CURRICULUM VITAE

NAME John C. Moore **DATE:** 8/25

POSITION Professor – Ecosystem Science and Sustainability
Colorado State University
Ft. Collins, CO 80523

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EDUCATION

Year	Degree	Institution	Area of study
1986	PhD	Colorado State University	Zoology
1996	MS	Colorado State University	Statistics
1981	MS	Michigan State University	Zoology
1978	BA	University of California, Santa Barbara	Zoology

WORK EXPERIENCE

Year	Institution	Position
2011-present	CSU Ecosystem Science and Sustainability	Professor
2006-present	CSU Natural Resource Ecology Laboratory	Sr. Research Scientist
2006-2024	CSU Natural Resource Ecology Laboratory	Director
2011-2020	CSU Ecosystem Science and Sustainability	Department Head
2020	National Science Foundation COV	Committee Member
2013-2015, 2018	National Science Foundation	Panelist
2006-2011	CSU Forest, Rangeland, & Watershed Stewardship	Professor
2007-2010	NSF ACERE	Committee Member
2001-2006	UNC MAST Institute	Director
2000-2006	UNC Frontiers of Science Institute	Director
1998-2006	UNC Math & Science Upward Bound	Director
1998-2006	UNC Department of Biological Sciences	Professor
1997-2006	Biology and Fertility of Soils	Regional Editor
2005	UNC College of Arts and Sciences	Interim Assistant Dean
1999-2002, 2005-2006	National Science Foundation	Panelist
1999-2001	UNC Center for Pre-collegiate Studies & Outreach	Director
1996-2006	Environmental Protection Agency	Panelist
2001-2003	UNC Honors Program	Director
1995-1998	UNC Math & Science Upward Bound	Science Coordinator
1995-1996	UNC Department of Biological Sciences	Co-Chair
1994-1996	National Science Foundation	Panelist
1993-1995	Soil Ecology Society	President
1993-1998	UNC Department of Biological Sciences	Associate Professor

1992	UNC Department of Biological Sciences	Acting Chairman
1991-1993	UNC Department of Biological Sciences	Assistant Professor
1991-1992	University of Colorado-Boulder	Lecturer
1990-1991	University of Northern Colorado (UNC)	Instructor
1989-1991	NREL, CSU	Research Associate
1988-1989	University of Wyoming	Instructor
1989	AB-DLO, The Netherlands	Researcher
1986-1988	CSU NREL	Post Doctoral Fellow
1985-1992	CSU Upward Bound Program	Instructor
1984-1986	CSU Department of Zoology	GTA
1984-1986	CSU NREL	Lab Technician
1982-1984	Colorado State University (CSU) NREL	GRA
1979-1980	Michigan State University	GTA

Professional Non-Academic

1993-present	Springtail Environmental Consulting Agency (SECA, Inc)	President
1982	California Department of Food and Agriculture	Agricultural Aide

HONORS AND AWARDS

2018	Distinguished International Service Award	Colorado State University
2014	University Distinguished Teaching Scholar	Colorado State University
2012	Fellow	Ecological Society of America
2012, 2015	Zhijiang Lecturing Professor	East China Normal University
2011	Eugene Odum Award for Ecology Education	Ecological Society of America
2001	Honorary Membership	Golden Key Honor Society
2000	Ten Year Service Recognition	Department of Education - TRIO
1997	Distinguished Scholar	University of Northern Colorado
1997, 1999	A&S College Scholar	University of Northern Colorado
1996	Who's Who among College Teachers	Who's Who Inc.
1994	Distinguished Research Fellow	Bodega Marine Lab, UC-Davis
1992	National Young Investigator Award	NSF, Washington D.C.
1989	IAC Fellowship	Wageningen, The Netherlands
1980	Stipend for Academic Excellence	Michigan State University
1977-78	Honor Student	University of California

AREAS OF SPECIALIZATION

Systems Ecology, Agricultural Ecosystems, Theoretical Ecology/Computer Modeling, Soil Ecology, Soil Arthropods/Systematics of Apterygota, Statistics, Ecology of Cave Ecosystems, Education and Outreach

STUDENTS

Post Doctoral Fellows

2018-2019	Dr. Guhan Dheenadayalan Sivakami, Computer Education
2012-2015	Dr. Nissa Yestness, Mathematics Education
2011- 2014	Dr. Rodney Simpson, Soil Ecology
2011-2014	Dr. Akihiro Koyama, Soil Ecology

2004-2011	Dr. Guy Beresford, Microbial Ecology
2009-2010	Dr. Shawna MacMahon, Microbial Ecology and Biology Education
2005-2006	Dr. Josephine Ebomoyi. Science Education
2005-2006	Dr. Mark Davis, Science and Mathematics Education
2003-2006	Dr. Angela Morrow, Arthropod Systematics and Biology Education
2004	Dr. Robert Wang, Biology Education
2002-2004	Dr. Marisa Chelius, Microbial Ecology and Biology Education
1997-1999	Dr. Elisabeth Andrews, Biology Education

Graduate Advisees

2018-2021	Ms. Morgan Salter, MS student, CSU GDPE
2014-2019	Ms. Yamina Pressler, Ph.D. student, CSU GDPE. – Co-Advisor with Dr. F. Cortufo
2012-2014	Ms. Kate Wilkins, Ph.D. student, CSU GDPE. – Co-Advisor with Dr. G. Bowser
2009-2012	Ms. Kate Wilkins, MS 2012, CSU GDPE. – Co-Advisor with Dr. G. Bowser
2004-2010	Mr. Rod Simpson, Ph.D. 2010, CSU GDPE.
2006-2008	Mr. Karl Wyant, MS 2008, CSU GDPE.
2001-2006	Ms. Meghan Quirk, Ph.D. 2006, UNC Biology
2000-2005	Mr. Howard Horton, MS 2005, UNC Biology
1998-2004	Ms. Heather Miller, Ph.D. 2004, UNC Biology.
2001-2004	Ms. Cynthia Pritekel, MS 2004, UNC Biology
2000-2003	Ms. Kimberly Melville, MS 2003, UNC Biology
1995-2000	Mr. Bradley Tripp, Ph.D. 2000, UNC Biology.
1998-2000	Ms. Jennifer Doles, MS 2000, UNC Biology.
1992-1997	Ms. Gina Lipari, MS 1997, UNC Biology.
1991-1997	Mr. Ben Boyer, MS 1997, UNC Biology.
1995-1998	Ms. Renee Jesser, MS 1998, UNC Biology.
1991-1995	Ms. Carol Jacobs-Carré, MS 1995, UNC Biology.

Graduate Theses

Pressler, Y. 2019. Fire disturbance belowground: untangling consequences for soil food webs and organic matter. Ph.D. Dissertation, Graduate Degree Program in Ecology, Colorado State University, Ft. Collins, CO 80523.

Wilkins, K. 2012. Effects of birdwatchers on sandhill crane (*Grus canadensis*) behavior at spring stopover sites in the San Luis Valley, Colorado Masters Thesis, Graduate Degree Program in Ecology, Colorado State University, Ft. Collins, CO 80523.

