



Education

Ph.D. Environ. Science, University of Rhode Island (2010)

M.S. Entomology, University of Florida (2003)

B.S. Biology, University of Maine (2001)

Professional positions held

2016-Present	Program Manager/Ecologist, National Park Service, Woodstock, VT
2014-2016	Ecologist, National Park Service, Fredericksburg, VA
2014-2015	Visiting scholar, <i>Biological Sciences</i> , Dartmouth College, Hanover, NH
2011-2014	Postdoctoral Associate, <i>Biological Sciences</i> , Dartmouth College, Hanover, NH
2010-2011	Postdoctoral Fellow, <i>PSES Dept</i> , University of Idaho, Moscow, ID
2005-2010	Ph.D. Research Assistant, <i>Plant Science Dept.</i> , University of Rhode Island, Kingston, RI
2006	Biological Control Technician, CABI-Europe Delemont, Switzerland
2004-2005	Biological Science Technician, USDA-APHIS, Cape Cod, MA
2003-2004	Survey Entomologist, Waquoit Bay NERR, Falmouth, MA
2001-2003	Extension Assistant, University of Florida, Gainesville, FL
1999-2001	Research Assistant, University of Maine, Orono, ME
2000	IPM scout, Univ. of Maine Cooperative Extension, Orono, ME
1999	Entomology intern, Maine Forest Service, Augusta, ME

Peer-reviewed Publications

17. Marini, L., Økland, B., Jönsson, A. M., Bentz, B., Carroll, A., Forster, B., Grégoire, J.-C., Hurling, R., Nageleisen, L. M., Netherer, S., Ravn, H. P., Weed, A. and Schroeder, M. 2016. Climate drivers of bark beetle outbreak dynamics in Norway spruce forests. *Ecography*. doi:10.1111/ecog.02769
16. Weed, A.S., M. P. Ayres, Liebhold, A.M., and Billings, R. F. 2017. Spatio-temporal dynamics of a tree-killing beetle and its predator. *Ecography*.40: 221-234. Featured in Special Issue: *Fragmentation*
15. Weed, A.S., Elkinton, J.S., and Lany, N.K. 2016. Density-Dependent Recruitment and Diapause in the Spring-Feeding Generation of Hemlock Woolly Adelgid (Hemiptera: Adelgidae) in Western North America. *Environmental Entomology*: DOI: 10.1093/ee/nvw107.
14. Miller, K, M., Dieffenbach, F., Campbell, J.P., Cass, W. C., Comiskey, J.A., Matthews, E. A., McGill, B.J., Mitchell, B. R., Perles, S. J., Sanders, S., Schmit, J.P., Smith, S., and Weed, A.S. 2016. National Parks in the eastern United States harbor important older forest structure compared with matrix forests. *Ecosphere*. DOI: 10.1002/ecs2.1404.
13. Ladin, Z., Higgs, C., Schmit, J.P., Sander, G., Johnson, M.J., Weed, A.S., et al. 2016. Using regional bird community dynamics to evaluate ecological integrity within national parks. *Ecosphere*. DOI: 10.1002/ecs2.1464.
12. Kolb, T.E., Fettig, C. J., Bentz, B.J., Stewart, J. E., Weed, A.S., Hicke, J.A., Ayres, M.P. 2016. Observed and anticipated impacts of drought on forests insects and diseases in the United States. *Forest Ecology and Management*. DOI: 10.1016/j.foreco.2016.04.051.



