

CURRICULUM VITAE - MALCOLM L. HUNTER, JR.

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Education

1966 - 1970 Lincoln Academy, Newcastle, Maine
1970 - 1974 B.S. in Wildlife Science, University of Maine, Orono
1974 - 1978 D. Phil. in Zoology, Edward Grey Institute of Field Ornithology, Department of Zoology, Oxford University. Thesis title: "Environmental effects on the singing behaviour of Great Tits." Stipend from Rhodes Scholarship, Research funds from National Geographic Society

Employment

1971 Research Technician, Maine Dept. of Inland Fisheries and Wildlife
1972-74 Self-employed as ecological consultant. Funding from: Center for Natural Areas, Central New Hampshire Planning Office, Maine Bureau of Public Lands, Maine State Planning Office, Massachusetts Audubon Society, Mid-coast Audubon Society, New England Regional Commission, Smithsonian Institution, Time/Life Books.
1976 Research Assistant, U.S. Forest Service and School of Forest Resources, University of Maine
1978 Zoology Instructor, Oxford University
1978 - pr. Department of Wildlife Ecology, University of Maine, Current titles: Libra Professor of Conservation Biology and Professor of Wildlife Ecology

Scholarships and Academic Honors

1973 Rhodes Scholarship
1974 Graduated from University of Maine with Highest Distinctions
1974 P. F. English Award for outstanding wildlife student in northeastern U.S. and eastern Canada
1974 D. B. Demeritt Award for outstanding student in School of Forest Resources
1975 Senior Scholar, St. Catherine's College, Oxford University
1990 Libra Professor of Conservation Biology
1995 Pew Conservation Fellow
1996 University of Maine 1996 Distinguished Professor
1996 University of Maine Commencement Speaker
2003 Webber Award for Outstanding Forest Resource Research
2005 President Harris Award for contributions to the University of Maine

Membership in Professional Societies

American Ornithologists Union (Elective member)
Association for the Study of Animal Behaviour
Ecological Society of America (Editorial board)
Natural Areas Association
Society for Conservation Biology (President; Board of Governors; Editorial Board)
The Wildlife Society

Membership and roles in other organizations

Doris Duke Charitable Foundation, Chair of Environmental Committee

Joseph Jones Ecological Research Center, Ichauway, Georgia, Scientific Advisory Comm.
Maine Council on Sustainable Forest Management (Gubernatorial appointment)
Maine Forest Biodiversity Project
Maine Bureau of Public Lands (Silvicultural Advisory Committee)
Maine Dept. Inland Fisheries and Wildlife (Nongame Advisory Council)
Maine Governor's Task Force on Management of Public Land (Gubernatorial appointment)
Maine Natural Areas Program, Advisory Board
Maine Ecological Reserves Scientific Advisory Committee (Gubernatorial appointment)
Maine Ecosystems Working Group
Nature Conservancy, Maine Chapter (Trustee; Chair, Conservation Priorities and International Comms)
Nature Conservancy, International (Science Review Panel; Smith Fellowship Review)
Natural Resources Council of Maine (Board of Directors; Forestry Committee)
Northeastern Naturalist, Editorial Board
President's Commission on Environmental Quality: Biodiversity Task Force
White House Task Force on Spotted Owls (Consultant)
World Conservation Union (IUCN); Species Survival Commission (Mustelid/Viverrid/Procyonid Specialist Group)

International Experience

Research, education, and conservation work in Australia, Belize, Botswana, Brazil, Canada, Dominica, D.R. Congo, Finland, Germany, Great Britain, Greece, India, Iran, Kenya, Mexico, Morocco, Nepal, Norway, Panama, Peru, Poland, Seychelles, South Africa, Spain, Sweden, Switzerland, Zambia, Zimbabwe. Travel to 36 other countries.

Consultant and reviewer for the U.S. Agency for International Development, Smithsonian Institution, World Wildlife Fund, World Conservation Union, United Nations Environment Program, and a member of the IUCN Species Survival Commission.

Graduate advisor to students from Argentina, Canada, Chile, India, Nepal, United Kingdom, Romania, and Zaire.

International funding from: British Overseas Development Administration, Fauna and Flora Preservation Society, National Geographic Society, Rockefeller Foundation, Royal Geographic Society, Toronto Zoo, U.S. Agency for International Development, U.S. Fish and Wildlife Service, Van Tienhoven Foundation, Volkart Foundation, Wildlife Conservation Society, World Pheasant Association, World Wildlife Fund (International and U.S.)

Rudimentary knowledge of Farsi, French, German, and Spanish

Books and Monographs

Hunter, M.L. Jr. and F. Schmiegelow. In press. *Wildlife, forests, and forestry: Principles of managing forests for biological diversity*. 2nd edition. Prentice-Hall, Englewood Cliffs, NJ.

Gibbs, J., M.L. Hunter, Jr. and E. Sterling. 2008. *Problem-solving in conservation biology and wildlife management: Exercises for class, field, and laboratory*, 2nd edition. Blackwell Publishing, Oxford, United Kingdom. 328 pp.

Hunter, M.L. D. Lindenmayer, and A. J.K. Calhoun. 2007. *Saving the earth as a career: Advice on becoming a conservation professional*. Blackwell Publishing, Oxford, United Kingdom. 200pp.