Simpson, R. 2010. Soil organic matter and aggregate dynamics in an Arctic ecosystem. Ph.D. Dissertation, Graduate Degree Program in Ecology, Colorado State University, Ft. Collins, CO 80523.

Wyant, K. 2008. Effects of soil fertilization and herbivore exclosures on the ground spider community at Toolik Lake, Alaska. Masters Thesis, Graduate Degree Program in Ecology, Colorado State University, Ft. Collins, CO 80523.

Quirk, M.H. 2006. Effects of black-tailed prairie dog (*Cynomys ludovicianus*) activity on soil foodweb structure in the shortgrass steppe of northeastern Colorado, USA. Ph.D. Dissertation. School of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Horton, H. 2005. Food webs along a natural productivity gradient within the rooms and passages of Wind Cave, South Dakota. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Pritekel, C. 2004. Impacts from invasive plant species and their control on the plant community and belowground ecosystem at Rocky Mountain National Park, USA. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Miller, H. 2004. Students' exposure and career aspirations in ecology: A study using semi-structured interviews to gain knowledge of public school students. Ph.D. Dissertation, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Melville, K. 2003. The functional response of *Folsomia candida* and its fungal prey. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Tripp, B. 2000. Food webs in saxicolous lichen communities: Relating primary productivity to species diversity in the real world. Ph.D. Dissertation, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Doles, J. 2000. A survey of soil biota in the arctic tundra and their role in mediating terrestrial nutrient cycling. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Jesser, R. 1998. Effects of productivity on species diversity and trophic structure of detritus-based food webs within sediments of Wind Cave, South Dakota. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Lipari, G. 1997. Influence of substrate type on growth and activity of certain soil micro-fungi. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Boyer, B.L. 1997. Nematode community structure and decomposition across adjacent mountain meadow ecosystems. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Jacobs-Carré, C.A. 1995. Factors influencing ecosystem differentiation between lodgepole pine and sagebrush meadow in Fox Park, Wyoming. Masters Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

Undergraduates

2018-2020	Mr. Ge Xi, Undergraduate Research, CSU Ecology
2017-2020	Mr. Felix Yepa, Undergraduate Research, CSU Ecology
2003-2006	Mr. Chris Roller, Undergraduate Research, UNC Sociology
2002-2005	Mr. Karl Wyant, Undergraduate Research, UNC Biology
2002-2005	Mr. Filberto Trejo, Undergraduate Research, UNC Sociology
2002-2004	Ms. Amanda Chapman, Undergraduate Research, UNC Biology
2002-2004	Mr. Paul Saunders, Undergraduate Research, Lewis & Clarke College
2001-2002	Mr. Sean Holliman, Undergraduate Research, UNC Biology
1998-2001	Ms. Christy Chinn, Undergraduate Research, UNC Biology
1999-2000	Ms. Erin Zamora, Undergraduate Research, UNC Biology
1999	Mr. Brent Hendrixson, Undergraduate Research, UNC Biology

1998	Ms. Laura Bonney, Undergraduate Research, UNC Biology
1998	Mr. Xaviea Bell, Undergraduate Research, UNC Biology
1998	Ms. Angie Dias, Undergraduate Research, UNC Biology
1998	Ms. Crystal Frazier, Undergraduate Research, UNC Biology
1998	Ms. Tessa Hower, Undergraduate Research, UNC Biology
1998	Ms. Jessica Segala, Undergraduate Research, UNC Biology
1998	Ms. J. Rebecca Vigil, Undergraduate Research, UNC Biology
1998	Ms. Stephanie Winters, Undergraduate Research, UNC Biology
1998	Ms. Jennifer Spensley, Undergraduate Research, UNC Biology
1997-2000	Mr. Rod Simpson, Undergraduate Research, CSU Biology
1996-2000	Ms. Jill Sipes, Undergraduate Research, UNC Biology
1997-1998	Ms. Jennifer Doles, Undergraduate Research, UNC Biology
1997	Ms. Huy Chui, Undergraduate Research, UNC Biology
1996	Ms. Angela Marloff, Undergraduate Research, UC-Boulder
1996	Mr. Ryan Fox, Undergraduate Research, UNC Biology
1996	Ms. Leslie Sprague, Undergraduate Research, UNC Biology
1996	Ms. Justine Lombardi, Undergraduate Research, UNC Biology
1995	Ms. Desa Ausmus, Undergraduate Research, UNC Biology
1995	Mr. Gregory Bostrom, Undergraduate Research, UNC Biology
1995	Mr. Jeffery Osborn, Graduate Research, UNC Biology
1994-1995	Mr. David Pastran, Undergraduate Research, UNC Biology
1994-1995	Ms. Sarah Boyd, Undergraduate Research, UNC Biology.
1994-1995	Ms. Ana Child, Undergraduate Research, UC-Davis.
1994-1995	Ms. Deanne Kelly, Undergraduate Research, UNC Biology
1994	Mr. Craig Zavorskas, Undergraduate Research, CSU/UNC Biology.
1993	Ms. Barbara Weiben, Undergraduate Research, UNC Biology.
1993	Mr. Gregory Finnoff, Undergraduate Research, UNC Biology.
1992-1993	Ms. Christy Beauprez, Undergraduate Research, UNC Biology.
1992-1993	Ms. Lynn Jones, Undergraduate Research, UNC Biology.
1992-1994	Ms. Julie Chester, Undergraduate Research, UNC Biology.
1992-1993	Ms. Elizabeth Simpson, Undergraduate Research, UNC Biology.
1992	Mr. Todd Brinker, Undergraduate Research, UNC Biology
1992	Mr. Eric Lieberknecht, Undergraduate Research, UNC Biology
1992	Ms. Kris Simmons, Undergraduate Research, UNC Biology
1991-1992	Ms. Gina Lipari, Undergraduate Research, UNC Biology.

Undergraduate Honors Theses

1. Chinn, C. 2001. Estimating microbial biomass in low-production ecosystems. Undergraduate Honors Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

2. Doles, J. 1998. Dynamics of soil organisms in apple orchards under conventional and organic management. Undergraduate Honors Thesis, Department of Biological Sciences, University of Northern Colorado, Greeley, CO 80639.

CREATIVE WORKS

1. Gunckel, K.L., A. Berkowitz, R. Boone, B. Caplan, B.A. Covitt, and J.C. Moore. 2018. Comp Hydro – Engaging students in using computational thinking. 2018 STEM for all video showcase; Transforming the Educational Landscape, http://stemforall2018.videohall.com/presentations/1283

2. Moore, J.C., J. Krumins, E. Berlow, B. Labovic, C. Lai, and G. Zaidan. 2014. Dead stuff – the secret ingredient in our food chain. Video-Animation, TED-Ed, Inc., http://ed.ted.com/lessons/dead-stuff-the-secret-ingredient-in-our-food-chain-john-c-moore

PUBLICATIONS

Theses and Dissertations

1. Moore, J.C. 1986. Micro-mesofauna dynamics and functions in dryland wheat-fallow agroecosystems. Ph.D. dissertation, Department of Zoology and Entomology, Colorado State University, Ft. Collins, CO 80523.

