



City of Concord, New Hampshire

Mayor Jim Bouley

TO: Members of City Council

FROM: Mayor Bouley

DATE: December 1, 2021

RE: Energy & Environment Advisory Committee Appointment

I propose the appointment of the following individual to the Energy & Environment Advisory Committee for a three-year term expiring December 31, 2024.

- Jeffrey A. Evans, 16 Merrimack Street, Concord. Mr. Evans' resume is attached.

In accordance with Section 18 of the City Council Rules, this proposed appointment is being distributed to City Council as information in advance of formal action at the December 13, 2021 City Council meeting. Accordingly, I ask for suspension of the rules so that this nomination may be affirmed at the December 13, 2021 City Council meeting.

Jeffrey A. Evans

16 Merrimack St • Concord, New Hampshire 03301
(617) 548-7481 • jeff@jeffrejevans.org

CURRICULUM VITAE

PRESENT POSITION

Ecologist and Owner Farmscape Analytics, LLC. Specializing in ecological simulation and statistical modeling for natural and agricultural systems. *2017-Present*
Trustee Five Rivers Conservation Trust, *2021-Present*
Lands Committee Member

EDUCATION

Postdoctoral Ecologist USDA-ARS Global Change and Photosynthesis Research Unit, Urbana, Illinois, *2013-2017 (advisor Adam Davis)*
Postdoctoral Fellow Howard Hughes Medical Institute Postdoctoral Fellow in the Life Sciences, Dartmouth College, *2009-2011 (Rebecca Irwin)*
Ph.D. Ecology, Evolutionary Biology & Behavior, Entomology, dual degree Michigan State University, *2006-2009 (Doug Landis & Doug Schemske)*
Organization for Tropical Studies, tropical ecology intensive course, *2007*
M.S. Entomology, Michigan State University, *2003-2006 (Doug Landis)*
B.A. Biology (with honors), Hamilton College, Clinton, NY, *1995-1999*
Sea Semester Marine science study abroad program, Woods Hole, MA, *1998*

POSITIONS HELD & PROJECTS

2020-2021 Collaborator and Analyst, “Automated net return mapping: Using inexpensive technology for maximizing profit of small-scale farms.” NESARE Grant at University of Maine (*Eric Gallandt & Johnny Sanchez, PIs*). *Via Farmscapes*
2017-2019 Data Analyst and Modeler, UDSA Area-wide project. *Via Farmscapes*.
2012-2013 Statistical Analyst and Human Factors Researcher, Electron Paramagnetic Resonance Center, Department of Radiology, Geisel School of Medical at Dartmouth College
2012 Lecturer, Visiting Scholar, Department of Biological Sciences, Dartmouth College
2001-2003 Research Assistant, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA (*Charles Hopkinson, PI*)
2001 Research Assistant, Woods Hole Oceanographic Institution (*John Dacey, PI*)
1999-2000 Environmental Educator and Wilderness Trip Leader, Chewonki Foundation, Wiscasset, ME

COMPETITIVE GRANTS AND FELLOWSHIPS

2009-2011 Howard Hughes Medical Institute Postdoctoral Fellowship in the Life Sciences, Dartmouth College

Jeffrey A. Evans

2009	EPA Science to Achieve Results (STAR) Fellowship for Graduate Environmental Study, U.S. Environmental Protection Agency (\$111,000)
2007-2009	Hutson Research Fellowship, Michigan State University, "Distribution and Diversity of Invasive Plants in Tropical Forests" (\$1500)
2003-2005	Plant Sciences Fellowship, Michigan State University (\$51,804)
1998	Bristol-Myers Squibb Research Fellowship, Hamilton College (\$3000)
1998	Dean's Award Merit Scholarship, Sea Education Association (\$5000)

COMPUTATIONAL EXPERIENCE

Languages	Principal: MATLAB, R, SAS; Some: ArcGIS
Skills	Parallel and vectorized coding, Numeric simulation modeling, Matrix model analysis, Statistical consulting, Graphics production, MS Office Suite