11. Weed, A.S., Bentz, B.J., M. P. Ayres, and Holmes, T. P. 2015. Geographically variable response of *Dendroctonus ponderosae* to winter warming in the western United States. *Landscape Ecology*. 30:1075-1093.
10. Young, J., Weed, A.S. 2014. *Hypena opulenta* (Erebidae): a European species for the biological control of invasive swallow-worts (*Vincetoxicum* spp.) in North America. *Journal of the Lepidopterist's Society* 68:162–166.
9. Weed, A.S., Schwarzlaender, M. 2014. Density-dependence, precipitation and herbivory by a biological control agent influence landscape dynamics of the invasive plant *Linaria dalmatica*. *Journal of Applied Ecology* 51:825-834.
8. Weed, A.S., Ayres, M.P., Hicke, J.A. 2013. Consequences of climate change for biotic disturbances in North American forests. *Ecological Monographs* 84: 441-470.
7. Hazelhurst, A.M., Weed A.S., Tewksbury, L., Casagrande R.A. 2012. Host Specificity of *Hypena opulenta*; a Potential Biological Control Agent of *Vincetoxicum* in North America. *Environmental Entomology* 41: 841-848.
6. Weed A.S., Casagrande, R.A. 2011. Evaluation of host range and larval feeding impact of *Chrysolina aurichalcea asclepiadis* (Villa): considerations for biological control of *Vincetoxicum* in North America. *Environmental Entomology*. 40(6): 1427-1436.
5. Weed, A.S., Gassmann, A. Casagrande, R.A. 2011. Effects of leaf and root herbivory by potential insect biological control agents on the performance of invasive *Vincetoxicum* spp. *Biological Control* 56: 50-58.
4. Weed, A.S., Casagrande, R.A., A. Gassmann, and A. Leroux. 2011. Performance of potential European biological control agents of *Vincetoxicum* spp. with notes on their distribution. *Journal of Applied Entomology* 135(9): 700-713.
3. Weed, A.S. 2010. Benefits of larval group feeding by *Chrysolina a. asclepiadis* on *Vincetoxicum*: improved host location or feeding facilitation? *Entomologia Experimentalis et Applicata* 137: 220-228.
2. Weed, A.S., Casagrande, R.A. 2010. Biology and larval feeding impact of *Hypena opulenta* (Christoph) (Lepidoptera: Noctuidae): a potential biological control agent for *Vincetoxicum nigrum* and *V. rossicum*. *Biological Control* 53: 214-222.
1. Weed, A.S., Frank, J.H. 2005. Oviposition behavior of *Pheropsophus aequinoctialis* L. (Coleoptera: Carabidae): a natural enemy of *Scapteriscus* mole crickets (Orthoptera: Gryllotalpidae). *Journal of Insect Behavior* 15: 707-723.

Book Chapters and Technical Reports

5. Kolb, T.E., Fetting, C.J., Bentz, B.J., Stewart, J.E., Weed, A.S., Hicke, J.A., Ayres, M.P. 2015. Chapter 6. Insects and Pathogens. National Drought Synthesis: a comprehensive science synthesis for the U.S. forest sector. USFS Gen. Tech. Report.
4. Weed, A.S, Ayres, M.P, and Bentz, B.J. 2015. Population dynamics of bark beetles. pp. 157-176, *In Bark Beetles: Biology and Ecology of Native and Invasive species*, F.E. Vega and R.W. Hofstetter (eds.). Elsevier.
3. Ayres, M.P., Hicke, J.A., Kerns, B.K., McKenzie, D., Littell, J.S., Band, L.E., Luce, C.H., Weed, A.S., and Raymond, C.L. 2014. Chapter 4: Disturbance Regimes and Stressors, *In Climate Change and United States Forests, Advances in Global Change Research*, D.L. Peterson et al. (eds.) , pp. 55-92 Springer.
2. Ayres, M.P., Hicke, J. A. and A.S. Weed. 2012. Section 3.3.3. Insect and Diseases. *In Section 2. Effects of variability and change on forest ecosystems: a comprehensive science synthesis for the U.S. forest sector*. Vose, James M.; Peterson, David L.; Patel-Weyand, Toral (eds.) Gen. Tech. Rep. PNW-GTR-870. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 265 p.



1. Bouchier, R.S., Weed, A.S., R. Casagrande, A. Gassmann, S. Smith, and N. Cappuccino. 2013. *Vincetoxicum nigrum* (L.) Moench, *V. rossicum* (Kleopow) Barbar., *dog strangling vine* (Asclepiadaceae). pp. 402-407, In Biological Control Programmes in Canada 2001-2012, P. Mason and D. Gillespie (eds.). CABI Publishing, UK.

