

## BETHANY A. BRADLEY

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Department of Environmental Conservation  
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### PROFESSIONAL APPOINTMENTS

University of Massachusetts, Amherst, MA  
Associate Professor of Biogeography & Spatial Ecology 2016 – present  
Assistant Professor of Biogeography & Spatial Ecology 2010 – 2016

Amherst College, Amherst, MA  
Copeland Fellow, Department of Biology 2009 – 2010

Princeton University, Woodrow Wilson School, Princeton, NJ  
Postdoctoral Fellow 2006 – 2009

### EDUCATION

Brown University, Providence, RI  
PhD, Geological Sciences (*Terrestrial Remote Sensing*) 2006  
MSc, Geological Sciences 2003

Pomona College, Claremont, CA  
BA, Geology 2000

### RESEARCH INTERESTS

I am interested in what the geographical distributions of species can tell us about their ecology, biology and interactions with anthropogenic changes. My research focuses on invasion ecology, global change ecology, and biological conservation using tools from biogeography and spatial ecology.

### JOURNAL PUBLICATIONS

*Advisees are underlined - #Postdoc, \*Graduate student, †Undergraduate student*

- Bradley, B.A.**, C.A. Curtis\*, E.J. Fusco\*, J.T. Abatzoglou, J.K. Balch, S. Dadashi, and M.N. Tuanmu, “*Cheatgrass (*Bromus tectorum*) distribution in the intermountain western United States and its relationship to fire frequency, seasonality, and ignitions*”, In Press, Biological Invasions
- Nagy, R.C.#, E.J. Fusco\*, **B.A. Bradley**, J.T. Abatzoglou, and J.K. Balch, “*Human influence on large wildfires across U.S. ecoregions*”, *Fire*, 1(1): 4, doi: 10.3390/fire1010004, 2018
- Balch, J.K., **B.A. Bradley**, J.T. Abatzoglou, R.C. Nagy, E.J. Fusco\* and A.L. Mahood, “*Human-started fires expand the fire niche across the U.S.*”, *Proceedings of the National Academy of Sciences*, 114(11): 2946-2951, doi: 10.1073/pnas.1617394114, 2017
- Cross, T.\*, J.T. Finn and **B.A. Bradley**, “*Frequency of invasive plant occurrence is not a suitable proxy for abundance in the Northeast US*”, *Ecosphere* 8(5):e01800. 10.1002/ecs2.1800, 2017
- Pasquarella, V.J.#, **B.A. Bradley**, and C.E. Woodcock “*Near-real-time monitoring of insect defoliation using Landsat time series*” *Forests* 8(8), 275, 10.3390/f8080275, 2017
- Renwick, K.M., C. Curtis\*, A.R. Kleinhesselink, D. Schlaepfer, **B.A. Bradley**, C.L. Aldridge, B. Poulter, and P.B. Adler, “*Multi-model comparison highlights consistency in predicted effect of warming on a semi-arid shrub*” *Global Change Biology*, 10.1111/gcb.13900, 2017