PEER-REVIEWED PUBLICATIONS

<i>In Review</i>	L. M. Schwartz-Lazarol, L. S. Shergill, J. A. Evans , M. V. Bagavathiannan, S. C. Beam, M. D. Bish, J. A. Bond, K. W. Bradley, W. S. Curran, A. S. Davis, W. J. Everman, M. L. Flessner, S. C. Haring, N. R. Jordan, N. E. Korres, J. L. Lindquist, J. K. Norsworthy, T. L. Sanders, L. E. Steckel, M. J. VanGessel, B. Young, and S. B. Mirsky. Seed shattering phenology at soybean harvest of economically important weeds in multiple regions of the United States. Part 3: Drivers of seed shatter. <i>Weed Science</i>
2021	Blossey, B., V. Nuzzo, A. Davalos, M. Mayer, R. Dunbar, D. A. Landis, J. A. Evans , and B. Minter. 2021. Residence time determines invasiveness and performance of garlic mustard (<i>Alliaria petiolata</i>) in North America. <i>Ecology Letters</i> 24:327-336. https://doi.org/10.1111/ele.13649
2021	Schwartz-Lazarol, L. M., L. S. Shergill, J. A. Evans , M. V. Bagavathiannan, S. C. Beam, M. D. Bish, J. A. Bond, K. W. Bradley, W. S. Curran, A. S. Davis, W. J. Everman, M. L. Flessner, S. C. Haring, N. R. Jordan, N. E. Korres, J. L. Lindquist, J. K. Norsworthy, T. L. Sanders, L. E. Steckel, M. J. VanGessel, B. Young, and S. B. Mirsky. 2020. Seed-shattering phenology at soybean harvest of economically important weeds in multiple regions of the United States. Part 1: Broadleaf species. <i>Weed Science</i> 69:95-103.
2021	Schwartz-Lazarol, L. M., L. S. Shergill, J. A. Evans , M. V. Bagavathiannan, S. C. Beam, M. D. Bish, J. A. Bond, K. W. Bradley, W. S. Curran, A. S. Davis, W. J. Everman, M. L. Flessner, S. C. Haring, N. R. Jordan, N. E. Korres, J. L. Lindquist, J. K. Norsworthy, T. L. Sanders, L. E. Steckel, M. J. VanGessel, B. Young, and S. B. Mirsky. 2020. Seed-shattering phenology at soybean harvest of economically important weeds in multiple regions of the United States. Part 2: Grass species. <i>Weed Science</i> 69:104-110.
2019	Bagavathiannan, M. V., S. Graham, Z. Ma, J. N. Barney, S. R. Coutts, A. L. Caicedo, R. De Clerck-Floate, N. M. West, L. Blank, A. L. Metcalf, M. Lacoste, C. R. Moreno, J. A. Evans , I. Burke, and H. Beckie. 2019. Considering weed management as a social dilemma bridges individual and collective interests. <i>Nature Plants</i> 5:343-351.
2018	Evans, J.A. , A. Williams, A.G. Hager, S.B. Mirsky, P.J. Tranel, and A.S. Davis. Confronting herbicide resistance with cooperative management. <i>Pest</i>