Media Coverage of Research

13. Summitry Count Voice, [Warming temps not the only factor in beetle outbreaks](#) (April 6, 2015)
12. ScienceBlogs, [“Pine Beetle-Caused Forest Death, And Climate Change”](#) (March 30, 2015)
11. DesertNews, [“Warming winters not sole culprit for bark beetle epidemic”](#) (March 30, 2015)
10. Yale- Environment 360, [“Warming winters not main cause of pine beetle outbreaks, study says”](#) (March 30, 2015)
9. USDA USFS South Research Station CompassLive: [“Rising Temperatures Permit Expansion of Southern Pine Beetle Into New Jersey”](#) (Tuesday Jan. 7 2014)
8. On air live interview with [WNYC Brian Leher](#) (Tuesday Dec. 3 2013)
7. Front page of NY Times: [“In New Jersey Pines, Trouble Arrives on Six Legs”](#), (Sunday Dec. 1, 2013)
6. Washington Post: [“Climate change affecting North American forests, researchers find”](#) (Tuesday, Oct. 15, 2013)
5. ClimateWire: “Disease, insect threats linked to climate change more dramatic than expected” (Thursday, Oct. 17, 2013)
4. Science Daily: [“Climate Change Creates Complicated Consequences for North America's Forests”](#) (Oct. 15 2013)
3. Dartmouth D: “Climate change has upside, prof. finds” (Friday Oct. 18, 2013)
2. Ottawa Citizen: “Agriculture Canada releases moth to eat invasive ‘dog-strangling vine’” (Tuesday, Oct. 1 2013)
1. Providence Journal” “At URI, it takes a Weed to attack a weed” (Sunday Sept. 29, 2013)

Electronic Publications

1. Frank, J.H., Fasulo, T.R., Short, D.E., **Weed, A.S.** 2010. MCRICKET: Alternative methods of mole cricket control. IFAS, University of Florida, Computer Series SW-089, A CD-ROM. (<http://entnemdept.ufl.edu/fasulo/molecrickets>)
2. Weed, A.S., Fasulo, T.R. 2003. Enemies of Mole Crickets Computer Tutorial. UF/IFAS Bug Tutorials. SW-170. A CD-ROM.
3. Weed A.S., Fasulo, T.R. 2003. Mole Crickets Computer Tutorial. UF/IFAS Bug Tutorials. SW- 168. A CD-ROM.

Non peer-reviewed articles and reports

1. Weed, A.S. 2010. Biology and ecology of European natural enemies of swallow-worts (*Vincetoxicum*) and the potential for biological control. PhD dissertation, Dept. Plant Sciences, University of Rhode Island, 196 pp.
2. Weed, A.S. 2005. Comparison of aboveground arthropod diversity within pitch pine and scrub oak barrens habitats on Nantucket Island with emphasis on the beetle fauna. Report submitted to Nantucket Biodiversity Survey, 52 pp.
3. Weed, A.S. and Mello, M. 2005. Summary report of pitfall trapping studies conducted on Nantucket Island in 2004 and 2005. Report prepared for the Nantucket Land Council, 24 pp.
4. Weed, A.S. 2003. A survey of benthic macroinvertebrates of the coastal, low gradient freshwater streams of Cape Cod. Monitoring stream habitat condition and the effects of long-term restoration activities. Waquoit Bay National Estuarine Research Reserve, Falmouth, MA. Technical Report, 31 p.



5. Weed, A.S. 2003. Reproductive strategy of *Pheropsophus aequinoctialis* L.: Fecundity, fertility, oviposition behavior; and influence of mole cricket egg chamber depth on larval survival. MS thesis, University of Florida, Gainesville, FL. 65 p.

Grantsmanship

- 2014 HWA population dynamics, USDA Forest Service – **Funded \$145,000**
2013 Fire-bark beetle dynamics, USDA Forest Service – **Funded \$85,000**
2013 Swallow-wort biological control, USDA Cooperative Agreement- **Funded \$90,000**
2012 Swallow-wort biological control, Northeastern Regional IPM Program –**Funded \$30,000**
2011 Biological control across landscapes, USDA NRI- University of Idaho- not funded
2009 Swallow-wort biological control, Northeastern Regional IPM Program-**Funded \$25,000**
2008 Swallow-wort biological control, Northeastern Regional IPM Program –**Funded \$50,000**
Swallow-wort biological control, USDA Cooperative Agreement- **Funded \$20,000**