- Abatzoglou, J., C. Kolden, J. Balch and **B. Bradley**, “*Controls on interannual variability in lightning-caused fire activity in the western US*”, *Environmental Research Letters*, 11: 045005, 2016
- Allen, J.M.<sup>#</sup> and **B.A. Bradley**, “*Out of the weeds? Reduced plant invasion risk with climate change*”, *Biological Conservation*, 203:306-312, 2016
- Bocsi, T.<sup>†</sup>, J.M. Allen<sup>#</sup>, J. Bellemare, M. Nishino, J. Kartesz and **B.A. Bradley**, “*Plants’ native distributions do not reflect climatic tolerance*”, *Diversity & Distributions*, 22: 615-624, 2016
- Bradley, B.A.**, “*Predicting abundance with presence-only models*”, *Landscape Ecology*, 31(1):19-30, 2016
- Curtis, C.A.<sup>\*</sup> and **B.A. Bradley**, “*Plant distribution data show broader climatic limits than physiological tolerance estimates*”, *PLoS One*, 11(11): p.e0166407, 2016
- Dawson, M.N., J.C. Axmacher, C. Beierkuhnlein, J.L. Blois, **B.A. Bradley**, A.F. Cord, J. Dengler, K.S. He, L.R. Heaney, R. Jansson, M.D. Mahecha, C. Myers, D. Nogues-Bravo, A. Papadopoulou, B. Reu, F. Rodriguez-Sanchez, M.J. Steinbauer, A. Stigall, M.N. Tuanmu, D.G. Gavin. 2016. “A second horizon scan of biogeography: Golden Ages, Midas touches, and the Red Queen”, *Frontiers of Biogeography*, 8(4): e29770, doi: <https://doi.org/10.21425/F58429770>
- Early, R., **B.A. Bradley**, J.S. Dukes, J.J. Lawler, J.D. Olden, D.M. Blumenthal, C.M. D’Antonio, P. Gonzalez, E.D. Grosholz, I. Ibañez, L.P. Miller, C.J.B. Sorte and A.J. Tatem, “*Global threats from invasive alien species in the twenty-first century and national response capacities*”, *Nature Communications*, 7:12485, 2016
- Fusco, E.J.<sup>\*</sup>, J.T. Abatzoglou, J.K. Balch, J. Finn and **B.A. Bradley**, “*Quantifying the human influence on fire ignition across the western US*”, *Ecological Applications*, 26(8): 2388-2399, 2016
- Spasojevic, M.J., C.A. Bahlai, **B.A. Bradley**, B.J. Butterfield, M-N Tuanmu, S. Sistla, R. Wiederholt and K.N. Suding, “*Scaling up the diversity-resilience relationship with remote sensing: large fires and productivity*”, *Global Change Biology*, 22: 1421-1432, 2016
- Bradley, B.A.**, R. Early, C.J.B. Sorte “*Space to invade? Comparative range infilling and potential range of invasive and native plants*”, *Global Ecology & Biogeography* 24(3):348-359, 2015
- Curtis, C.A.<sup>\*</sup> and **B.A. Bradley**, “*Climate change increases risk of invasive plant abundance in the southwestern USA*”, *Invasive Plant Science and Management* 8(3):341-352, 2015
- He, K.; **B.A. Bradley**, A. Cord, D. Rocchini M-N. Tuanmu, S. Schmidtlein, W. Turner, M. Wegmann, N. Pettorelli, “*Will remote sensing shape the next generation of species distribution models?*”, *Remote Sensing in Ecology & Conservation* 1(1): 4-18, 2015
- Bradley, B.A.**, “*Remote detection of invasive plants, a review of spectral, textural and phenological approaches*”, *Biological Invasions* 16(7):1411-1425, 2014
- Chambers, J.C., **B.A. Bradley**, C.M. D’Antonio, J.B. Grace, S.P. Hardegree, R.F. Miller, and D.A. Pyke, “*Resilience to Disturbance and Resistance to Invasive Alien Grasses in Arid and Semi-arid Ecosystems: Lessons from the Cold Desert of Western North America*”, *Ecosystems*, 17(2): 360-375, 2014
- Estes, L.D., L-L. Paroz, **B.A. Bradley**, J.M.H. Green, D.G. Hole, S. Holness, G. Ziv, M.G. Oppenheimer, and D.S. Wilcove, “*Using changes in agricultural potential to quantify future climate-induced risk to conservation*”, *Conservation Biology* 28(2): 427-437, 2014
- Ibañez, I., J.M. Diez, L.P. Miller, J.D. Olden, C.J.B. Sorte, D.M. Blumenthal, **B.A. Bradley**, C.M. D’Antonio, J.S. Dukes, R.I. Early, E.D. Grosholz, and J.J. Lawler, “*Integrated assessment of biological invasions*”, *Ecological Applications* 24(1): 25-37, 2014
- Vieira, R.<sup>\*</sup>, J. Finn and **B.A. Bradley**, “*How much do distribution data influence models of invasion risk? A comparison of independent datasets in western Massachusetts*”, *Landscape Ecology* 29: 1601-1612, 2014

