

Scott E. Hygnstrom

Education

PhD Wildlife Ecology, University of Wisconsin-Madison, 1988
 MS Natural Resources-Wildlife, University of Wisconsin-Stevens Point, 1983
 BS Biology-Conservation, University of Wisconsin-River Falls, 1980

Current and Previous Positions

2000-present Professor, School of Natural Resources
 University of Nebraska-Lincoln
 1994-2000 Associate Professor, School of Natural Resource Sciences
 University of Nebraska-Lincoln
 1999 Visiting Scientist, National Wildlife Research Center
 USDA-APHIS-Wildlife Services
 1988-1994 Assistant Professor, Department of Forestry, Fisheries and Wildlife
 University of Nebraska-Lincoln
 1987 Staff Lecturer, Department of Biology
 University of Wisconsin-River Falls
 1983-1986 Wildlife Damage Program Coordinator
 Wisconsin Department of Natural Resources, University of Wisconsin-Extension

Awards

Career Award, Nebraska Chapter of The Wildlife Society, 2013
Educator of the Year, National Wildlife Control Operator Association, 2012
Holling Family Award for Excellence in Teaching, UNL Institute of Agriculture and Nat Resources, 2011
Conservation Education Award, The Wildlife Society, 2010
Award of Excellence, Northeast Extension Directors Association, 2007
Excellence in Team Programming Award, UNL-Extension, 2005, 1996(2), 1994, 1991
Professional Development Certificate, The Wildlife Society, 2003, 1992
Professor of the Month, UNL Mortar Board, The Black Masque Chapter, 2003
Charles E. Bessey Award, UNL Center for Great Plains Studies, 2002
Educational Publication Award, Soil and Water Conservation Society, 2001
Team Programming Awards, Nebraska Chapter of Epsilon Sigma Phi, 2000, 1999, 1996
Distinguished Service Award, Nebraska Cooperative Extension Association-Specialists Section, 1999
Early Career Award, Epsilon Sigma Phi, 1997
Certificates of Excellence, American Society of Agronomy, 1997, 1995
Communication Award, Berryman Institute for Wildlife Damage Management, 1996
Educational Aids Award, American Society of Horticultural Science, 1995
Outstanding New Specialist Award, Nebraska Coop Extension Association-Specialists Section, 1994
Award of Merit, Council for the Advancement of Science Education, 1993
Team Effort Award, UNL Institute of Agriculture and Natural Resources, 1991
Certified Wildlife Biologist, The Wildlife Society, 1990

Recent Grants and Contracts (2009-16)

Selected Extension Grants and Contracts

Nebraska-Extension Integrated Pest Management Coordination Program, USDA-NIFA-IPM,
 \$918,769, 2009-16, Co-PI, 8%.
Nebraska Master Naturalist Program, Nebraska Environmental Trust and Nebraska Game and Parks
 Commission, \$429,455, 2009-16, Co-PI, 50%.
Development of a Nebraska Outdoor U Program, Nebraska Game and Parks Commission, \$527,381, 2010-16,
 PI, 100%.
Development of an online community for the Nebraska Outdoor U! Program, National Shooting Sports
 Foundation, \$92,000, 2013-14, Co-PI, 25%.

National Wildlife Control Training Program, Alabama Division of Wildlife and Freshwater Fisheries, Delaware Department of Fish and Wildlife, Illinois Department of Public Health, and South Carolina Department of Fish and Game, \$23,250, 2013-14, Co-PI, 25%.

Revision of the book "Prevention and Control of Wildlife Damage," USDA-APHIS-Wildlife Services, \$92,000, 2001-13, PI, 100%.

eXtension Leadership Support Funds, USDA-NIFA-eXtension, Critter Control, Inc., \$48,000, 2008-13, PI, 100%.

National Wildlife Damage Management Workshop Series, The Wildlife Society-Wildlife Damage Management Working Group and National Wildlife Control Operators Association, \$16,500, 2009-2013, Co-PI, 50%.

Development of an online curriculum for wildlife damage management, Phase I, II, Orkin, Inc. and National Wildlife Control Operators Association, \$72,800, 2010-11. Co-PI, 50%.

Selected Research Grants

Development of spatially-explicit models of wildlife disease, USDA-APHIS-WS-National Wildlife Research Center, \$1,090,778, 2005-13, Co-PI, 100%.