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- Management Science. Published online June 3, 2018.
<https://doi.org/10.1002/ps.5105>
- 2016 **Evans, J. A.**, Lankau, R.A., Davis, A.S., Raghu, S., and D.A. Landis. Soil-mediated eco-evolutionary feedbacks in the invasive plant *Alliaria petiolata*. *Functional Ecology*. 30: 1053:1062. Special feature: Ecosystems, evolution and plant-soil feedbacks. [doi: <http://dx.doi.org/10.1111/1365-2435.12685>].
- 2016 Endres, A.B., N.M. West, **J.A. Evans**, and L.R. Schlessinger. 2016. Data driven weed management: tracking herbicide resistance at the landscape scale. In: Kraska, J., Honaker, B., Macy, M., Spencer-Kuhlmann, L., Williams, N., Mantell, S., Harris, T., Hemme, M., editors. *Agricultural Law Symposium, Plowing New Ground: The Intersection of Technology and Agricultural Law*. Little Rock, AR: University of Arkansas at Little Rock Law Review. 39:425-436.
- 2015 **Evans, J. A.**, P. J. Tranel, A. G. Hager, B. Schutte, C. Wu, L. A. Chatham, and A. S. Davis. 2015. Managing the evolution of herbicide resistance. *Pest Management Science*. Published online 05/11/2015. (Editor's Choice on web) [<http://dx.doi.org/10.1002/ps.4009>]
- 2012 **Evans, J.A.**, Davis, A.S., Ragavendran, A., Raghu, S., Landis, D.A., and D.W. Schemske. 2012. The importance of space, time and stochasticity to the demography and management of *Alliaria petiolata*. *Ecological Applications*. 22: 1497-1511 [doi:<http://dx.doi.org/10.1890/11-1291.1>]
- 2011 Siepielski, A.M., DiBattista, J.D., **Evans, J.A.**, and S.M. Carlson 2011. Differences in temporal dynamics of phenotypic selection among fitness components in the wild. *Proceedings of the Royal Society B* 278: 1572-1580
- 2011 **Evans, J.A.** and A.S. Davis. 2011. Consequences of parameterization and structure of applied demographic models: a comment on Pardini et al. (2009). *Ecological Applications* 21: 608-613
- 2007 **Evans, J.A.** and D.A. Landis. 2007. Pre-release monitoring of *Alliaria petiolata* (Garlic Mustard) invasions and the impacts of extant natural enemies in southern Michigan forests. *Biological Control* 42: 300-307

INVITED PRESENTATIONS AND ABSTRACTS AT SYMPOSIA, CONFERENCES, AND SEMINARS

- 2019 **Evans, J.A.**, A.S. Davis, and S.B. Mirsky. Addressing longterm integrated weed management decisions through modeling. Weed Science Society of America Annual meeting, New Orleans, LA (invited oral paper).
- 2011 **Evans, J.A.** Invasions in the 21st century: How population ecology helps us understand and manage invasive species. Hamilton College, Clinton, NY. (invited seminar)
- 2010 **Evans, J.A.**, Davis, A., Raghu, S., Landis, D.A., and D.W. Schemske. Variable demographic rates in an invasive plant species: Differences among populations and management implications. Ecological Society of America Annual Meeting, Pittsburg, PA. (invited oral paper).

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- 2005 **Evans, J.A.**, D.A. Landis and D.W. Schemske. 2005. Pre-release monitoring of garlic mustard in Michigan. Pages 24-29 in L. C. Skinner, editor. Symposium on the biology, ecology, and management of garlic mustard (*Alliaria petiolata*) and European buckthorn (*Rhamnus cathartica*). USDA Forest Service, University of Minnesota, St. Paul, MN

TEACHING

Undergraduate Mentoring

- Dartmouth Robin Costello (2011-2013), Effects of five invasive plant species on mycorrhizal colonization of competitors. With Rebecca Irwin.
Larry Bowman (2010), Demography of *Linaria vulgaris*. With Rebecca Irwin.

Instructor

- Win. 2012 Quantitative Ecological Methods (BIO 140, Graduate Biostatistics Course), Dartmouth College
Spr. 2011 Invasive Species, Society, and the Environment (BIO 07, First-Year Writing Seminar), Dartmouth College
Fall 2009 Ecology (BIO 16, Co-taught with Rebecca Irwin), Dartmouth College

Experiential Education

- 2003-2006 The Bug House, Department of Entomology, Michigan State University
1999-2000 Environmental Educator and Wilderness Trip Leader, The Chewonki Foundation, Wiscasset, ME
- Natural history and team-building residential programs for students
 - Led twenty-day coastal wilderness sailing expeditions for teenagers

OUTREACH AND EXTENSION PRESENTATIONS (*SELECTED ENTRIES OF 15 TOTAL*)

- 2014 What's the big problem with garlic mustard? Invasions, ecology, and control. Sponsored by the Biodiversity Committee of the Hanover Conservation Commission. Howe Public Library, Hanover, NH, *April 24, 2014* Also presented elsewhere in 2011 and 2013.
- 2012 Garlic mustard: Why is this plant invasive, and what to do about it? Presentation and field trip for 7th grade science classes. Hanover Middle School, Hanover, NH, *April 23, 2012*.
- 2010 Garlic mustard biology and research in Michigan. The Stewardship Network, MI. Webcast, *April 14, 2010*.
- 2008 Garlic mustard identification and control. Interviewed in outreach video by Barbara Lucas. <https://vimeo.com/2855779>.
- 2007 **Evans, J.A.** Update on garlic mustard biological control. Crop Advisory Team Alert. Michigan State University Extension IPM Program 22(6): 1-2. (printed extension publication).
- 2006 Research update on garlic mustard (*Alliaria petiolata*) biological control. Michigan Invasive Plants Council session at Michigan Lakes and Stream Associations Conference, Big Rapids, MI. *April 2006*.