- Balch, J.K., **B.A. Bradley**, C.M. D'Antonio, and J. Gomez-Dans, “*Introduced annual grass increases regional fire activity across the arid western USA (1980-2009)*”, *Global Change Biology*, 19(1): 173-183, 2013
- Bradley, B.A.**, “*Distribution models of invasive plants over-estimate potential impact*”, *Biological Invasions*, 15(7): 1417-1429, 2013
- Estes, L.D., **B.A. Bradley**, H. Beukes, W. Durand, D. Hole, M. Lau, M. Oppenheimer, R. Schulze, M.A. Tadross, and W. Turner, “*Comparing mechanistic and empirical models for assessing environmental suitability of a well understood crop species: Implications for ecological forecasting*”, *Global Ecology & Biogeography*, 22: 1007-1018, 2013
- Estes, L.D., H. Beukes, **B.A. Bradley**, M. Oppenheimer, A. Ruane, R. Schulze, M. Tadross and D.S. Wilcove, “*Projected climate impacts to South African maize and wheat production in 2055: A comparison of empirical and mechanistic modeling approaches*”, *Global Change Biology*, 19(12): 3762-3774, 2013
- Lehan, N.E.<sup>†</sup>, J.R. Murphy<sup>†</sup>, L.P. Thorburn<sup>†</sup> and **B.A. Bradley**, “*Accidental introductions are an important source of invasive plants in the continental U.S.*”, *American Journal of Botany*, 10(7): 1287-1293, 2013
- Bernazzani, P., **B.A. Bradley**, and J. Opperman, “*Integrating Climate Change into Habitat Conservation Plans under the U.S. Endangered Species Act*”, *Environmental Management* 49:1103-1114, 2012
- Bradley, B.A.**, A.D. Olsson, O. Wang, B.G. Dickson, L. Pelech<sup>\*</sup>, S.E. Sesnie, and L. Zachmann “*Detection vs. suitability: Dangers of biasing habitat suitability models for vegetation with remote sensing data*”, *Ecological Modelling*, 244: 57-64, 2012
- Bradley, B.A.**, L.D. Estes, D.G. Hole, S. Holness, M. Oppenheimer, W.R. Turner, H. Beukes, R. Schulze, M.A. Tadross, and D.S. Wilcove, “*Predicting how human adaptation to climate change will affect ecological conservation: secondary impacts of shifting agriculture*”, *Diversity & Distributions*, 18: 425-437, 2012
- Bradley, B.A.**, D.M. Blumenthal, R. Early, E.D. Grosholz, J.J. Lawler, L.P. Miller, C.J.B. Sorte, C.M. D'Antonio, J.M. Diez, J.S. Dukes, I. Ibáñez, and J.D. Olden, “*Global change, global trade, and the next wave of plant invasions*”, *Frontiers in Ecology and the Environment* 10(1): 20-28, 2012
- Diez, J.M., C.M. D'Antonio, J.S. Dukes, E.D. Grosholz, J.D. Olden, C.J.B. Sorte, D.M. Blumenthal, **B.A. Bradley**, R. Early, I. Ibáñez, S. Jones, J.J. Lawler, and L.P. Miller, “*Will extreme climatic events facilitate biological invasions?*”, *Frontiers in Ecology and the Environment* 10(5): 249-257, 2012
- Bradley, B.A.** and D.C. Marvin<sup>\*</sup>, “*Using Expert Knowledge to Satisfy Data Needs: Mapping Invasive Plant Distributions in the Western U.S.*”, *Western North American Naturalist* 71(3): 302-315, 2011
- Bradley, B.A.** and M.T. O'Sullivan, “*Assessing the short-term impacts of changing grazing regime at the landscape scale with remote sensing*”, *International Journal of Remote Sensing* 32(20): 5797-5813, 2011
- Orenstein, D.E., **B.A. Bradley**, J. Albert, J.F. Mustard, and S.P. Hamburg, “*How much is built? Quantifying and interpreting patterns of built space from different data sources*”, *International Journal of Remote Sensing*, 32(9), 2621-2644, 2011
- Bradley, B.A.**, D.M. Blumenthal, and D.S. Wilcove, L.H. Ziska, “*Predicting plant invasions in an era of global change*”, *Trends in Ecology & Evolution*, 25(5), 310-318, 2010
- Bradley, B.A.**, M. Oppenheimer, and D.S. Wilcove, “*Climate Change Increases Risk of Plant Invasion in the Eastern United States*”, *Biological Invasions*, 12(6), 1855-1872, 2010
- Bradley, B.A.**, “*Assessing ecosystem threats from global and regional change: Hierarchical modeling of risk to sagebrush systems from climate change and invasive species in Nevada, USA*”, *Ecography*, 33, 198-208, 2010
- Turner, W.R., **B.A. Bradley**, L.D. Estes, D.G. Hole, M. Oppenheimer, and D.S. Wilcove, “*Climate change: helping nature survive the human response*”, *Conservation Letters*, 3, 304-312, 2010

- Bradley, B.A.** and D.S. Wilcove, “*When invasive plants disappear: transformative restoration possibilities in the western United States resulting from climate change*”, *Restoration Ecology*, 17(5), 715-721, 2009
- Bradley, B.A.**, “*Accuracy assessment of mixed land cover using stratified random sampling*”, *International Journal of Remote Sensing*, 30(13), 3515-3529, 2009
- Bradley, B.A.**, M. Oppenheimer, and D.S. Wilcove, “*Climate Change and Plant Invasion: Restoration Opportunities Ahead?*”, *Global Change Biology*, 15, 1511-1521, 2009
- Bradley, B.A.**, “*Regional Analysis of the Impacts of Climate Change on Cheatgrass Invasion Shows Potential Risk and Opportunity*”, *Global Change Biology*, 15, 196-208, 2009
- Marvin, D.C.\*, **B.A. Bradley**, and D.S. Wilcove, “*A Novel, Web-based, Ecosystem Mapping Tool using Expert Opinion*”, *Natural Areas Journal*, 29(3), 281-292, 2009
- Bradley, B.A.** and E. Fleishman, “*Commentary: Can Remote Sensing of Land Cover Improve Species Distribution Modelling?*”, *Journal of Biogeography*, 35, 1158-1159, 2008
- Bradley, B.A.** and E. Fleishman, “*Relationships Between Expanding Pinyon-Juniper Cover and Topography in the Central Great Basin*”, *Journal of Biogeography*, 35, 951-964, 2008
- Bradley, B.A.** and J.F. Mustard, “*Comparison of Phenology Trends by Land Cover Class: A Case Study in the Great Basin, U.S.A.*”, *Global Change Biology*, 14(2), 334-346, 2008
- Bradley, B.A.**, R.W. Jacob, J.F. Hermance, and J.F. Mustard, “*A curve-fitting technique to derive inter-annual phenologies from time series of noisy satellite data*”, *Remote Sensing of Environment*, 106, 137-145, 2007
- Hermance, J.F., R.W. Jacob, **B.A. Bradley**, and J.F. Mustard, “*Extracting Phenological Signals from Multi-Year AVHRR NDVI Time Series: Framework for Applying High-Order Annual Splines with Roughness Damping*”, *IEEE Trans. in Geoscience and Remote Sensing*, 45, 3264-3276, 2007
- Bradley, B.A.**, R.A. Houghton, J.F. Mustard, and S.P. Hamburg, “*Invasive Grass Reduces Carbon Stocks in Shrublands of the Western U.S.*”, *Global Change Biology*, 12(10), 1815-1822, 2006
- Bradley, B.A.**, and J.F. Mustard, “*Characterizing the Landscape Dynamics of an Invasive Plant and Risk of Invasion Using Remote Sensing*”, *Ecological Applications*, 16(3), 1132-1147, 2006
- Bradley, B.A.**, and J.F. Mustard, “*Identifying Land Cover Variability Distinct from Land Cover Change: Cheatgrass in the Great Basin*”, *Remote Sensing of Environment*, 94(2), 204-213, 2005
- Bradley, B.A.**, S.E.H. Sakimoto, H. Frey, and J.R. Zimelman, “*Medusae Fossae Formation: New Perspectives from Mars Global Surveyor*”, *Journal of Geophysical Research*, 107(E8), 5058, 2002