Evaluation of underpasses to facilitate movements of white-tailed deer across Interstate Highway 80 and reduce deer-vehicle collisions, Nebraska Department of Roads, \$110,265, 2008-2013, PI, 100%.

Prevalence and risk assessment of avian influenza in the United States, USDA-APHIS-WS-National Wildlife Disease Program, \$30,000, 2011-13, PI, 100%.

Mechanisms that influence the distribution of deer in the Missouri River Valley-a landscape perspective, USDA-APHIS-WS-National Wildlife Research Center, US Fish and Wildlife Service, Cabella's Inc., Nebraska Bowhunters Association, \$140,500, 2002-10, PI, 100%.

Best practices for integrated management of elk and vegetation at Rocky Mountain National Park, US National Park Service, \$35,761, 2009-10, Co-PI, 100%.

Effectiveness of a non-lethal, humane technique for raccoon removal from human-occupied structures, Pest Management Foundation, \$13,758, 2009-10, Co-PI, 20%.

Analysis of hemorrhagic disease in Nebraska, Nebraska Game and Parks Commission, \$5,500, 2009-10, PI, 100%.

Evaluation of novel fences for containing or excluding feral hogs, USDA-APHIS-WS-National Wildlife Research Center, \$50,000, 2008-10, Co-PI, 100%.

Selected Teaching Grants

Student scholarships (for Greg Clements, Trevor Hefley, Scott Groepper, Katie Lawry, and Kent Fricke), Shikar Safari Club, \$20,000, 2009-13, PI, 50%.

Undergraduate Creative and Research Experiences (for Chase Daily, Trevor Hefley, and Michael Lassen), UNL-UCARE Program, \$9,400, 2007-13, Co-PI, 100%.

Recent Publications (2009-13)

Extension Books Published

Vantassel, S.M., P.D. Curtis, and **S.E. Hygnstrom**. 2013. *National Wildlife Control Training Program – Manual, 3rd Edition*. Cornell University. 256 pp.

Vantassel, S.M., P.D. Curtis, and **S.E. Hygnstrom**. 2013. *National Wildlife Control Training Program – Species Supplement, 2nd Edition*. Cornell University. 336 pp.

Streich, A.M., A.D. Timmerman, J.A. Kalish, S.M. Vantassel, F.P. Baxendale, and **S.E. Hygnstrom**. 2011. *Landscape Diagnostic Guide for Problems Affecting Woody Ornamentals and Herbaceous Perennials*. Extension Circular 1260, University of Nebraska-Lincoln Extension. 196 pp.

Selected Extension Publications, Peer-edited

Drake, D., and **S. Hygnstrom**. 2013. *A new way to think about managing white-tailed deer*. National Woodlands 36:10-12.

Hygnstrom, S.E., J.E. Miller, D.L. Bergman, and J.L. Belant. 2013. *Managing human-wildlife conflicts on the "hard edges" symposium and panel discussion*. International Wildlife Management Conference 4:76-80.

- Hygnstrom, S.E.**, Hildreth, A.M., and K.C. VerCauteren. 2013. *Deer-activated bio-acoustic frightening device deters white-tailed deer*. Vertebrate Pest Conference Proceedings 25:337.
- Hygnstrom, S.E.**, C.W. Anderson, T.R. Van Deelen, D. Drake, W.D. Walter, S.M. Vantassel, and K.C. VerCauteren. 2013. *Regulated commercial harvest to manage overabundant white-tailed deer: an idea to consider?* Vertebrate Pest Conference Proceedings 25:32-34.
- Hygnstrom, S.E.**, and P.D. Curtis. 2013. *The National Wildlife Control Training Program...like drivers ed for WCOs*. Wildlife Control Technology 20:16-17.
- Vantassel, S.M., T.L. Hiller, and **S.E. Hygnstrom**. 2013. *Efficacy of two raccoon eviction fluids*. Pestworld. July/August 20-23.
- Hygnstrom, S.**, C Kocher, and W. Kramer. 2012. *Surveillance of hantavirus in Nebraska, 1994-2004*. Pages 122-126 in 14th Wildlife Damage Management Conference Proceedings, N. Frey, editor. The Wildlife Society, Wildlife Damage Management Working Group, Logan, Utah.
- VerCauteren, K.C. and **S.E. Hygnstrom**. 2011. *Managing white-tailed deer: Midwest North America*. Pages 501-536 in Biology and Management of White-tailed Deer, D.G. Hewitt, editor. CRC Press, Boca Raton, Florida.
- Virchow, D.R., S.M. Vantassel, **S.E. Hygnstrom**, D.M. Ferraro, J.J. Lusk, and M. Wilhite. 2010. *Habits and habitat: cottontail rabbits*. Wildlife Control Technology. 17(3):13-14.
- Virchow, D.R., S.M. Vantassel, **S.E. Hygnstrom**, D.M. Ferraro, J.J. Lusk, and M. Wilhite. 2010. *Cottontail control: an overview*. Wildlife Control Technology. 17(3):32-34.