Invited Seminars

- 2016 Cold Regions Research lab, Army Corp., Hanover, NH
2014 University of New Hampshire's Biology Seminar Series, Durham, NH
Eastern Branch of the Entomological Society of America, Williamsburg, VA
2013 Dept. of Envir. Science, College at Brockport, SUNY, Brockport, NY
University of Georgia, Entomology Department, Athens, GA
Pacific Branch of the Entomological Society of America, Stateline, NV
Department of Plant and Soil Sciences, University of Vermont
2012 USDA-Interagency Research Forum on Invasive Species, Annapolis, MD.
2011 Idaho Weed Conference, Boise, ID.
Clearwater Management Weed Clinic, Orofino and Lewiston, ID.
2010 Northern Rockies Invasive Plant Council conference.
2009 Cambridge Entomology Society, MCZ Harvard University
USDA Interagency Research Forum on Invasive Species, Annapolis, MD.
2008 Canadian Invasive Species Symposium, Ottawa, Canada.
2007 Invasive plants on the horizon and more presented by Invasive Plant Council of New York State, Albany, NY

Specialized Skills and Training

Quantitative analysis

- Generalized linear and mixed models, uni- and multivariate techniques, non-parametric methods, time series analysis, and spatial statistics.

Modeling/Statistical Training

- 5 graduate level courses in statistics
- Occupancy Modeling course, December 2014



- Spatial statistics course, Washington State University, 2010
- ESRI geodatabase and spatial analysis online workshops
- R software workshop, McCall, Idaho, 11-12 Sept. 2010
- Time series analysis, uni- and multivariate and non-parametric statistics, population modeling, mixed effects and nonlinear modeling

Software

- Statistical: R, SAS, JMP, and MATLAB
- Spatial modeling: ArcGIS, SADIE, and BioSIM

Teaching Experience

- 2009 Instructor, *University of Rhode Island*. Course: Introductory Entomology laboratory
- 2007-2008 Lecturer, *University of Rhode Island*. Courses: Insects, Humans, and Disease and Biological Control
- 2008 Teaching Assistant, *University of Rhode Island*. Course: Introductory Plant biology
- 2002 Teaching assistant, *University of Florida*. Courses Introductory Entomology

Student research mentoring

- 2011 Tessa Scott, Senior thesis project. **Interactive effects of (*Mecinus janthiniformis*) herbivory and varying soil resource conditions on the performance of Dalmatian toadflax, (*Linaria dalmatica*)**, University of Idaho. Poster received 1st place in student competition at the Entomological Society of America's Pacific Branch meeting, Portland, OR.
- 2011 Jess Inskeep, Senior thesis project. **Explaining spatio-temporal patterns of impact to Dalmatian toadflax (*Linaria dalmatica*) by the stem-mining weevil *Mecinus janthiniformis*: Effects of host quality and attack intensity on weevil population growth**, University of Idaho. Poster received 1st place in student competition at the 2012 Entomological Society of America's annual meeting, Knoxville, TN.
- 2009 Alex Hazlehurst, **Impact of *Chrysolina a. asclepiadis* on two swallow-worts *Vincetoxicum* spp.**, University of Rhode Island.
- 2008 Kyler Sperry, **Host specificity of *Chrysolina a. asclepiadis*: a potential biocontrol agent of two swallow-worts *Vincetoxicum* spp.**, University of Rhode Island.
- 2008 Antionette Jones, **Adult preference of *Chrysolina a. asclepiadis*: a biological control candidate of swallow-worts (*Vincetoxicum*)**
- 2008 Lauren Paetznick, **Mass-gain of *Hypena opulenta* on swallow-worts**, University of Rhode Island.
- 2007 Ali Traver, **Development of *Hypena opulenta* (Lepidoptera: Noctuidae) on two swallow-worts *Vincetoxicum* spp.**, University of Rhode Island. Poster received 1st place in student poster competition at the Entomological Society of America's Eastern Branch meeting, Harrisburg, PA

Recent First Author Meeting Presentations

- 2015 IUFRO, Bariloche, Argentina. *Spatio-temporal dynamics of southern pine beetle *Dendroctonus frontalis* and its predator *Thanasimus dubius*.*