#### MANUSCRIPTS IN PREPARATION

- Abatzoglou, J.T., J.K. Balch, B.A. Bradley, and C.A. Kolden, “*Human-related ignitions concurrent with high winds promote large wildfires across the US*”, In Review
- Bellemare, J., A. George, G. Clarke, D.A. Moeller, **B.A. Bradley**, and D.F. Sax, “*The distribution and diversity of endemic forest plants in the Eastern US reflects impacts of past climate change and influence of ecological traits*”, In Review
- Bradley, B.A.**, J.M. Allen, M.W. O’Neill, R.D. Wallace, C.T. Barger, J.A. Richburg, and K. Stinson, “*Invasive species risk assessments need more consistent spatial abundance data*”, In Review
- Dadashi, S.\*, J.K. Balch, **B.A. Bradley**, and L.A. St. Denis, “*What is a Fire? Identifying Individual Fire Events Using the MODIS Burned Area Product*”, In Review
- Mietkiewicz, N. J.K. Balch, T. Schoennagel, L.A. St. Denis, and **B.A. Bradley**, “*Costs of human-ignited wildfires in the U.S. (2001-2015)-from the Wildland-Urban Interface to wildlands*”, In Review
- Shiklomanov, A.N.\*, **B. A. Bradley**, K. Dahlin, A. Fox, C. Gough, F. M. Hoffman, E. Middleton, S. Serbin, L. Smallman, W. Smith, “*Enhancing global change experiments through integration of remote sensing techniques*”, In Review

## BOOK CHAPTERS, TEACHING/OUTREACH MATERIALS, AND TECHNICAL REPORTS

- Bradley, B.A., C.A. Curtis\*** and J.C. Chambers, “*Bromus response to climate and projected changes with climate change*”, in: Brown, C., Chambers, J. and Germino, M. (eds.), *Exotic brome grasses in Arid and Semiarid Ecosystems of the western US*, Springer Series on Environmental Management, 2016
- Bradley, B.A.** and **C.A. Curtis\***, “*Distribution and dynamics of non-native invasive plants*”, in Fleishman, E (ed.), *Natural Resource Condition Assessments for Death Valley National Park, Grand Canyon - Parashant National Monument, Joshua Tree National Park, Manzanar National Historical Site, and Mojave National Preserve*. National Park Service, Dept. of the Interior, Washington, D.C. 2016
- Jackson, S., **B. Bradley** and T. Cairns, “*Natural resources assessment of the Tennessee gas pipeline company’s northeast energy direct project: Mainline pipeline route in Massachusetts*”, Report for UMass’ Center for Agriculture, Food and the Environment, April 2015
- Bradley, B.A.** and R.W. Harper, “*Can Community Forests in the Northeast U.S. Keep Pace with the Changing Climate?*”, *Arborist News* 23(3):44-47, 2014
- Bradley, B.A.**, *The biogeography of invasive plants – projecting range shifts with climate change* pages 240-252 in Dukes, J.S. and Ziska, L.H. (eds.), *Invasive Species and Climate Change*. CABI Publishing, August 2014
- Blumenthal, D.M., **Bradley, B.A.**, Dukes, J.S., Ziska, L.H., *Climate change and agriculture*, in: Walthall, C.L., Hatfield, J., Backlund, P., Lengnick, L., Marshall, E., Walsh, M. (eds.), *Climate change and agriculture: Effects and adaptation*. USDA, 2013
- Balch, J.K., M.K. Carroll, and **B.A. Bradley**, “*Invasive grass-fire cycle in the U.S. Great Basin*”, *Teaching Issues and Experiments in Ecology (TIEE)* **8**, 2012
- Bradley, B.** and C.M. Schweik, “*Introduction to Geographic Science Using ArcGIS v10*”, UMass Scholarworks ([http://works.bepress.com/charles\\_schweik/21/](http://works.bepress.com/charles_schweik/21/)) and lulu.com, 2012
- Bradley, B.**, “*Predicting invasion risks and opportunities with climate change: Insights from modeling*”, pages 117-124 in E. Rindos, ed., *Plant Invasions: Policies, Politics, and Practices*, Proceedings of the 2010 Weeds Across Borders Conference, National Conservation Training Center, Shepherdstown, WV. Montana State University, Center for Invasive Plant Management, 2010

