 (15
minute presentation).".

2011, "Good plants gone bad: Which will make
the switch? Department of Forest,
Nature and Landscape, Gembloux Agro Bio
Tech, University of Liège, Gembloux,
Belgium, November 17, 2011 (60 minute
presentation to ~60 attendees).".

2011, "K.R. Guilbault, C.S. Brown, J.
Friedman, P. Shafroth. Do chilling
requirements limit the southward spread
of Russian olive (*Elaeagnus*
angustifolia L.) in western North
America? Western Society of Weed
Science annual meeting, Spokane, WA,
March 8, 2011 (15 minute presentation).".

2011, "L. Dev with C.S. Brown, J. Klein, D.
Blumenthal. Does the timing of seasonal
water availability influence grassland
sensitivity to grazing? Front Range
Student Ecology Symposium, Fort
Collins, CO, February 23, 2011 (15
minute presentation).", peer-reviewed/refereed.

2011, "L. Dev with C.S. Brown, J. Klein, D.
Blumenthal. Global change and grazing
in North American grasslands: A
regional study with field experiments

and modeling. Front Range Student Ecology Symposium, Fort Collins, CO, February 23, 2011 (poster).", peer-reviewed/refereed.

2011, "M. Munis, C.S. Brown, R. Roath, M. Coughenour, M. Pashke. The Rocky Mountain Cheatgrass Management Project. Wyoming Weed Management Association, Casper, WY, January 18 - 20, 2011 (30 minute presentation).".

2011, "Marques Munis, C.S. Brown, R. Roath, M. Coughenour, M. Pashke. Imazapic herbicide: A process-based tool for post-fire restoration of *Bromus tectorum* infested plant communities? Colorado Agricultural Experiment Station Invasive Plant Research Meeting, CSU, March 22, 2011 (15 minute presentation).".

2011, "Marques Munis, C.S. Brown, R. Roath, M. Coughenour, M. Pashke. Imazapic herbicide: A process-based tool for post-fire restoration of *Bromus tectorum* infested plant communities? Western Society of Weed Science annual meeting, Spokane, WA, March 8, 2011 (poster).", peer-reviewed/refereed.

2011, "Working toward sustainable solutions to pest plant problems. Café Botanique, Denver Botanic Garden, Denver, CO, March 3, 2011 (90 minute presentation to 30 attendees).".

2010, "Atkinson, S.Y. and C.S. Brown. 2010. *Bromus* Database and poster presentation at *Bromus* REENet introductory meeting, Salt Lake City, UT February 23 - 24, 2010.".

2010, "C.S. Brown, K.G. Beck, M. Coughenour, M. Fernandez-Gimenez, W.M. Frasier, W. Kelley, B. Mealor, R. Mealor, M. Munis, L.R. Roath, M. Verdone. Developing a decision support tool for managing *Bromus tectorum*. Society for Range Management and Weed Science Society of America, Denver, CO, February 7 - 11. (20 minute invited oral presentation to 50 - 100 attendees of the USDA-AFRI Project Directors session).".

2010, "C.S. Brown. Invasive plants and rangeland restoration in a changing world: taking aim at a moving target. Society for Range Management and Weed Science Society of America, Denver, CO, February 7 - 11. (20 minute invited oral presentation to over 200 attendees of the Rangeland Restoration in the Presence of Persistent Invasive Plants symposium)".

2010, "J. Calvert, M. Munis, C.S. Brown, and R. Roath. Digital photo sampling of plant functional group cover and biomass on sagebrush steppe rangelands. Society for Range Management and Weed Science Society of America, Denver, CO, February 7 - 11. (10 minute oral presentation to about 6 attendees in the undergraduate science session)".

2010, "K.J. La Pierre, D.M. Blumenthal, C. S. Brown, J.A Klein, M.D Smith. Dominant plant species determine ecosystem response to multiple resource additions across a precipitation gradient. Ecological Society of America Annual Meeting, Pittsburgh, PA, August 1 - 6. (15 minute presentation)".

2010, "K.R. Guilbault, C.S. Brown, J. Friedman, P. Shafroth. Do germination requirements limit the southward spread of Russian olive (*Elaeagnus angustifolia* L.) in western North America? Ecological Society of America Annual Meeting, Pittsburgh, PA, August 1 - 6. (15 minute presentation)", peer-reviewed/refereed.

2010, "M. Munis, C.S. Brown, R. Roath, M. Coughenour, M. Paschke. Imazapic herbicide: a process-based tool for post-fire restoration of *Bromus tectorum* infested plant communities? Institute for Livestock and the Environment Annual Stakeholder Summit, Fort Collins, CO, December 2. (poster)", peer-reviewed/refereed.