2. Moore, J.C. 1996. Influence of productivity and ecological efficiency on food chain length. Master's Paper, Department of Statistics, Colorado State University, Ft. Collins, CO 80523.

3. Moore, J.C. 1981. The effects of atrazine on non-target soil arthropods in no-till corn production. Master's Thesis, Department of Zoology, Michigan State University, East Lansing, MI 48823.

Books

Published/In Press

1. Woodmansee, R.G., J.C. Moore, D.S. Ojima, and L. Richards. 2021. Natural Resource Management Reimagined: Using the systems ecology paradigm. Cambridge University Press, Cambridge, UK. 441 pages.

2. Moore, J.C., P.C. de Ruiter, K.S. McCann, and V. Wolters. 2018. Adaptive Food Webs: Stability and transitions of real and model ecosystems. Cambridge University Press, Cambridge, UK. 380 pages

3. Moore, J.C., and P.C. de Ruiter. 2012. Energetic Food Webs: An analysis of real and model ecosystems. Oxford University Press, Oxford, UK 333 pages.

4. de Ruiter, P.C., V. Wolters, and J.C. Moore. 2005. Dynamic Food webs: Multispecies assemblages, ecosystem development and environmental change. Academic Press, San Diego, CA. 590 pages.

Book Chapters

In Preparation

1. Moore, J.C. (*in preparation*). Biodiversity, taxonomic verses functional. *In:* Encyclopedia of Biodiversity 3rd Edition. S. Levin (Ed.), Elsevier, Oxford.

Published/In Press

1. Moore, J.C., and N. Mueller. 2024. The application of knowledge in SMEB to the solution of todays and future societal needs. In: Soil Microbiology, Ecology, and Biogeochemistry, 5th Edition, E.A. Paul and S.D. Frey, (Eds).

2. Woodmansee, R.G., J.C. Moore, D.S. Ojima. 2021. The systems ecology paradigm. *In:* Natural Resource Management Reimagined: Using the systems ecology paradigm. Woodmansee, R.G., J.C. Moore, D.S. Ojima, and L. Richards (Eds), Cambridge University Press, Cambridge, UK, pp. 1-35.

3. Parton, W.J., S.J. Del Grosso, E.E. Campbell, M.D. Hartman, N.T. Hobbs, J.C. Moore, D.M. Swift, D.S. Schimel, D.S. Ojima, M.B. Coughenour, R.B. Boone, K. Paustian, H.W. Hunt, and R.G. Woodmansee. 2021. Five decades of modelling supporting the systems ecology paradigm. *In:* Natural Resource Management Reimagined: Using the systems ecology paradigm. Woodmansee, R.G., J.C. Moore, D.S. Ojima, and L. Richards (Eds), Cambridge University Press, Cambridge, UK, pp. 90-130.

4. Woodmansee, R.G., J.C. Moore, G. Newman, P.H. Evangelista, and K.S. Woodmansee. 2021. Environmental Literacy: The systems ecology paradigm. *In:* Natural Resource Management Reimagined: Using the systems ecology paradigm. Woodmansee, R.G., J.C. Moore, D.S. Ojima, and L. Richards (Eds), Cambridge University Press, Cambridge, UK, pp. 335-352.

5. Hautaluoma, J., R.G. Woodmansee, N.E. Kaplan, J.C. Moore, and C.J. Woodmansee. 2021. Organizational and adiministrative challenges and innovations. *In:* Natural Resource Management Reimagined: Using the systems ecology paradigm. Woodmansee, R.G., J.C. Moore, D.S. Ojima, and L.
6. Richards (Eds), Cambridge University Press, Cambridge, UK, pp. 353-379.

7. N. van Gestel, Natalie, S., W. Andriuzzi, F.S. Chapin III, J.C. Moore, Y. Pressler, V. Salmon, T. Schuur, G. Shaver, R.T. Simpson, D. Wall. 2019. Long-term warming research in high-latitude ecosystems: Responses from polar ecosystems and implications for future climate. *In:* Ecosystem consequences of soil warming: Microbes, vegetation, fauna, and soil biogeochemistry, J. Mohan (Ed), Elsevier.

8. Moore, J.C. 2016. LTER and lessons from networked lives. *In:* Long-term ecological research: Changing the nature of scientists. M.R. Willig, and L.R. Walker (Eds.), Oxford University Press, Oxford, UK.

9. Shaver, G.R., J.A. Laundre, M.S. Bret-Harte, F. Stuart Chapin, III, A.E. Giblin, L. Gough, S.E. Hobbie, G.W. Kling, M.C. Mack, J.C. Moore, K.J. Nadelhoffer, E.B. Rastetter, and J.P. Schimel. 2014. Terrestrial Ecosystems at Toolik Lake, Alaska, *In*: The Arctic LTER Syntheses, J. Hobbie, and G.W. Kling (Eds.), Oxford University Press. Oxford, pp. 90-142.

10. Moore, J.C. 2013. Biodiversity, taxonomic verses functional. *In:* Encyclopedia of Biodiversity 2nd Edition. S. Levin (Ed.), Elsevier, Oxford, pp. 648-656.

11. Moore, J.C., and P.C. de Ruiter 2012. Soil food webs in agricultural soils. *In:* Microbial Ecology in Sustainable Agroecosystems. Cheeke, T., D.C. Coleman, and D. Wall (Eds.), Taylor and Francis, LLC, pp. 63-88.

12. Coleman, D.C., V. Gupta, and J.C. Moore 2012. Soil ecology and agroecosystem studies: A dynamic and diverse world. *In:* Microbial Ecology in Sustainable Agroecosystems. Cheeke, T., D.C. Coleman, and D. Wall (Eds.), Taylor and Francis, LLC, pp. 1-22.

13. Moore, J.C., and P.C. de Ruiter. 2012. Bottom-up Control. *In:* Sourcebook in Theoretical Ecology, A. Hastings, and L. Gross (Eds.), University of California Press, Berkeley and Los Angeles, CA, pp. 108-112.

14. de Ruiter, P.C. and J.C. Moore. 2012. Top-Down Control. *In:* Sourcebook in Theoretical Ecology, A. Hastings, and L. Gross (Eds.), University of California Press, University of California Press, Berkeley

and Los Angeles, CA, pp. 739-744.

15. Shuttlefield, J.D., M. MacGregor, J. Moore. 2012. Quantitative reasoning examples for developing ecologically literate citizens. *In:* Quantitative reasoning and mathematical modeling: A driver for STEM integrated education and teaching in context, WISDOM^{e} Monograph Vol. 2, L.L. Hatfield, and R. Mayes (Eds.), University of Wyoming College of Education, Laramie, WY, pp. 217-229.

16. Moore, J.C., J. Sipes, A.A. Whittemore-Olson, H.W. Hunt, D.W. Wall, P.C. de Ruiter, and D.C. Coleman. 2008. Trophic structure and nutrient dynamics of the belowground food web within the rhizosphere of the shortgrass steppe. *In:* The Shortgrass Steppe Ecosystem, W. Lauenroth, and I. Burke (Eds.), Oxford University Press, New York, pp. 248-269.