## GRANTS & CONTRACTS

*Funding amounts to Bradley’s lab at UMass is noted*

- 2017-2020 “*Quantifying the invasive grass-fire cycle and implications for carbon storage in the continental US*”, National Science Foundation, Geography & Spatial Sciences, PI: **B. Bradley**, co-PIs: J. Balch, R.C. Nagy (\$389,975)
- 2016-2021 “*Global Invasive Plants: Using spatial patterns to understand invasion risk to the Northeast*”, U.S. Department of Agriculture (McIntire Stennis), PI: **B. Bradley**, (\$13,000)
- 2016-2018 “*Quantifying carbon fluxes in the Great Basin due to disturbance and land cover change*”, USDA Forest Service, Joint Venture Agreement, PI: B. Rau, co-PI: **B. Bradley** (\$60,000)
- 2016-2018 “*The biogeography of invasive plants in the continental US*”, National Science Foundation, Geography & Spatial Sciences, PI: **B. Bradley**, co-PI: J. Allen (\$157,400)
- 2015-2018 “*Relations among cheatgrass-driven fire regimes, climate change, and sensitive-status bird species across the Great Basin*”, Joint Fire Sciences Program (JFSP), PI: E. Fleishman, co-PIs: **B. Bradley**, T. Hopkins, N. Horning, M. Leu, R. MacNally, M. Pellant (\$300,000; \$76,367 to UMass)
- 2015-2018 “*Using Time Series of Remotely Sensed Imagery to Understand Invasive Pine Dispersal*”, NASA Earth & Space Science Fellowship (NESSF), Graduate Student: C. Curtis, PI: **B. Bradley**, (\$104,400)

- 2015-2017 “Forecasting changes in sagebrush distribution and abundance under climate change: integration of spatial, temporal, and mechanistic models”, North Central Climate Science Center, PI: P. Adler, co-PIs: C. Aldridge, **B. Bradley**, B. Poulter (\$200,000 to Montana)
- 2015 “Forecasting changes in sagebrush distribution and abundance under climate change: integration of spatial, temporal, and mechanistic models”, Great Basin Landscape Conservation Cooperative, PI: P. Adler, co-PIs: C. Aldridge, **B. Bradley**, B. Poulter (\$85,000 to USU)
- 2015 “Will Impacts of Global Change be Greater than the Sum of its Parts?”, Borchard Foundation Colloquium, PI: C. Sorte, co-PIs: A. Bates, **B. Bradley**, R. Early (\$35,000 for working group meeting)
- 2014-2018 “Understanding Climate and Land Use Drivers of invasive-Grass Fueled Fires Across the Western U.S.”, NASA Terrestrial Ecology Program, PI: J. Balch, co-PIs: **B. Bradley**, J. Abatzoglou (\$582,245; \$204,448 to UMass)
- 2011-2016 “Modeling risk of plant invasions in Massachusetts and surrounding states under current and future climate conditions”, U.S. Department of Agriculture (Hatch), PI: **B. Bradley**, (\$20,425)
- 2011-2016 “Modeling landscape-scale invasion risk in western Massachusetts forests using remote sensing”, U.S. Department of Agriculture (McIntire Stennis), PI: **B. Bradley**, (\$65,600)
- 2012-2014 “Biogeography and Remote Sensing of Non-Native Plant Invasions in the Mojave Network Parks”, National Park Service, Natural Resource Condition Assessment, PI: E. Fleishman, subcontract to **B. Bradley** (\$29,696)
- 2011-2012 “Integrating ecological forecasting methods to improve prioritization of natural resource management: An invasive species example”, USGS Powell Center, PIs: **B. Bradley**, J. Morisette (\$59,870 for working group meetings)
- 2010-2014 “Integrated spatial models of non-native plant invasion, fire risk, and wildlife habitat to support conservation of military lands in the arid Southwest”, U.S. Department of Defense, Strategic Environmental Research and Development Program, PI: B. Dickson, co-PIs: **B. Bradley**, S. Sesnie, T. Sisk, (\$2,100,000; \$322,992 to UMass)
- 2007-2008 “Maintaining connectivity in the Great Basin in the face of climate and land cover change”, Wilburforce Foundation, PI: **B. Bradley** (\$15,000)
- 2006-2007 “Measuring landscape response to changes in grazing regime using remote sensing”, Lava Lake Foundation, PI: **B. Bradley** (\$5000)