2010, "M.D. Munis, C.S. Brown, R. Roath, M. Coughenour. Landscape scale constraints on conversion of a sagebrush steppe

ecosystem to an annual grass dominated stable state in southeastern Wyoming. Ecological Society of America Annual Meeting, Pittsburg, PA, August 1 - 6. (15 minute presentation)".

2010, "R. Colautti and C.S. Brown. Are invasive species different? Global Invasions Network Research Coordination Network biannual workshop, Smithsonian Tropical Research Institute, Panama City, Panama, October 12, 2010 (30 minute presentation)".

2010, "S. Atkinson and C.S. Brown. Why are some grasses so invasive? The development of a Bromus database. Global Invasions Network Research Coordination Network biannual workshop, Smithsonian Tropical Research Institute, Panama City, Panama, October 12, 2010 (30 minute presentation)".

OTHER ACTIVITIES/ACCOMPLISHMENTS – PUBLICATIONS/SCHOLARLY RECORD

(July 31, 2013 - August 3, 2013). Workshop, "Nutrient Network Project Workshop," Minneapolis, MN.

TEACHING:

| Year | Semester | Course No./Title | Cr. Hrs. | Enrollment |
|-------------|-----------------|--|-----------------|-------------------|
| 2017 | Fall | ECOL698 - Research | 182 | 46 |
| 2017 | Spring | ECOL571 - Advanced Topics in Ecology | 12 | 12 |
| 2017 | Spring | ECOL571 - Advanced Topics in Ecology | 14 | 7 |
| 2016 | Fall | ECOL698 - Research | 18 | 47 |
| 2016 | Summer | ECOL699 - Thesis | 18 | 1 |
| 2016 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 16 |
| 2016 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 13 |
| 2016 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 0 |
| 2016 | Spring | ECOL698 - Research | 18 | 51 |
| 2016 | Spring | ECOL699 - Thesis | 18 | 13 |
| 2015 | Fall | ECOL592 - Interdisciplinary Seminar in Ecology | 3 | 14 |
| 2015 | Fall | BSPM528 - Invasive Plants/Weeds: Ecosystems to Molecules | 3 | 3 |
| 2015 | Fall | ECOL698 - Research | 18 | 48 |
| 2015 | Fall | ECOL699 - Thesis | 18 | 15 |
| 2015 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 20 |
| 2015 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 15 |
| 2015 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 12 |
| 2014 | Fall | ECOL799 - Dissertation | 18 | 23 |
| 2014 | Fall | BSPM495 - Independent Study | 3 | 2 |
| 2014 | Fall | ECOL698 - Research | 18 | 63 |
| 2014 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 35 |
| 2014 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 17 |

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| 2014 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 11 |
| 2014 | Spring | ECOL799 - Dissertation | 18 | 29 |
| 2014 | Spring | ECOL698 - Research | 18 | 46 |
| 2014 | Spring | BSPM492 - Seminar | 3 | 1 |
| 2014 | Spring | BSPM792 - Seminar | 2 | 7 |
| 2013 | Fall | BSPM792 - Bioagricultural Sciences and Pest Management Departmental Seminar | 1 | 11 |
| 2013 | Fall | ECOL799 - Dissertation | 18 | 27 |
| 2013 | Fall | ECOL592 - Interdisciplinary Seminar in Ecology | 3 | 14 |
| 2013 | Fall | ECOL698 - Research | 18 | 55 |
| 2013 | Fall | ECOL592 - Sagebrush Steppe Vulnerability to Climate Change | 1 | 14 |
| 2013 | Fall | BSPM792 - Seminar | 2 | 11 |
| 2013 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 30 |
| 2013 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 14 |
| 2013 | Spring | ECOL571 - Advanced Topics in Ecology | 3 | 12 |
| 2013 | Spring | ECOL799 - Dissertation | 18 | 26 |
| 2013 | Spring | BSPM528 - Invasive Plants/Weeds: Ecosystems to Molecules | 3 | 11 |
| 2013 | Spring | ECOL699 - Thesis | 18 | 12 |
| 2012 | Fall | ECOL698 - Research | 18 | 55 |
| 2012 | Fall | ECOL699 - Thesis | 18 | 7 |
| 2012 | Spring | ECOL698 - Research | 18 | 58 |
| 2012 | Spring | ECOL699 - Thesis | 18 | 10 |
| 2011 | Fall | ECOL698 - Research | 18 | 45 |
| 2011 | Fall | ECOL699 - Thesis | 18 | 11 |
| 2011 | Spring | GES470 - Applications of Environmental Sustainability | 3 | 9 |
| 2011 | Spring | BSPM596 - Group Study | 3 | 6 |
| 2011 | Spring | ECOL698 - Research | 18 | 39 |
| 2011 | Spring | ECOL699 - Thesis | 18 | 10 |
| 2010 | Fall | ECOL698 - Research | 18 | 41 |
| 2010 | Spring | ECOL698 - Research | 18 | 27 |
| 2010 | Spring | ECOL699 - Thesis | 18 | 6 |
| 2009 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 12 |
| 2009 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 17 |
| 2009 | Fall | BSPM308 - Ecology and Management of Weeds - Recitation | 0 | 12 |
| 2009 | Fall | BSPM308 - Ecology and Management of Weeds - Recitation | 0 | 17 |
| 2009 | Fall | BSPM308 - Ecology and Management of Weeds-Lab | 0 | 12 |
| 2009 | Fall | BSPM308 - Ecology and Management of Weeds-Lab | 0 | 17 |
| 2009 | Fall | ECOL698 - Research | 18 | 42 |
| 2009 | Fall | ECOL699 - Thesis | 18 | 7 |
| 2009 | Spring | BSPM528 - Invasive Plants/Weeds: Ecosystems to Molecules | 3 | 4 |
| 2009 | Spring | ECOL698 - Research | 18 | 31 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 15 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 13 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 2 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 2 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds - Recitation | 0 | 7 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds - | 0 | 13 |