Selected Research Publications, Peer-reviewed

- Hygnstrom, S.**, D. Drake, T. Van Deelen, S. Vantassel. (in press). *Managing overabundant white-tailed deer: is it time to consider regulated commercial harvest?* Outlooks on Pest Management.
- Vantassel, S.M., A.J. Tyre, and **S.E. Hygnstrom**. (accepted). *Effectiveness of two traps and two sets on the plains pocket gopher*. Human-Wildlife Interactions.
- Groeper, S.R., **S.E. Hygnstrom**, B. Houck, and S.M. Vantassel. 2013. *Literature review of real and perceived damage by wild turkeys*. Integrated Pest Management 4:A1-5.
- Hefley, T.J, **S.E. Hygnstrom**, J.M. Gilsdorf, G.M. Clements, M.J. Clements, A.J. Tyre, D.M. Baasch, and K.C. VerCauteren. 2013. *Effects of deer density and land use on mass of white-tailed deer*. Journal of Fish and Wildlife Management 4:20-32.
- Hildreth, A.M., **S.E. Hygnstrom**, and K.C. VerCauteren. 2013. *Deer-activated bio-acoustic frightening device deters white-tailed deer*. Human-Wildlife Interactions 7:107-113.
- Walter, W.D., J.W. Fischer, T.J. Frink, **S.E. Hygnstrom**, J.A. Jenks, and K.C. VerCauteren. 2013. *Topographic home ranges of large mammals: is planimetric home range still a viable method?* Prairie Naturalist 45:21-27.
- Hildreth, A.M., **S.E. Hygnstrom**, E.E. Blankenship, and K.C. VerCauteren. 2012. *Use of partially fenced fields to reduce deer damage to corn*. Wildlife Society Bulletin 36:199-203
- Lavelle, M.J., K.C. VerCauteren, A.M. Hildreth, T.A. Campbell, D.B. Long, D.G. Hewitt, and **S.E. Hygnstrom**. 2012. *Utility of improvised video-camera collars for collecting contact data from white-tailed deer: possibilities in disease transmission studies*. Wildlife Society Bulletin 36:828-834.
- Groeper, S.R., M.P. Vrtiska, L.A. Powell, and **S.E. Hygnstrom**. 2012. *Evaluation of the effects of September hunting seasons on Canada geese in Nebraska*. Wildlife Society Bulletin 36:524-530.
- Clements, G.M., **S.E. Hygnstrom**, J.M. Gilsdorf, D.M. Baasch, M.J. Clements, and K.C. VerCauteren. 2011. *Movements of white-tailed deer in riparian habitat: implications for infectious diseases*. Journal of Wildlife Management. 75:1436-1442.
- Cover, M.A., **S.E. Hygnstrom**, S.R. Groeper, D.W. Oates, K.M. Hams, and K.C. VerCauteren. 2011. *Surveillance of selected diseases in free-ranging elk (Cervus elaphus nelson) in Nebraska, 1995-2009*. Great Plains Research 21:145-151.
- Hildreth, A.M., **S.E. Hygnstrom**, K.M. Hams, and K.C. VerCauteren. 2011. *The Nebraska Deer Exchange: a novel program for donating harvested deer*. Wildlife Society Bulletin 35:195-200.
- Hygnstrom, S.E.**, G.W. Garabrandt, and K.C. VerCauteren. 2011. *Fifteen years of urban deer management: the Fontenelle Forest experience*. Wildlife Society Bulletin 35:90-104.