17. Rahm, J., W. Naughton, and J. Moore. 2008. What kinds of tools and resources are made available to students through effective guidance in a student-scientist partnership program. *In:* The transformation of learning: Advances in Cultural-Historical Activity Theory. B. van Oers, E. Elbers, R. van der Veer, and W. Wardekker (Eds.), New York: Cambridge University Press. pp. 342-357.

18. Debruyn, A.M.H., K.S. McCann, J.C. Moore, and D.R. Strong. 2007. An energetic framework for trophic control. *In:* From Energetics to Ecosystems for Trophic Control: The Dynamics and Structure of Ecological Systems. Rooney, N., K.S. McCann, D.L.G. Noakes (Eds.). Springer Press, Dordrecth, The Netherlands, pp. 65-85.

19. Moore, J.C., K. McCann, and P.C. de Ruiter. 2007. Soil rhizosphere food webs, their stability, and implications for soil processes in ecosystems, *In*: The Rhizosphere: An Ecological Perspective. Z.G. Cardon and J.L. Whitbeck (eds), Elsevier Academic Press, San Diego, CA. pp. 101-123.

20. Moore, J.C., A. Kazachkov, A.G. Anders, and C. Willis. 2006. The danger of misrepresentations in science education. *In*: Informal Learning and Public Understanding of Physics. Proceedings of the 3rd International GIREP Seminar, 5-9 September 2005, G. Planinsic, and A. Mohoric (eds.), Ljubljana, Slovenia, pp. 399-404.

21. Phillips, D.A., T.C. Fox, H. Ferris and J.C. Moore. 2006. Increases in atmospheric [CO_2] and the soil food web. *In:* Managed Ecosystems and CO_2 Case Studies, Processes and Perspectives. J. Nösberger, S. P. Long, R. J. Norby, M. Stitt, G.R. Hendrey and H. Blum (eds), Springer-Verlag, Heidelberg. Chapter 23.

22. Moore, J.C., R.T. Simpson, K.S. McCann, and P.C. de Ruiter. 2006. Food web interactions and modeling. *In:* Biodiversity in agricultural production systems. G. Benckiser and S. Schnell (eds.). Marcel Dekker, New York, pp. 385-398.

23. Moore, J.C. 2005. Variations in community architecture as stabilizing mechanisms of food webs: An Introduction to Section 1, *In:* Dynamic Food webs: Integration of patterns and dynamics. P.C. de Ruiter, V. Wolters, and J.C. Moore (eds.), Academic Press, San Diego, CA. pp. 24-26.

24. de Ruiter, P.C., and J.C. Moore. 2005. Food-web interactions. *In:* Encyclopedia of Soils in the Environment. Hatfield, J.L., Powlson, D.S., Rosenzweig, ML., C. Scow, K.M., Singer, M.J., and Sparks, D.L. (eds.), Elsevier, Oxford, UK. pp. 59-66.

25. McCann, K., M. Koen-Alonso, A. Hastings, and J.C. Moore. 2005. Tribute, *In:* Dynamic Food webs: Integration of patterns and dynamics. P.C. de Ruiter, V. Wolters, and J.C. Moore (eds.), Academic Press, San Diego, CA. pp. 24-26.

26. de Ruiter, P.C., V. Wolters, and J.C. Moore. 2005. Dynamic food webs, multispecies assemblages, ecosystem development, and environmental change. *In:* Dynamic Food webs: Integration of patterns and dynamics. P.C. de Ruiter, V. Wolters, and J.C. Moore (eds.), Academic Press, San Diego, CA., pp. 3-9.

27. Sabo, J.L., B.E. Beisner, E.L. Berlow, K. Cuddington, A. Hastings, M. Keon-Alonso, G.D. Kokkoris, K. McCann, C. Melian, and J. Moore. 2005. Population dynamics and food web structure–Predicting measurable food web properties with minimal detail and resolution. *In:* Dynamic Food webs: Integration of patterns and dynamics. P.C. de Ruiter, V. Wolters, and J.C. Moore (eds.), Academic Press, San Diego, CA., pp. 437-450.

28. de Ruiter, P.C., A. Neutel, and J.C. Moore 2005. The balance between productivity and food web structure, *In:* Biological diversity and function in soils, Usher, M.B., Hopkins, D.W., and R. Bardgett (eds.), Cambridge University Press, UK, pp. 139-153.

29. King, J.Y., D.G. Milchunas, A. R. Mosier, J. C. Moore, M. H. Quirk, J. A. Morgan, and J. R. Slusser. 2003. Initial impacts of altered UVB radiation on plant growth and decomposition in shortgrass steppe. *In:* Proceedings of SPIE – The International Society for Optical Engineering Annual Meeting, San Diego, CA., pp. 384-395.

30. de Ruiter, P.C., B. Griffiths, and J.C. Moore 2002. Biodiversity and Stability in Soil Ecosystems: Patterns, Processes and the Effects of Disturbance. *In:* Biodiversity and Ecosystem Functioning: a current synthesis. M. Loreau, S. Naeem, and P. Inchausti (eds.). Oxford University Press, Oxford, UK. pp. 102-113.

31. de Ruiter, P.C., J.C. Moore and B. Griffiths 2001. Food webs: Interactions and Redundancy in Ecosystems *In:* Assessing responses to stress in complex ecological systems, D.J. Baird and G.A. Burton Jr. (eds.) SETAC Pellston Workshop, September 1999**.**

32. Moore, J.C. 2001. Biodiversity, taxonomic verses functional. *In*: Encyclopedia of Biodiversity. S. Levin (ed.), Vol. II Academic Press, pp. 205-215.

33. Moore, J.C. and P.C. de Ruiter. 2000. Invertebrates in detrital food webs along gradients of productivity. *In:* Invertebrates as Webmasters in Ecosystems. D.C. Coleman and P.F. Hendrix (eds.), CABI Publishing, Oxford, UK, pp. 161-184.

34. Moore, J.C., and P.C. de Ruiter. 1997. Compartmentalization of resource utilization within soil ecosystems. *In:* Multitrophic Interactions in Terrestrial Systems. A. Gange and V. Brown (eds.), Blackwell Science, Oxford, pp. 375-393.

35. Moore, J.C., and P.C. de Ruiter. 1997. A food web approach to disturbance and ecosystem stability. *In:* Ecological Risk Assessment of Contaminants in Soil. N. van Straalen and H. Lokke (eds). Chapman and Hall, London, pp. 157-171.

36. de Ruiter, P.C., A. Neutel, and J.C. Moore. 1996. Soil-food web interactions and their modeling. *In:* Fauna and Soil Ecosystems: Recycling processes, nutrient fluxes, and agricultural production. G. Benckiser (ed). Marcel Dekker, Inc., New York.

37. de Ruiter, P.C., A. Neutel, and J.C. Moore. 1995. Energetics and stability in belowground food webs. *In:* Food Webs: Integration of Patterns and Dynamics. G.A. Polis and K.O. Winemiller (eds.), Chapman and Hall, New York, pp. 201-210.