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- 2005 Invasive species and biological control: Managing garlic mustard in Michigan. Michigan Invasive Species Task Force's Invasive Species Awareness Day. Fernwood Botanic Garden, Niles, MI. *April, 2005.*
- 2005 Monitoring garlic mustard in Michigan. Biology, Ecology and Management of Garlic Mustard and European Buckthorn Workshop. University of Minnesota, St. Paul, MN. *March, 2005.*

CONTRIBUTED PRESENTATIONS (*SELECTED ENTRIES, OF 16 TOTAL*)

- 2016 **Evans, J.A.**, A.S. Davis, P. Tranel, A.G. Hager. Coordinating weed management decisions across landscapes: Impacts on the spread of herbicide resistance traits. Weed Science Society of America 56th meeting and Southern Weed Science Society 69th meeting, San Juan, PR, *February 8-11, 2016.*
- 2012 **Evans, J.A.**, and R.E. Irwin. Diversity-invasibility relationships reverse along productivity and diversity gradients at multiple spatial scales. Ecological Society of America 97th Annual Meeting, Portland, OR. (oral paper)
- 2008 Davis, A.S., Landis, D.A., Schemske, D.W., **Evans, J.A.**, and S. Raghu. Matrix population models inform *Alliaria petiolata* biocontrol agent selection. The Stewardship Network Conference 2008. Kellogg Center, MSU, East Lansing, MI. *January 25-26, 2008.*
- 2007 **Evans, J.A.**, A.S. Davis, D.A. Landis and D.W. Schemske. Estimating functional nonlinearity in *Alliaria petiolata* demographic rates. Ecological Society of America 92nd Annual Meeting and Society for Ecological Restoration 18th International Conference. San Jose, CA. *August 7, 2007.*
- 2006 **Evans, J.A.**, D.A. Landis and D.W. Schemske. From "the rich get richer" to biotic resistance: variable relationships between diversity and invasibility. Ecological Society of America Annual Meeting. Memphis, TN. *August 7, 2006.* (poster)
- 2005 Landis, D.A., A.S. Davis, D.W. Schemske and **J.A. Evans**. Matrix population models to inform *A. petiolata* biocontrol agent selection. USDA – NSF – EPA Invasive Species PI Meeting, USDA - National Research Initiative Section 51.9 – Biology of Weedy and Invasive Plants. Washington, D.C. *Oct. 17-18 2005.* (poster)
- 2004 **Evans, J.A.** and D.A. Landis. Evaluating the potential for biological control of garlic mustard in Michigan. Annual Meeting of the Entomological Society of America. Salt Lake City, Utah. *November 2004.* (poster)

PROFESSIONAL SERVICE

Ad Hoc Grant Proposal Reviewer

National Science Foundation

Competitive Grant Review Panelist

USDA (2013)

Ad Hoc Reviewer for Refereed Journals (number of manuscripts reviewed in parentheses)

American Naturalist (2)

Biological Invasions (1)

Basic and Applied Ecology (1)

Ecosphere (1)

Ecological Applications (1)

Ecology (1)

Ecology Letters (2)

Frontiers in Ecology and the Environment (2)

Great Lakes Entomologist (1)

Journal of Applied Ecology (3)

Natural Areas Journal (1)

Pest Management Science (4)

Theoretical Ecology (2)

Weed Science (1)

ACADEMIC SERVICE

2006-2007 Ecology, Evolutionary Biology and Behavior Graduate Colloquium Student
Co-President, Michigan State University

2005-2006 Ecology, Evolutionary Biology and Behavior Graduate Colloquium Student
Treasurer, Michigan State University

2003-2009 Graduate and Undergraduate Entomological Student Society, Michigan State
University