- Hygnstrom, S.E.**, K.C. VerCauteren, S.R. Groepper, G.W. Garabrandt, and J.A. Gubanyi. 2011. *Effects of seasons and hunting on space use by female white-tailed deer in a developed landscape in southeastern Nebraska*. Wildlife Society Bulletin 35:105-112
- Lavelle, M.J., K.C. VerCauteren, T.J. Hefley, G.E. Phillips, **S.E. Hygnstrom**, D.B. Long, J.W. Fischer, S.R. Swafford, and T.R. Campbell. 2011. *Evaluation of fences for containing feral swine under simulated depopulation conditions*. Journal of Wildlife Management 75:1200-1208.
- VerCauteren, K.C., C.W. Anderson, T.R. Van Deelen, D. Drake, W.D. Walter, S.M. Vantassel, and **S.E. Hygnstrom**. 2011. *Regulated commercial harvest to manage overabundant white-tailed deer: an idea to consider?* Wildlife Society Bulletin 35:185-194.
- Walter, W.D., D.M. Baasch, **S.E. Hygnstrom**, B.D. Trindle, A.J. Tyre, J.J. Millspaugh, C.J. Frost, J.R. Boner, and K.C. VerCauteren. 2011. *Space use of sympatric deer in a riparian ecosystem in an area where chronic wasting disease is endemic*. Wildlife Biology 17:1-19.
- Baasch, D.M., J.W. Fischer, **S.E. Hygnstrom**, K.C. VerCauteren, A.J. Tyre, J.J. Millspaugh, J.W. Merchant, and J.D. Volesky. 2010. *Resource selection by elk in an agro-forested landscape in northwestern Nebraska*. Environmental Management 46:725-737.
- Baasch, D.M., A.J. Tyre, **S.E. Hygnstrom**, J.J. Millspaugh, and K.C. VerCauteren. 2010. *An evaluation of three statistical methods used to model resource selection*. Ecological Modeling 221:565-574.
- Crank, D.R. **S.E. Hygnstrom**, S.R. Groepper, and K.M. Hams. 2010. *Landowner attitudes toward elk in the Pine Ridge region of northwestern Nebraska*. Human-Wildlife Interactions 4:67-76.
- Julian, T.J., S.M. Vantassel, S.R. Groepper, and **S.E. Hygnstrom**. 2010. *Opinion paper: euthanasia methods in field settings for wildlife damage management*. Human-Wildlife Interactions 4:158-164.
- Lavelle, M.J., J.W. Fischer, **S.E. Hygnstrom**, J.J. White, A.M. Hildreth, G.E. Phillips, and K.C. VerCauteren. 2010. *Response of deer to containment by a poly-mesh fence for mitigating disease outbreaks*. Journal of Wildlife Management 74:1620-1625.
- Vantassel, S.M., T.L. Hiller, K.D.J. Powell, and **S.E. Hygnstrom**. 2010. *Using advancements in cable-trapping to overcome barriers to furbearer management in the United States: a commentary*. Journal of Wildlife Management 74:934-939.
- Walter, W.D., K.C. VerCauteren, H. Campa III, W.R. Clark, J.W. Fischer, **S.E. Hygnstrom**, N.E. Mathews, C.K. Nielsen, E.M. Shauber, T.R. Van Deelen, and S.R. Winterstein. 2010. *Regional assessment on influence of landscape configuration and connectivity on range size of white-tailed deer*. Landscape Ecology 24:1405-1420.
- Walter, W.D., M.J. Lavelle, J.W. Fischer, T.L. Johnson, **S.E. Hygnstrom**, C.W. Anderson, and K.C. VerCauteren. 2010. *Management of damage by elk (Cervus elaphus): a review*. Wildlife Research 37:630-646.
- Crank, R.D., **S.E. Hygnstrom**, and S.R. Groepper. 2009. *Tourist attitudes toward elk management in the Pine Ridge region of northwestern Nebraska*. Great Plains Research 19:215-223.
- Frost, C.J., **S.E. Hygnstrom**, A.J. Tyre, K.M. Eskridge, D.M. Baasch, J.R. Boner, G.M. Clements, J.M. Gilsdorf, T.C. Kinsell, K.C. VerCauteren. 2009. *Probabilistic movement model with emigration simulates movements of deer in Nebraska, 1990-2006*. Ecological Modeling 220:2481-2490.
- Hygnstrom, S.E.**, P.D. Skelton, S.J. Josiah, J.M. Gilsdorf, D.R. Virchow, J.A. Brandle, A.K. Jayaprakash, K.M. Eskridge, and K.C. VerCauteren. 2009. *White-tailed deer browsing and rubbing preferences for trees and shrubs that produce non-timber forest products*. HortTechnology 19:204-211.
- Walter, W.D., K.C. VerCauteren, J.M. Gilsdorf, and **S.E. Hygnstrom**. 2009. *Crop, native vegetation, and biofuels: long-term response of white-tailed deer to changing habitat management priorities*. Journal of Wildlife Management 73:339-344.
- Wilson, S., A.R. Doster, J.D. Hoffman, and **S.E. Hygnstrom**. 2009. *First record of pseudorabies in feral swine in Nebraska*. Journal of Wildlife Diseases 45:874-876