38. Moore, J.C., H.W. Hunt and E.T. Elliott. 1991. Interactions between soil organisms and herbivores. *In:* Multi-trophic Level Interactions Among Microorganisms, Plants and Insects. P. Barbosa, V. Kirschik and C. Jones (eds.), John Wiley and Sons, New York, pp. 105-140.

39. Elliott, E.T., H.W. Hunt, D.E. Walter, and J.C. Moore. 1986. Microcosms, mesocosms and ecosystems: Linking the laboratory to the field. *In:* Proceedings of the IV International Symposium on Microbial Ecology, Yugoslavia. pp. 472-480.

40. Snider, R.J., J.C. Moore, and J. Subaja. 1985. Effects of paraquat and atrazine on non-target soil arthropods. *In:* A systems Approach to Conservation Tillage, Chapter 14. Symposium, Gull Lake, Michigan, 1984, pp. 146-153.

Articles

In Preparation

1. Morrison, A., J. Warburton, J.C. Moore, M. Buehler, M. Hunter-Laszlo, S. Anderson, D.J. Kast, D. Walker, R. Brinker. Two Decades of Linking Arctic Science and Education at Toolik Field Station. TBA (*in preparation*).

2. Shaver, G.R. , E.B. Rastetter, J.A. Laundre, J. Gough, J. McLaren, J.C. Moore, Y. Pressler, A. Asmus, M.S. Bret-Harte, Fortin, Ray, M.B. Machmueller, J. Schimel, M.C. Mack, Dunleavy, Parker, M. Weintraub, Griffin, F.S. Chapin, III. Changes in species composition have no effect on total biomass of Alaskan moist tundra vegetation. TBA (*in preparation*).

3. Koltz, A.M., A. Asmus, L. Gough, Y. Pressler, G. Shaver, and J.C. Moore. Aboveground and belowground invertebrate communities display parallel functional but different structural responses to an unprecedented arctic tundra wildfire. Functional Ecology (*in preparation*).

4. McCary, M.A., A. Koltz, C. Gratton, and J.C Moore. Mass animal subsidies restructure subarctic food web structure and dynamics. (*in preparation*).

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Letters

1. Ojima, D.S., D.H. Wall, J. Moore, K. Galvin, N.T. Hobbs, H.W. Hunt, K. Paustian, D. Swift, R.B. Boone, R.T. Conant, J. Klein, L. Christensen, M. Sankaran, J. Ratnam, E. Ayers, H. Stelzer, B. Simmons, C. Williams. 2006. Don't sell science short. Science 312:1470

Book Reviews

1. Moore, J.C. 1993. Review of: DeAngelis, D.L. 1992. Dynamics of Nutrient Cycling and Food Webs, Chapman and Hall, London, 270 pp., Ecology 74:966-967.

GRANTS AND CONTRACTS ***(all dollar quotes and timelines are estimates)***

Current Funding

PI on Chevron grant: Soil ecology as a pathway to success. Natural Resource Ecology Laboratory, Colorado State University. $50,000 (10/14/22-9/30/24). PI: J. Moore, Co-PI: R. Boone, G. Newman, P. Vigil.

PI on USDA grant: Microbiome science as a pathway to success. $143,000 (12/1/20-6/30/24. PI: J. Moore, Co-PI: K. Holman, E. Ryan, P. Vigil, M. Wallenstein.

PI on USDA grant: Re-visioning graduate training for the era of agricultural big data. $202,500 (3/26/20-3/25/25). PI: J. Moore, Co-PI: S. Kampf, K. Paustian, M. Ross, M. Wallenstein.

Past Funding

PI on NSF grant: Research on effects of integrating computational science and model building in water systems teaching and learning. Natural Resource Ecology Laboratory, Colorado State University, $139,731 (3/19/19-5/31/22). PI: J. Moore.

PI on NSF grant: STEM-C Comp Hydro: Integrating data, computation, and visualization for model-based water literacy. Natural Resource Ecology Laboratory, Colorado State University, $2,199,000 (10/1/15-5/31/22). PI: J. Moore, Co-PI: A. Berkowitz (CIE), B. Covitt (UMt), and K. Gunkel (UA).

PI on USDA grant: Integrative Agroecology and Sustainability Fellows Program. Natural Resource Ecology Laboratory, Colorado State University, $281,475 (10/1/16-12/31/20). PI: J. Moore, Co-PI: Arathi Seshadri.

PI on NSF grant: Pathways to Environmental Science and Sustainability, $608,000 (4/1/2014-3/31/20), PI: J. Moore, Co-PI: R. Boone, R Conant, S. Kampf, O. Felix.

PI on CSU grant: NREL PRSE: Remote sensing and carbon management initiative, $81,000 (10/1/16-6/30/18), PI: J. Moore, Co-PI: Rich Conant, Paul Evangelista, Michael Lefsky, Stephen Ogle, Dennis Ojima.

PI on USDA grant: Northern Colorado WAMS Initiative. Natural Resource Ecology Laboratory, Colorado State University, $259,000 (9/1/13-8/31/16). PI: J. Moore, Co-PI: R. Boone, R. Conant, O. Felix, S. Kamp, M Wallenstein.

PI on NSF grant: (MSP) Culturally relevant ecology, learning progressions, and environmental literacy. Natural Resource Ecology Laboratory, Colorado State University, $279,000 (10/1/12-9/31/14). PI: J. Moore Co-PI: A. Berkowitz (CIE).

PI on NSF grant: (MSP) Culturally relevant ecology, learning progressions, and environmental literacy. Natural Resource Ecology Laboratory, Colorado State University, $12,500,000 (10/1/08-9/31/14). PI: J. Moore Co-PI: C. Anderson (MSU), A. Berkowitz (CIE), R. Tschillard (Greeley District 6), A. Whitmer (GU).

PI on NASA grant: Climate Change Education. Natural Resource Ecology Laboratory, Colorado State University, $43,800 (9/1/12-8/31/14). PI: J. Moore Co-PI: R. Boone, S. Kampf.

PI on NASA grant: Climate Change Education. Natural Resource Ecology Laboratory, Colorado State University, $399,500 (9/1/10-8/31/14). PI: J. Moore Co-PI: R. Boone, L. Prihodko, M. Wallenstein.

PI on NSF grant: NSF LTER: Shortgrass Steppe Long Term Ecological Research. Natural Resource Ecology Laboratory, Colorado State University, $1,914,000 (11/1/10-10/31/13). PI: J. Moore Co-PI M. Antolin, J. Derner, N. Kaplan, E. Kelly.

PI on NSF grant: NSF LTER: Shortgrass Steppe Long Term Ecological Research. Natural Resource Ecology Laboratory, Colorado State University, $150,000 (10/1/12-1/31/14). PI: J. Moore Co-PI M. Antolin, J. Derner, N. Kaplan, E. Kelly.

PI on NSF grant: (OPP-Collaborative) A biotic awakening: How do invertebrates, microbes, and plants determine soil organic matter responses to release from nutrient limitations in arctic tundra. Natural Resource Ecology Laboratory, Colorado State University, $764,369 (9/1/09-8/31/13). PI: J. Moore and L. Gough (UTA) Co-PI: M. Wallenstein, W. Parton.