- 2015 USDA-Interagency Research Forum on Invasive Species, Annapolis, MD. *Effects of host resistance and predation on the population dynamics of the hemlock wooly adelgid in the western US.*
- 2013 Entomological Society of America's Annual Meeting, Austin, TX. *Geographic variation the population dynamics of the southern pine beetle and its clerid predator.*
IUFRO, Banff, Canada. *Comparative analysis of climate on forest insect population dynamics.*
Pacific Branch of the Entomological Society of America, *Density-dependence, precipitation and herbivory by a biological control agent influence landscape dynamics of the invasive plant Linaria dalmatica.*
- 2012 Entomological Society of America's Annual Meeting, Knoxville, TN. *Consequences of climate change for biotic disturbances in North American forests.*
- 2011 Entomological Society of America's Annual Meeting, Reno, NV. *Spatial dynamics of Dalmatian toadflax (Linaria dalmatica) and attack by the stem-mining weevil Mecinus janthiniformis*
Pacific Branch of the Entomological Society of America meeting, Waikoloa, HI. *Evaluating statewide biological control using Standardized Idaho Monitoring Protocol (SIMP): A case study of Dalmatian toadflax.*
- 2009 Entomological Society of America's Annual Meeting, Indianapolis, IN. *Biology and host specificity of Eumolpus asclepiadeus: a potential biological control agent of Vincetoxicum.*
- 2008 Joint meeting of the Ontario and Canadian Entomological Societies, Ottawa, Canada. *Biology and host specificity of four biological control agents of Vincetoxicum.*

Recent Meeting Posters

- 2012 Explaining spatio-temporal patterns of impact to Dalmatian toadflax (*Linaria dalmatica*) by the stem-mining weevil *Mecinus janthiniformis*: Effects of host quality and attack intensity on weevil population growth. J. Inskeep, A. S. Weed et al. Annual Meeting of the Entomological Society of America, Knoxville, TN.
- 2011 Release of *Hypena opulenta* and *Abrostola asclepiadis* against *Vincetoxicum* spp. Richard Casagrande, A. Hazlehurst. September ISBCW, Hawaii.
Evaluating the potential for biological control of swallow-worts (*Vincetoxicum nigrum* and *V. rossicum*) in eastern North America. André Gassmann, Aaron Weed, Lisa Tewksbury et al., September 2012. ISBCW, Hawaii.
- 2010 Spatial dynamics of Dalmatian toadflax (*Linaria dalmatica*) and the stem-mining weevil *Mecinus janthinus* in the Northwestern United States. Biological Control for Nature, North Hampton, MA. 3-7 Oct.

Recent Field Experience

- 2015 Forest vegetation monitoring in Eastern National Parks.
- 2014 Mt. Baker and Snoqualmie National Forests. Studying adelgid population dynamics.
- 2012 Santa Rosa, Costa Rica. Sampling *Ficus* spp. distribution.
- 2012 NJ pinelands, NJ USA. Collecting material to conduct physiological experiments of the southern pine beetle, *Dendroctonus frontalis*.
- 2010 - 2011 Range and forested lands of the Pacific NW, USA. Studying the invasion ecology of invasive plants and their herbivores introduced as biocontrol agents.
- 2005-2009 Eastern, Central, and Western Europe and coastal New England, USA. Studying the ecology of invasive plants (swallow-worts) in their native and invasive ranges and the ecology of their coevolved herbivores.



2004-2005 Michigan, Massachusetts, and New Jersey. Felling trees and collecting specimens to support wood boring beetle control programs.

2003 Cape Cod, MA USA. Aquatic invertebrate sampling to assess stream health.

Awards

2008 and 2009 - URI graduate assistants travel award, University of Rhode Island

2007 - Cedric C Jennings Scholarship, University of Rhode Island

- URI graduate assistants travel award, University of Rhode Island

2001 - Entomology award, University of Maine

Service

Organized scientific symposia:

2014 “Consequences of changing trophic interactions on forest insect population dynamics” at 2014 IUFRO World Congress, Salt Lake City, UT USA, Oct 5-11.

2012 “Linkages Between Climate Change And Global Insect Pestilence: From Theory to Practice”, at the 2012 Entomological Society of America’s annual meeting in Knoxville, TN, from 11-14 November.

Referee for: Agricultural and Forest Entomology, Biological Control, Biological Reviews, Biocontrol and Science Technology, Canadian Journal of Botany, Ecology, Ecological Applications, Entomologia Experimentalis et Applicata, Environmental Entomology, Forest Ecology and Management, International Journal of Pest Management, Journal of Applied Ecology, Journal of Insect Science, and Pest Management Science

Professional Memberships

AAAS, Ecological Society of America, Entomological Society of America, International Union of Forest Research Organization