Selected Teaching Publications, Peer-reviewed

- Powell, L.A. A.J. Tyre, **S.E. Hygnstrom**, D.A. Wedin, P.R. Hanson, M.S. Kuzila, and J.B. Swinehart. 2010. *Wilderness serendipity: planning and assessing learning during an experiential field course*. North American Colleges and Teachers of Agriculture Journal 53:56-61.

Selected Teaching Publications, Peer-edited

Powell, L., S. Riley, A. Tyre, and S. Hygnstrom. 2009. *The value of early experience: students know they need it, but how do they get it?* *The Wildlife Professional* 3(4):45-47.

Recent Extension Programs (2009-13)

Internet Center for Wildlife Damage Management. I developed (1996) and supervise the Coordinator of the ICWDM (<http://icwdm.org>), which is the leading website in the field. The site had 1,002,586 unique visitors from 175 countries in 2013. Knowledge of users increased 0.46 points to a mean of 2.76 (4-pt scale). The Facebook page reached 6,462 in 2013, which is a 3-fold increase over 2012. We hosted 5,719 documents on the Digital Commons and facilitated 392,120 downloads. We conservatively estimate that the website saves \$136 million in resources annually. The Digital Image Library currently contains over 700 downloadable images.

eXtension Wildlife Damage Management. I initiated (2008) and co-lead the CoP in wildlife damage management. The site featured 527 pages and 433 FAQs that were viewed over 95,000 times in 2013. We collaborated with 4 CoPs and presented a webinar series that included 6 presentations on wildlife damage management.

Prevention and Control of Wildlife Damage. I am the primary editor for the leading reference book in the field (<http://icwdm.org/handbook/index.asp>). We conservatively estimate that it saves \$210 million per year in personal property and resources and \$220 million per year in time and labor. I am leading 5 co-editors and over 100 authors in developing the 5th edition, which currently is about 50% complete.

National Wildlife Control Training Program. I am co-coordinator for the new program that features a 256-page manual, 336-page supplement, and online course. Eighty-eight people enrolled in the course and total sales were over \$20,000 in 2013. The manual and online course were certified by the National Wildlife Control Operators Association. We secured contracts to develop state-specific programs for Alabama, Delaware, Illinois, and South Carolina (\$23,250).

Nebraska Master Naturalist Program. I am the Program Supervisor for 207 certified Master Naturalists that have contributed 17,640 hours, equating to nearly \$400,000 in conservation value. Volunteers have reached 340,750 people and impacted nearly 10,000 acres in Nebraska.

Nebraska Outdoor U! Program. I am the Program Supervisor for an online program that promotes outdoor skills with 3,150 participants and an 85% retention rate. We reached nearly 30,000 people through the NOU! Facebook page and we had over 20,000 views (575 hours) on our 10 YouTube videos in 2013.

Professional Activities

The Wildlife Society.

Wildlife Damage Management Working Group, Chair, 1996-98.

Wildlife Disease Working Group, Chair, 2009-11.

Hunt, Trap, and Conserve Working Group, Interim Vice-chair, 2013-14.

Nebraska Chapter, President (elect, standing, past) 1995-98.

Board Representative, 1992-94, 2008-09.

Conservation Leaders for Tomorrow, Instructor, National Steering Committee, 2010-13.

Extension Fish and Wildlife Specialists, National Steering Committee, 2007-11.

4-H Shooting Sports, National Instructor Certification in Shotgun, Muzzleloading.

Nebraska Cooperative Extension Association, Specialist Section, Chair, 2000-02.

Nebraska Fish and Wildlife Health Council, Chair, 2008-10.

Wildlife Disease Association, American Society of Mammalogists,

Society for Conservation Biology, Center for Great Plains Studies.