PI on USDA CSREES grant: Research opportunities in ecosystem science and environmental sustainability. Natural Resource Ecology Laboratory, Colorado State University, $234,000 (9/1/08-8/31/13). PI: J. Moore Co-PI: R. Conant, H. Steltzer, M. Wallenstein.

PI/Mentor on NSF grant: Dissertation research: Dynamics of labile organic fractions in Arctic soils. Natural Resource Ecology Laboratory, Colorado State University, $13,150 (9/1/09-8/31/11). PI: R. Simpson PI/Mentor: J. Moore.

PI on USDA CSREES grant: Summer Soil Institute: Addressing environmental challenges with current and emerging techniques. Natural Resource Ecology Laboratory, Colorado State University, $150,000 (9/1/09-8/31/13). PI: J. Moore, Co-PI: T. Borsch, F. Cotrufo, E. Kelly, M. Stromberger, M. Wallenstein, D. Wall.

PI on NSF grant: (GK-12 Track II) Graduate teaching Fellows: Human impact along the Front Range in Colorado. MAST Institute, University of Northern Colorado, $1,400,000 (4/1/05-3/31/11). PI: J. Moore Co-PI: W. Hoyt, D. Swift (CSU), C. Seemueler (Poudre R1), R. Tschillard (District 6).

PI on Colorado Department of Education grant: Shortgrass Steppe MSP: Science on the Front Range Natural Resource Ecology Laboratory, $404,000 (9/1/07-8/31/10). PI: J. Moore.

PI on CDE grant: Northern Colorado High Plains mathematics and science partnership for teachers and students, $230,808. (1/15/05-9/30/06) MAST Institute, University of Northern Colorado, PI: J. Moore Co-PI: J. Novak

PI on supplement to NSF grant: (GK-12) Graduate Teaching Fellows: Human impact along the Front Range in Colorado. UNC MAST Institute, University of Northern Colorado, $92,500. (9/1/01-12/31/05). PI: J. Moore Co-PI: W. Hoyt, W. Blubaugh, D. Swift (CSU).

PI on NSF grant to National Center for Ecological Analysis and Synthesis (NCEAS): Detritus and dynamics of populations, food webs and communities. University of Northern Colorado, Florida International University and University of California - Davis, Davis, CA., $42,400. (6/1/00-5/31/06) PI: J. Moore Co-PI: Q. Dong (FIU), D. Strong (UC-Davis).

Co-PI on NSF grant: RCN-UBE: 3dNaturalists bioblitzes, citizen science, and undergraduate learning. Natural Resource Ecology Laboratory, Colorado State University, $499,056 (9/1/16-9/31/19). PI: G. Bowser, Co-PI: D. Husic, J. Moore, A. Monfils, T. Mourad.

Co-PI on USDA CSREES grant: Training the first generation of greenhouse gas accounting professionals. Natural Resource Ecology Laboratory, Colorado State University, $246,000 (9/1/15-8/31/20). PI: R. Conant Co-PI: S. Ogle, and J. Moore.

Co-PI on USDA NIFA grant: Sustainable biofuel feedstocks from beetle-kill wood: Bioenergy alliance network of the Rockies (BANR), Crop and Soil Science, Colorado State University, $10,000,000 (9/1/13-8/31/19). PI: K. Paustian, Co-PI: F. Cotrufo, P. Evangelista, K. Mackes, J. Moore, K. Reardon.

Co-PI on NSF grant: IRES: Student-led Coupled Systems Research in the Drylands of East Africa. Natural Resource Ecology Laboratory, Colorado State University, $249,994 (10/1/15-9/31/18). PI: Co-PI: R, Boone, K. Galvin, J. Moore.

Co-PI on NSF grant: Workshop: 3dNaturalists: Using citizen science, bioblitzes and the National Park Service Centennial to promote undergraduate learning in biology. Natural Resource Ecology Laboratory, Colorado State University, $50,000 (6/1/16-5/31/17). PI: G. Bowser, Co-PI: U. Hilgert, D. Husic, J. Moore, A. Monfils.

Co-PI on USDA CSREES grant: Research opportunities in agricultural biosecurity: strengthening science and management of invasive species. Natural Resource Ecology Laboratory, Colorado State University, $234,000 (9/1/10-8/31/15). PI: S. Kumar Co-PI: C. Brown, P. Evangelista, J. Graham, J. Hanzlik, J. Moore, and T. Stohlgren.

Co-PI on NSF grant: Dry season biogeochemistry of California ecosystems. Natural Resource Ecology Laboratory, Colorado State University, $88,542 (2/1/07-1/31/11) from University of California Santa Barbara. PI: J. Schimel Co-PI: J. Moore, J. Treseder.

Co-PI on NSF grant: (DUE UBM Institutional) Towards a flexible and extendable scientific undergraduate experience (FeSCUE). Department of Mathematics, Colorado State University, $903,992 (1/1/07-12/31/14). PI: S. Tavener Co-PI: M. Antolin, D. Estep, J. Moore, C. Webb.

Co-PI on NSF grant: NSF LTER: Shortgrass Steppe Long Term Ecological Research. Department of Biology, Colorado State University, $1,640,000 (11/1/08-10/31/11). PI: M. Antolin Co-PI E. Kelly, W. Lauenroth, J. Moore, J. Morgan.

Co-PI on NSF grant: Teaching Ecosystem Complexity through Field Science Inquiry. Natural Resource Ecology Laboratory, Colorado State University ($120,000), $887,820 (6/15/06-6/14/10) to Portland State University, PI: Marion Dresner, Co-PI: A. Moldenke, A. Lugo, J. Moore.

Co-PI on NSF grant: Center for Learning and Teaching in the West. Montana State University, $9,999,000 (10/1/01-12/31/06). PI: E. Swansen Co-PI: L. Krussel, P. Kennedy, M. Cummings, J. Moore.

Co-PI on NSF-LTER grant: Long Term Ecological Research - Shortgrass Steppe. Department of Range Science and Natural Resource Ecology Laboratory, ~$3,300,000 for 6 years. Project sub-contract to UNC of $60,000 over 6 years. (10/1/02-9/31/08). PI: E. Kelly Co-PI: M. Antolin, I. Burke, W. Lauenroth, J. Moore.

Co-PI on NSF grant: MRI: Acquisition of an Atomic Force Microscope. School of Chemistry, Earth Science and Physcis. $150,000. (9/1/05-8/31/08). PI: K. Pacheco Co-PI: C. Fields, S. Mackessy, A. Morrow, and J. Moore

Co-PI on NSF grant: NUE: Developing undergraduate nanoscale experiences for the sciences (Project Dunes). MAST Institute, University of Northern Colorado.189,000. (9/1/05-8/31/07). PI: K. Pacheco, Co-PI: J. Moore, R. Schwenz, A. Morrow, G. Suites.

Co-PI on NSF grant: Biology Field Station at the Shortgrass Steppe. Colorado State University. $232,000 (9/1/05-8/31/08). PI: I. Burke, Co-PI: W. Lauenroth, J. Moore, et al.