## FELLOWSHIPS AND AWARDS

Scaling up working group participant (Ecological Soc. America)	2013
Climate change & invasives working group participant (NCEAS)	2011-2012
Bromus working group participant (USDA AFRI)	2010-2012
DISCCRS Scholar (Early career climate change researcher)	2007
Brown University Dissertation Writing Fellowship	2006
Brown University Geology Club Award for Service to the Department	2006
Dept. of Defense: National Defense Science and Engineering Graduate Fellowship	2001-2004
D.B McIntyre-H. Stanton Hill Award for an outstanding student in geology	2000
Isabel F. Smith Award for service in geological sciences	1999
National Merit Scholar	1996-2000

## POPULAR PRESS ARTICLES ABOUT MY RESEARCH

“Study: People start 84% of wildfires”, USA Today, 2/2017 <https://tinyurl.com/l5uagef>, NPR: <https://tinyurl.com/z3gowh9>, <https://tinyurl.com/j2nrf5s>, AP: <https://tinyurl.com/gvd57on>

“Most nations lack ability to deal with invasive species”, BBC News, 8/2016  
<http://www.bbc.com/news/science-environment-37165712>  
 “Researcher finds way to fight cheatgrass”, NYTimes, 10/2015 <http://tinyurl.com/h2mqmm6>  
 “Planting a seed”, Hampshire Gazette, 2/2015 <http://tinyurl.com/pz7rcv9>  
 “Alien plants widespread and poised to invade”, radio interview NEPR, 1/2015  
<http://nepr.net/news/2015/01/24/study-alien-plants-widespread-and-poised-to-invade/>  
 “Invasive plants taking over the US”, Science News, 1/2015  
<http://news.sciencemag.org/biology/2015/01/invasive-plants-taking-over-u-s>  
 “In Arid West, Cheatgrass Turns Fires Into Infernos”, radio interview NPR, 12/2012  
<http://www.npr.org/2012/12/05/166574589/in-arid-west-cheatgrass-turns-fires-into-infernos>  
 “Research team issues warning about invasive plants”, radio interview KCLU, 1/2012,  
<http://www.kclu.org/2012/01/09/santa-barbara-county-based-research-team-issues-warning-about-invasive-plants/>  
 “Will climate change hasten the spread of invasive plants?”, Union of Concerned Scientists, 1/2011,  
<http://www.grist.org/article/2011-01-04-will-climate-change-hasten-the-spread-of-invasive-plants>  
 “Invasive plants move north”, U.S. Fish & Wildlife Service, 3/2010,  
<http://www.fws.gov/northeast/climatechange/stories/kudzu.html>  
 “Kudzu”, radio interview NEPR, 1/2010,  
<http://www.publicbroadcasting.net/wfcr/news.newsmain/article/0/0/1595096/WFCR.Local.Features.Kudzu>  
 “Study: Climate change may reshuffle western weeds”, Associated Press, 2/2009,  
<http://www.signonsandiego.com/news/2009/feb/06/farm-scene-western-weeds-020609/>  
 “A web-based tool for mapping invasive species using local expertise”, Conservation Maven, 9/2009,  
<http://tinyurl.com/p5edh5z>

## INVITED SEMINARS

31. Northeast Climate Science Center Webinar, Nov, 2017
30. Environmental Science & Policy, University of California, Davis, Oct, 2017
29. Soil & Crop Sciences, Cornell University, Sep, 2017
28. Statistics in Ecology, Environment and Conservation, University of Cape Town, Dec, 2016
27. Rubenstein School for the Environment, University of Vermont, Nov, 2015
26. Woodrow Wilson School, Princeton University, Apr, 2015
25. The Ecosystems Center, Marine Biological Lab, Mar, 2015
24. Harvard Forest, Feb, 2015
23. Stockbridge School for Agriculture, UMass, Amherst, Oct, 2014
22. Department of Biology, Union College, Oct, 2014
21. Department of Biology, Smith College, Jan, 2014
20. Massachusetts Tree Wardens & Foresters Annual Meeting, Jan, 2014
19. Department of Ecology & Evolutionary Biology, University of Colorado, Boulder, Oct, 2013
18. School of Natural Resources, University of Nebraska, Lincoln, Oct, 2013
17. Massachusetts Nursery & Landscape Association, Jul, 2013
16. North American Invasive Plant Short Course webinar, Apr, 2013
15. Cary Institute for Ecosystem Science, Feb, 2013
14. Department of Biology, College of William & Mary, Nov, 2012
13. NY State Monthly Invasives Webinar, Oct, 2012
12. Department of Geography, Clark University, Sept, 2012
11. Department of Biology, UMass, Boston, Apr, 2012
10. Department of Geography, Rutgers, Feb, 2012
9. U.S. Department of Agriculture, APHIS Center for Integrated Pest Management, Jan, 2012
8. Program in Plant Biology & Conservation, Chicago Botanic Garden, Jan, 2012
7. Department of Botany & Zoology, Stellenbosch University, Aug, 2011
6. Faculty colloquium on the impacts of climate change, UMass, Amherst, Nov, 2010
5. Department of Organismic and Evolutionary Biology, UMass, Amherst, Apr, 2010