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|------|--------|--|----|----|
| | | Recitation | | |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds - Recitation | 0 | 5 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds - Recitation | 0 | 7 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds-Lab | 0 | 9 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds-Lab | 0 | 12 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds-Lab | 0 | 4 |
| 2008 | Fall | BSPM308 - Ecology and Management of Weeds-Lab | 0 | 7 |
| 2008 | Fall | ECOL698 - Research | 18 | 34 |
| 2008 | Spring | BSPM698 - Research | 18 | 4 |
| 2008 | Spring | ECOL698 - Research | 18 | 27 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 15 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 7 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 5 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds | 4 | 1 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Laboratory | 0 | 12 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Laboratory | 0 | 5 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Laboratory | 0 | 4 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Laboratory | 0 | 7 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Recitation | 0 | 12 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Recitation | 0 | 7 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Recitation | 0 | 4 |
| 2007 | Fall | BSPM308 - Ecology and Management of Weeds-Recitation | 0 | 5 |
| 2007 | Fall | BSPM495 - Independent Study | 3 | 3 |
| 2007 | Fall | BSPM698 - Research | 18 | 12 |
| 2007 | Fall | BSPM784 - Supervised College Teaching | 3 | 2 |

Guest Lectures:

| <u>Year</u> | <u>Semester</u> | <u>Course No./Title</u> | <u># of Guest Lectures</u> | <u>Delivery Mode</u> |
|-------------|-----------------|--|----------------------------|----------------------|
| 2013 | Fall | Bioag'l Sci & Pest Mgmt-BSPM792 - Fundamentals of Bioagricultural Sciences and Pest Management | 1 | Face to Face |
| 2013 | Spring | Natural Resources-NR478 - Restoration Ecology | 1 | Face to Face |
| 2013 | Spring | Natural Resources-NR678 - Restoration Ecology | 1 | Face to Face |

Evidence of Teaching Effectiveness (Annual Input)

Other Evidence

Fall 2013, BSPM 792–Bioagricultural Sciences and Pest Management Departmental Seminar

Fall 2013, ECOL 592–Sagebrush Steppe Vulnerability to Climate Change

Spring 2013, ECOL 571–Advanced Topics in Ecology

Spring 2013, ECOL 571–Advanced Topics in Ecology

Spring 2013, ECOL 571–Advanced Topics in Ecology

Spring 2013, BSPM 528–Invasive Plants/Weeds: Ecosystems to Molecules

EXTENSION/ENGAGEMENT ACTIVITIES/ACCOMPLISHMENTS

Workshop

Cheatgrass Management Workshop and Field Tour, Rocky Mountain Cheatgrass Management Project. Pinedale, WY. Total number of participants: 23. Percent Responsible: 20%. 2012.

Rocky Mountain Cheatgrass Management Project, Rocky Mountain Cheatgrass Management Project. Meekere, CO. Percent Responsible: 80%. 2012.

Rocky Mountain Cheatgrass Management Project, Rocky Mountain Cheatgrass Management Project. Douglas, WY. Total number of participants: 52. Percent Responsible: 20%. 2012.

COMMITTEES

Graduate Degree Program in Ecology Executive Committee, (January 2013 - Present).

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Colorado Society for Range Management.

Ecological Society of America.

Society for Ecological Restoration.

Society for Range Management.

Weed Science Society of America.

Western Society of Weed Science.

High Altitude Revegetation Committee. (2009 - Present).

American Association for the Advancement of Science. (2008 - Present).