PI (UNC) on NSF grant: Native Americans and Environmental Education. MAST Institute, University of Northern Colorado. $68,400 (8/31/04-7/31/05). PI: G. Kelly (CSU) subcontracted, Co-PI: J. Moore, L. Reinsvold, R. Wang.

PI (UNC) on NSF grant: Education in the Environment (EDEN) supplement to the SGS-LTER. MAST Institute, University of Northern Colorado. $42,500. (8/1/05-7/31/06). PI: A. Anderson (MSU), subcontracted Co-PI: A. Whitmer (UCSB), A. Berkowitz (CES), J. Moore.

PI (UNC) on NSF grant: TE: Forest science inquiry project: Forest science mentoring and research for middle and high school science education. $98,330 to UNC. (6/1/01-12/31/06). PI: M. Dresner (PSU), Subcontract to J. Moore.

PI (UNC) on NSF grant: Biocomplexity: Coupling rhizosphere biochemical cycles to plant growth under different levels of carbon dioxide. UC-Davis, $2,273,400 with $130,000 to UNC. (10/31/01-12/31/06). PI: D.A. Phillips (UCD), Subcontract to J. Moore.

PI (UNC) on NSF grant: RAMHSS supplement to the SGS-LTER: Research in prairie dog ecology. $30,000. (7/1/03-10/1/08). PI: Gene Kelly (CSU) subcontracted Co-PI: J. Moore

PI on Bohemian Foundation grant: One if by day, two if by sea, $22,000 (3/1/08-2/28/09). PI: J. Moore. Co-PI: Jim Graham.

PI on NSF grant: (GK-12) Graduate teaching Fellows: Human impact along the Front Range in Colorado. MAST Institute, University of Northern Colorado, $1,409,000 with >$300,000 in UNC matching funds. (6/1/01-6/31/05). Co-PI: W. Hoyt, W. Blubaugh, R. Mayes, D. Swift (CSU).

Co-PI on CDE grant: Northern Colorado High Plains mathematics and science partnership for teachers and students. Year 1 - $226,395. (1/15/04-12/31/04). MAST Institute, University of Northern Colorado, PI: C. Peterson, Co-PI: J. Moore, W. Hoyt, J. Novak

PI on NPS grant: Ecosystem impacts resulting from the use of herbicides. Department of Biological Sciences, University of Northern Colorado, Greeley, CO., $65,340. (8/1/00-5/31/03). PI: J. Moore, Co-PI: Neil Snow.

PI on DOE grant: Math and Science Upward Bound Program (COSMOS II). MAST Institute, University of Northern Colorado, $1,304,517 with $369,533 in UNC matching funds. (6/1/02-12/31/04). PI: J. Moore, Co-PI: R. Mayes

PI on NSF grant: RUI: Structure of a cave ecosystem. Department of Biological Sciences, University of Northern Colorado, Greeley, CO, $299,410 for 3 years with ~$13,500 in UNC matching funds. (6/1/99-12/31/02). Co-PI: E. Andrews.

Co-PI on NSF grant: RUI: Acquisition of Microscopy Equipment for Research and Research Training in Biology. $236,102. (9/1/01-8/31/04). PI: C. Peterson, Co-PI: C. Gardiner, J. Moore

PI on New Centuries Energy (NCE) Foundation grant: UNC-NCE Outreach Partnership. Center for Precollegiate Studies and Outreach, University of Northern Colorado, Greeley, CO, $20,000 for 1 year. (6/1/00-12/31/01). Co-PI: L. Purdy.

PI on Colorado Heritage Foundation award: Department of Biological Sciences, University of Northern Colorado, Greeley, CO., $14,700 for 1 year. (3/1/99-12/31/00).

Co-PI on CCHE grant: Development of on-line courses for an MA in Natural Sciences. $89,000. (3/1/03-9/30/03). PI: C. Peterson, Co-PI: J. Moore.

PI (UNC) on NSF-LTER grant: Long Term Ecological Research. - Shortgrass Steppe. Department of Range Science and Natural Resource Ecology Laboratory. $3,300,000 for 6 years. Project sub-contract to UNC of $90,000 over 6 years. (10/1/96-9/31/02). PI: I. Burke (CSU) subcontract to J. Moore.

PI (UNC) on NSF/USDA interagency grant: Long-term impact of elevated CO_2 on shortgrass steppe ecosystem dynamics and trace gas exchange. USDA/ARS, Natural Resource Ecology laboratory, Colorado State University, Ft. Collins, and Department of Biological Sciences, University of Northern Colorado, Greeley, CO., $614,935 requested with $50,000 to UNC (2/1/99-12/31/02). PI: Arvin Mosier (ARS) Co-PI: Jack Morgan (ARS), Dennis Ojima (CSU), William Parton (CSU), and D. Milchunas (CSU), subcontracted to J. Moore.

Co-PI on DOEd grant: Math and Science Upward Bound Program. UNC Arts and Science Advising Center, University of Northern Colorado, Greeley, CO. $1,088,641 with $88,126 in UNC matching funds (11/1/95-10/31/00). PI: P. Endicot, Co-PI: G. Canales, R. Mayes, E. Rennaker, J. Moore.

PI (UNC) on NSF grant: SGS-LTER: Development of schoolyard LTER. $15,000 for 1 year (7/1/03-6/30/04). PI: E. Kelly (CSU) subcontracted Co-PI: J. Moore

PI (UNC) on NSF grant: RAMHSS supplement to the SGS-LTER: An assessment of the scaling of schoolyard LTER demonstration plots. $30,000. (7/1/00-10/1/02). PI: I. Burke (CSU) subcontract to J. Moore.

PI (UNC) on NSF grant: RAMHSS supplement to the SGS-LTER: An assessment of the scaling of schoolyard LTER demonstration plots. Center for Precollegiate Studies and Outreach, University of Northern Colorado, Greeley, CO, $15,000. (6/1/00-12/31/01). PI: I. Burke (CSU) subcontract to J. Moore.

PI (UNC) on NSF grant: SGS-LTER: Development of schoolyard LTER. $15,000 for 1 year. (7/1/00-10/1/01). PI: I. Burke (CSU) subcontract to J. Moore & J. Rahm.

PI (UNC) on NSF grant: Shortgrass Steppe LTER: Development of schoolyard LTERs. Department of Biological Sciences, University of Northern Colorado, Greeley, CO., $15,000 for 1 year. (2/1/99-12/31/00). PI: I. Burke subcontracted to J. Moore & E. Andrews.

PI on NSF grant: REU supplement to RUI: Trophic structure of a cave ecosystem. Department of Biological Sciences, University of Northern Colorado, Greeley, CO $5,000. (6/1/00-12/31/01). .

PI on New Centuries Energy (NCE) Foundation grant: UNC-NCE Outreach Partnership. Center for Precollegiate Studies and Outreach, University of Northern Colorado, Greeley, CO., $20,000 for 1 year. (6/1/00-12/31/01). PI: J. Moore, Co-PI: L. Purdy

Co-PI on EXCELL Energy Foundation grant: UNC Mentor Program. $15,000 for 1 year. (6/1/01-12/31/02). PI: L. Purdy Co-PI: J. Moore

PI/Mentor to Post-Doctoral Fellow (E. Andrews): NSF Post-doctoral fellowships in Science, Mathematics, Engineering and Technology Education: Use of an integrated curriculum for overcoming negative synergies in math and science education. $104,000 with $2,500 in UNC matching funds. (9/97-12/99). PI: E. Andrews, Co-PI: J. Moore, G. Saunders.