4. Department of Ecology, Evolution and Conservation Biology, University of Nevada, Reno, Oct, 2009
3. Invasive Species Advisory Council bi-annual meeting, Tucson, May, 2009
2. Biospheric Sciences Laboratory, NASA/Goddard Space Flight Center, Greenbelt, MD, Mar, 2008
1. Western Weed Coordinating Committee, Las Vegas, Dec, 2008

### **SELECTED CONFERENCE PRESENTATIONS (LAST 5 YEARS)**

*Advisees are underlined - #Postdoc, \*Graduate student, †Undergraduate student*

- Bradley, B.A., A.E. Bates, G. Bernatchez, J. Diez, B. Laginhas, C. Sorte, R. Whitlock, J.M. Allen, R. Early, J. Lenoir, and M. Vila, “*How does invasive species abundance relate to ecological impact?*”, Ecological Society of America Annual Meeting, Portland, August 2017
- Curtis, C.A.\*, and Bradley, B.A., “*Using time series of remotely sensed images to quantify pine invasion*”, American Association of Geographers Annual Meeting, Boston, April 2017
- Fusco, E.\*, S. Dadashi, J. Balch, J. Finn, R. Nagy, J. Abatzoglou, B. Bradley, “*Modeling detection biases in remotely sensed and agency reported fires in the US 2003-2013*”, American Association of Geographers Annual Meeting, Boston, April 2017
- Laginhas, B.\*, N. Pawell†, B. Bradley, “*Quantifying spatial and taxonomic biases in invasion ecology research*”, American Association of Geographers Annual Meeting, Boston, April 2017
- Fusco, E.\*, B. Bradley, R. Nagy, J. Balch, “*Invasive grasses increase fire frequency and size across a range of US ecosystems*”, International Biogeography Society, Tucson, January 2017
- Bradley, B., R. Early and C.J.B. Sorte, “*Space to invade? Comparative range infilling and potential range of invasive and native plants*”, Ecology & Mgmt of Alien Plant Invasions, Waikoloa Sep 2015
- Allen, J.# and B. Bradley, “*Out of the weeds? Reduced plant invasion risk with climate change*”, Ecological Society of America, Baltimore Aug 2015
- Bocsi, T.†, J. Allen#, J. Bellemare, J. Kartesz, M. Nishino and B. Bradley, “*Species distributions do not reflect climatic tolerance*”, Ecological Society of America, Baltimore Aug 2015
- Curtis, C.\* and B. Bradley, “*How well do distribution data reflect physiological tolerance limits?*”, Ecological Society of America, Baltimore Aug 2015
- Fusco, E.\*, J. Abatzoglou, J. Balch and B. Bradley, “*Quantifying human influence on fire ignitions across the western U.S.*”, NASA Carbon Cycle & Ecosystems Joint Science Workshop, Maryland Apr 2015
- Balch, J., B. Bradley, C. D’Antonio and J. Gomez-Dans, “*Introduced annual grass increases regional fire activity across the arid western USA (1980–2009)*”, NASA Carbon Cycle & Ecosystems Joint Science Workshop, Maryland Apr 2015
- Abatzoglou, J., B. Bradley, E. Fusco\* and J. Balch, “*Lightning Ignited Fires over the Western United States*”, NASA Carbon Cycle & Ecosystems Joint Science Workshop, Maryland Apr 2015
- Allen, J.#, A. Keller and B. Bradley, “*Plant invasion hotspots in the contiguous United States*”, International Biogeography Society, Bayreuth Germany January 2015
- Bradley, B.A. “*Invaders from space: Remote sensing of invasive plants*”, International Biogeography Society, Plenary Symposium: Tracking changes from space, Bayreuth Germany January 2015
- Curtis, C.\* and B. Bradley “*Using time series of remotely sensed imagery to understand the dispersal dynamics of invasive species*”, International Biogeography Society, Bayreuth Germany January 2015
- D’Antonio, C.M., J.K. Balch, and B.A. Bradley, “*Drought, invasive grasses and fire cycles – implications for ecosystem resilience in drylands*” Ecological Society of America (ESA), August 2014
- Curtis, C.A.\*, M. Leu and B.A. Bradley, “*How do climate, disturbance, and the interaction between them affect Bromus tectorum distribution in the western U.S.?*” International Association of Landscape Ecology, May 2014



Chambers, J.C. and B.A. Bradley, “*Applied ecology in an era of global change*” Ecological Society of America Annual Meeting, August 2013

Bradley, B.A., R. Early and C.J.B. Sorte, “*How far from equilibrium are non-native plants? Implications for modeling invasion risk.*” International Biogeography Society Mtg, January 2013

Curtis, C.A.\*, N.E. Lehan† and B.A. Bradley, “*The distribution of abundance for terrestrial invasive plants: A novel approach for modeling impact risk*” International Biogeography Society Mtg, January 2013