Center for Invasive Plant Management Scientific Advisory Council. (2004 - Present).

Shortgrass Steppe Long Term Ecological Research Site National Science Foundation Renewal Proposal. (2009 - 2013).

California Invasive Plant Council. (2012 - 2011).

California Native Grass Association. (2012 - 2011).

National Ecological Observatory Network, Domain Science and Education Coordinating Committee for Domain 10. (2009 - 2010).

Member, Colorado Society for Range Management.

Member, Ecological Society of America.

Member, Society for Ecological Restoration.

Member, Society for Range Management.

Member, Weed Science Society of America.

Officer, Treasurer, High Altitude Revegetation Committee. (April 2014 - Present).

Committee Member, School of Global Environmental Sustainability Biodiversity Working Group. (August 2013 - Present).

Member, School of Global Environmental Sustainability Curriculum Committee. (January 2013 - Present).

Officer, Secretary, High Altitude Revegetation Committee. (April 2012 - Present).

Reviewer, Ad Hoc Reviewer, Applied Vegetation Science. (2012 - Present).

Reviewer, Ad Hoc Reviewer, Invasive Plant Science and Management. (2012 - Present).

Nutrient Network, Minneapolis, MN. (2012 - Present).

USDA AFRI, Washington, DC. (2012 - Present).

Biological Invasions. (2011 - Present).

Editor, Associate Editor, Biological Invasions Journal. (2011 - Present).

Nutrient Network, Minneapolis, MN. (2011 - Present).

Rocky Mountain Cheatgrass Management Project, Fort Collins, CO. (2011 - Present).

Member, Shortgrass Steppe Research and Interpretation Center Users Committee. (2011 - Present).

USGS Powell Center Working Group, July 28 – August 1, 2011, Fort Collins, CO. (2011 - Present).

Western Society of Weed Science, Spokane, WA. (2011 - Present).

AFRI Bromus REEnet, Salt Lake City, UT. (2010 - Present).

Biologia. (2010 - Present).

Biological Invasions. (2010 - Present).

Bromus REEnet, Salt Lake City, UT. (2010 - Present).

Ecological Society of America, Pittsburgh, PA. (2010 - Present).

Ecologically Based Invasive Plant Management, Boise, ID. (2010 - Present).

Global Invasions Network Research Coordination Network, Panama City, ZZ. (2010 - Present).

Reviewer, Ad Hoc Reviewer, National Science Foundation Division of Environmental Biology. (2010 - Present).

Rocky Mountain Cheatgrass Management Project, WY. (2010 - Present).

Society for Range Management, Idaho Falls, ID. (2010 - Present).

Society for Range Management and Weed Science Society of America, Denver, CO. (2010 - Present).

Member, Specialty Crops Grower Research and Education Grants. (2010 - Present).

Student oral & poster presentation competition, Front Range Student Ecology Symposium, CSU. (2010 - Present).

Reviewer, Ad Hoc Reviewer, USDA National Institute of Food and Agriculture the Regional CAP Climate Change planning grants. (2010 - Present).

Member, High Altitude Revegetation Committee. (2009 - Present).

Member, High Altitude Revegetation Committee. (2009 - Present).

Committee Member, Peace Corps Masters International Program and Student Advisory Committee. (2009 - Present).

Committee Member, Peace Corps Masters International Program and Student Advisory Committee. (2009 - Present).

Member, Peace Corps Masters International Program and Student Advisory Committee. (2009 - Present).

Member, American Association for the Advancement of Science. (2008 - Present).

Member, Center for Invasive Plant Management Scientific Advisory Council. (2004 - Present).

Member, Western Society of Weed Science. (2002 - Present).

Officer, President/Elect/Past, Ecological Society of America Rangeland Ecology Section. (August 2012 - August 2014).

Officer, Secretary, High Altitude Revegetation Committee. (April 2012 - April 2014).

Student poster competition, Western Society for Weed Science Annual Meeting, Reno, NV, March 12-16. (2012).

Member, California Invasive Plant Council. (2012 - 2011).

Member, California Native Grass Association. (2012 - 2011).

Committee Chair, Ecological Society of America Rangeland Ecology. (2011 - 2012).

Member, Center for Invasive Plant Management Scientific Advisory Council. (2004 - 2012).

Member, Graduate Degree Program in Ecology Executive Committee. (2010 - 2011).

Committee Chair, BSPM Education Committee. (2009 - 2011).

Member, School of Global Environmental Sustainability Curriculum Committee. (2008 - 2011).

Member, National Ecological Observatory Network, Domain Science and Education Coordinating Committee for Domain 10. (2009 - 2010).

Member, Shortgrass Steppe Long Term Ecological Research Site National Science Foundation Renewal Proposal. (2009 - 2010).