PI (UNC) on NSF grant: RAMHSS supplement to the SGS-LTER. Department of Biological Sciences, University of Northern Colorado, Greeley, CO., $12,000 with $1,500 in UNC matching funds. (6/1/98-12/31/99). PI: I. Burke subcontracted to J. Moore.

PI/Recipient on Hewlett-Packard award: Request for Equipment. Department of Biological Sciences, University of Northern Colorado, Greeley, CO. $1,737 to purchase 3 HP digital cameras and printer. PI: J. Moore Co-PI: A. Ratcliffe.

PI on NSF award: NSF Young Investigator: Impacts of disturbance on soil food webs. Department of Biology, University of Northern Colorado, Greeley, CO. $100,000.00 for 5 years - with matching funds the award is $500,000 to year 6. (6/1/92-12/31/98). Actual award amount ~$420,000.

PI on Earthwatch grant: Student Challenge Awards Program: A study of the trophic interactions along a productivity gradient within Wind Cave. Department of Biological Sciences, University of Northern Colorado, Greeley, CO. $8,400 with $500 in UNC matching funds. (8/2/98-8/20/98). PI: J. Moore Co-PI: E. Andrews.

PI on US Park Service grant: A survey of biotic and trophic interactions within Wind Cave and Jewel Cave, South Dakota. Department of Biology, University of Northern Colorado, Greeley, CO. $56,293 with $10,000 in UNC matching funds. (6/1/92-7/31/97) PI: J. Moore Co-PI: J. Clarke.

PI on NSF grant: RUI-Experimental tests of microclimate, substrate quality, and soil properties on decomposer specificity in adjacent lodgepole pine and mountain ecosystems. Department of Biology, University of Northern Colorado, Greeley, CO. $230,000 with $30,000 in UNC matching funds. (7/15/91-12/31/95). PI: J. Moore Co-PI: R. Riensvold

PI on NSF grant: REU Supplemental funding request for DEB-92-57710. Department of Biology, University of Northern Colorado, Greeley, CO. $10,000. (6/15/97-6/15/98).

PI on NSF grant: REU Supplemental funding request for BSR-91-06972. Department of Biology, University of Northern Colorado, Greeley, CO. $4,750. (6/15/95-6/15/96).

PI on NSF grant: REU Supplemental funding request for BSR-91-06972. Department of Biology, University of Northern Colorado, Greeley, CO. $9,875. (6/15/92-6/15/93).

PI on NSF grant: REU Supplemental funding request for BSR-91-06972. Department of Biology, University of Northern Colorado, Greeley, CO. $10,000. (6/15/93-6/15/94).

PI on NSF grant: REU Supplemental funding request for BSR-91-06972. Department of Biology, University of Northern Colorado, Greeley, CO. $19,875. (6/15/94-6/15/95).

PI on Western Region Pesticide Impact Assessment Program (WRPIAP) grant: Evaluation of Turf, Insect Management Practices on Non-target Arthropods. Department of Entomology, Colorado State University, Fort Collins, CO. $16,681. (3/1/88-2/28/89). Co-PI: W. Cranshaw (CSU).

PI on UNC grant: Distribution and abundance of mycorrhizal inoculum across a lodgepole pine and meadow ecosystem ecotone. Department of Biological Sciences, University of Northern Colorado, Greeley, CO., .2 FTE graduate assistantship for 2 semesters. Co-PI: Robert Riensvold

Participant on NSF grant: Response of a temperate grassland ecosystem to climate change: Importance of biotic interactions and feedbacks. Natural Resource Ecology Laboratory, Fort Collins, CO. $2,000,000 for 5 years. 2 months salary, travel. PI. William Lauenroth Co-PI: Several others

Co-PI on NSF grant (DUE 96-53190): Campus Ecology: Experimental field sites as tools for teaching ecological principles. Department of Biological Sciences, University of Northern Colorado, Greeley, CO., ~$90,000 with $12,500 in matching funds. (6/1/97-12/31/99). PI: G. Saunders, Co-PI: J. Clarke, J. Moore

Co-PI on DOE grant: Processes of Community Development and Responses of Ecosystems to Climate Change. Department of Range Science and Department of Entomology, Colorado State University, Fort Collins, CO. ~$606,000. (6/87-6/89). 2-5 months salary, equipment, travel and technicians. PI: E. Redente, Co-PI: B. Reeves, D. Klien, A. Carpenter, J. Moore.

Co-PI on DOE grant: Coupling of Primary Producers, Detritus, Decomposer Organisms and Nitrogen Availability During Secondary Succession. Department of Range Science and Department of Entomology, Colorado State University, Fort Collins, CO. $250,000 (6/89-6/90). Postdoctoral Associate salary, travel, and equipment. PI: E. Redente, Co-PI: B.Reeves, D. Klien, A. Carpenter, J. Moore.

PI on DOE, Brookhaven National Laboratory grant: Level of Resolution in Decomposition Models Necessary to Predict Nutrient Losses in Tundra. Department of Entomology, Colorado State University, Fort Collins, CO. $19,999. (6/87-1/89). Postdoctoral Associate salary. PI: J. Moore Co-PI: H. W. Hunt

Participant on Colorado State University Western Colorado Research Center: Investigating the impact of green manures and weed mat on soil biota and tree growth in organic peach tree orchards. Western Colorado Agricultural Experiment Station, Colorado State University. $8,000 (1/1/01-12/31/02). PI: R. Zimmerman (CSU).

Participant on EPA grant: Analysis of Wet Deposition Monitoring Data: Application to Forest and Aquatic Effects Research. Natural Resource Ecology Laboratory, Fort Collins, CO. $89,000 (3/87-3/88). 6 months Postdoctoral Associate salary, programmer salary, computer monies.

Participant on NSF grant: Organic C, N, S and P Formation and loss from Great Plains Agroecosystems. Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO. $400,000. (10/86-10/87). 1 month Postdoctoral Associate salary. PI: J. Gibson

Participant on NSF grant: Organic Matter and Nutrient Cycling in Semiarid Agroecosystems.. Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO. $350,000. (7/83-7/86). Salary, technician time, computer time. PI: D. Coleman, V. Cole.

Participant on NSF grant: Carbon-Nitrogen Allocation and Utilization in a Crested Wheatgrass and Native Shortgrass Ecosystem. Department of Range Science, Colorado State University, Fort Collins, CO. $250,000. (12/84-5/86). Salary. PI: M. Trlica and E. Redente

Participant on DOE grant: Semiarid Ecosystem Development as a Function of Resource Processing and Allocation. Department of Range Science, Colorado State University, Fort Collins, CO. $385,000. (7/86-5/87). Postdoctoral Associate salary, travel monies. PI: E. Redente