**TEACHING EXPERIENCE**

**University of Massachusetts, Amherst**

<i>Introduction to GIS</i> (NRC585)		<i>Spr. 2011-2018</i>
<ul style="list-style-type: none"> <li>• Teaches GIS and spatial analysis using ArcGIS software</li> <li>• Students: 90 (4 credits)</li> </ul>		
<i>Invasion Ecology</i> (NRC590IE)		<i>Fall (even years)</i>
<ul style="list-style-type: none"> <li>• Investigates the introduction, ecology and impacts of invasive species</li> <li>• Students: 30 (3 credits)</li> </ul>		
<i>Global Change Ecology</i> (NRC547)		<i>Fall (odd years)</i>
<ul style="list-style-type: none"> <li>• Explores anthropogenic impacts on ecosystems</li> <li>• Students: 30 (3 credits)</li> </ul>		
<i>Ecosystems of the Anthropocene</i>		<i>2015-2016</i>
<ul style="list-style-type: none"> <li>• Seminar discussion for Commonwealth Honors College</li> <li>• Students: 15 (1 credit)</li> </ul>		
<i>Advanced GIS</i> (NRC597AM)		<i>Fall 2012</i>
<ul style="list-style-type: none"> <li>• Introduces advanced topics in GIS analysis and data processing</li> <li>• Students: 7 (3 credits)</li> </ul>		
<i>Readings in GIS</i> (NRC597GA)		<i>Fall 2010</i>
<ul style="list-style-type: none"> <li>• Surveys literature on advanced applications of GIS</li> <li>• Students: 4 (2 credits)</li> </ul>		

**LAB MEMBERS (CURRENT AND PAST)**

*Graduate Student Advisees*

Evelyn Beaury	PhD student, OEB	<i>2017-present</i>
Caroline Curtis	PhD student, OEB	<i>2012-present</i>
Emily Fusco	PhD student, OEB	<i>2013-present</i>
Brittany Laginhas	PhD student, OEB	<i>2016-present</i>
Tyler Cross	MSc student, ECO	<i>2014-2016</i>
Renee Vieira	MSc student, ECO	<i>2011-2013</i>

*Postdoctoral Research Associate*

Valerie Pasquarella	Remote sensing of invasions	<i>2016-present</i>
Jenica Allen	Invasion hotspot modeling	<i>2014-2015</i>

*Research Technicians*

Tyler Cross	Northeast invasive plant collection	<i>2013-2014</i>
Adrienne Keller	US invasive plant collection	<i>2012-2013</i>
Kathleen Theoharides	Cheatgrass data collection	<i>2011-2012</i>

*Undergraduate Student Research Advisees (29 total)*

Sarah Ayton (2014-2015), Kayla Baker (2013-2014), Amanda Bertino (2014), Tierney Bocsi (2014-2015), Brian Breen (2014), Kristyn Chin (2017-2018), Charles Cini (2010), Alex Cook (2013), Erin Duffey (2014), Devon Dunajski (2015-2016), Cecilia Frisardi (2013), Sara Gehrdes (2009-2011), Avery Guan (2015-2016), My Huynh (2017), Manan Jain (2013), Evan Johnson (2017-2018), Rebecca Johnson (2015), Beth Kazimer (2016), Nora Lehan (2012), Elizabeth Levson (2015), Ashley McElhinney (2016), Julia Murphy (2012), Nicole Pawell (2015-2017), Mei Rockwell-Postal (2017-2018), Raisa Rodriguez (2011), Brigid Ryan (2017), Sarah Ryan (2015), Amira Soltani (2014-2015), Lukas Thorburn (2012)

**UNIVERSITY SERVICE**

Environmental Conservation Personnel Committee	2017-2018
Search Committee, GIS lecturer, Co-chair	2015-2016
Graduate Operations Committee, OEB	2015-2016
Department Head Evaluation Committee, Chair	2014-2015
ECO First-year Graduate Student Mentoring Program, Chair	2013-present
Search Committee Member, Stockbridge Soils & Global Change Faculty	2013-2014
Admissions Committee Member, OEB graduate students	2012-2013
Undergraduate Concentration Coordinator, Env. Conservation	2011-present
Search Committee Member, OEB Darwin Postdoctoral Fellow	2011-2012
Search Committee Member, ECO Environmental Policy Faculty	2010-2011

**PROFESSIONAL SERVICE**

*Founding member:*

Northeast Regional Invasive Species & Climate Change (RISCC) Management network.

- Hosts an annual meeting to increase interactions between scientists and managers
- Provides actionable research results to practitioners

*Associate Editor:*

Ecography (2014 – present), IF: 4.8

Diversity and Distributions (2010 – 2016), IF:3.7

*Proposal reviewer:*

NSF (*ad hoc and panelist*),

NASA (*ad hoc and panelist*),

Department of Defense (*ad hoc*),

USDA (*panelist*)

*Journal reviewer:*

Ambio, Biological Conservation, Biological Invasions, Conservation Biology, Diversity and Distributions, Ecography, Ecological Modelling, Ecology, Ecology Letters, Ecosystems, Frontiers in Ecology & the Environment, Global Change Biology, Global Ecology and Biogeography, International Journal of Remote Sensing, Invasive Plant Science & Management, Journal of Applied Ecology, Journal of Biogeography, Journal of Environmental Management, Landscape Ecology, NeoBiota, New Phytologist, PNAS, Remote Sensing of Environment, Science, Weed Science, Western North American Naturalist