Hunter, M.L. Jr. and J.P. Gibbs. 2007. *Fundamentals of conservation biology*, 3rd edition. Blackwell Publishing, Oxford, United Kingdom, 497pp.

Hunter, M.L. Jr. 2002. *Fundamentals of conservation biology*, 2nd edition. Blackwell Science, Malden, Massachusetts, 547pp.

Hunter, M.L. Jr. (editor). 1999. *Maintaining biodiversity in forest ecosystems*. Cambridge University Press, Cambridge, England. 698pp.

- Hunter, M.L. Jr., A. Calhoun and M. McCollough.(editors). 1999. Maine amphibians and reptiles. University of Maine Press, Orono, Maine. 252pp.
- Gibbs, J., M.L. Hunter, Jr. and E. Sterling. 1998. Problem-solving in conservation biology and wildlife management: Exercises for class, field, and laboratory. Blackwell Science, Malden, Massachusetts. 215pp.
- Hunter, M.L. Jr. 1996. Fundamentals of conservation biology. Blackwell Science, Cambridge, Massachusetts, 482pp.
- Witham, J., E. Moore, M. Hunter, A. Kimball, and A. White. 1993. Long-term study of an oak-pine forest ecosystem: Techniques manual for the Holt Research Forest. Maine Agricultural Experiment Station Technical Bulletin 153. 164 pp.
- Hunter, M.L. Jr., J. Albright and J. Arbuckle 1992. The amphibians and reptiles of Maine. Maine Agricultural Experiment Station Bulletin 838. 188 pp.
- Hunter, M.L. Jr. 1990. Wildlife, forests, and forestry: Principles of managing forests for biological diversity. Prentice-Hall, Englewood Cliffs, NJ. 370pp.
- Gaston, A.J., M.L. Hunter, Jr, and P.J. Garson. 1981. The wildlife of Himachal Pradesh, Western Himalayas. School of Forest Resources Technical Note No. 82, Orono, ME. 159pp.
- Hunter, M.L. Jr. 1976. Maine ecosystems. Center for Natural Areas. Washington, D.C. 224pp.
- Seymour, R. M.L. Hunter, Jr., P. deMaynadier, and C. Foss Practicing ecological forestry: Maintaining biodiversity and wood production in the Northeast. In preparation for Island Press.
- Refereed Journals
- Lindenmayer, D.B., M.L. Hunter, Jr., P.J. Burton, and P. Gibbons. In press. Effects of logging on fire regimes in moist forests. Conservation Letters.
- Politi, N., M.L. Hunter, Jr., and L. Rivera. In press. Nest selection by cavity-nesting birds in subtropical montane forests of the Andes: some implications for sustainable forest management. Biotropica
- Beaudry, F., P. G. deMaynadier. M. L. Hunter, Jr. In press. Seasonally-dynamic habitat use by Spotted (Clemmys guttata) and Blanding's Turtles (Emydoidea blandingii) in Maine. Journal of Herpetology
- Beaudry, F., P. G. deMaynadier. M. L. Hunter, Jr. In press. Identifying hot moments in road mortality risk for freshwater turtles. Journal of Wildlife Management.
- Semlitsch, R.D., S.M. Blomquist, A.J.K. Calhoun, J. W. Gibbons, J.P. Gibbs, G.. Graeter, E.B. Harper, D.. Hocking, M.. Hunter, Jr., D.A. Patrick, T.A.G Rittenhouse, B.B. Rothermel, and B.D. Todd. In press. Effects of timber management on amphibian populations: understanding mechanisms from forest experiments. Bioscience.
- Blomquist, S.M. and M.L.Hunter, Jr. in press. A multi-scale assessment of habitat selection and movement patterns by Northern Leopard Frogs (Lithobates [Rana] pipiens) in a managed forest. Herpetological Conservation and Biology 4:142-160.
- Hunter, M.L. Jr., M.J. Bean, D. B. Lindenmayer, and D. S. Wilcove. 2009. Thresholds and the mismatch between environmental laws and ecosystems. Conservation Biology 23:1053-1055.
- Wang, G., J. O. Wolff, S. H. Vessey, N. A. Slade, J. W. Witham, J. F. Merritt, M. L. Hunter, Jr., and S.P. Elias. 2009. Comparative population dynamics of Peromyscus leucopus in North America: influences of climate, food, and density dependence. Population Ecology 51:133-142.
- Sutherland, W.J. et al. 2009. An assessment of the 100 questions of greatest importance to the conservation of global biological diversity. Conservation Biology 23:557-567.

- Beaudry, F., P. G. deMaynadier, M.L. Hunter Jr. 2008. Identifying road mortality threat at multiple spatial scales for semi-aquatic turtles. *Biological Conservation* 141:2550-2563.
- Schwartz, M.W., M. L. Hunter, Jr., P. D. Boersma. 2008. Scientific societies in the 21st century: a membership crisis? *Conservation Biology* 22:1087-1089.
- Patrick, D.A., E.B. Harper, M.L. Hunter Jr, and A.J.K. Calhoun. 2008. Terrestrial habitat selection and strong density-dependent mortality in recently metamorphosed amphibians. *Ecology* 89:2563-2574.
- Patrick, D.A., A.J.K. Calhoun and M.L. Hunter Jr. 2008. The importance of understanding spatial population structure when evaluating the effects of silviculture on spotted salamanders (*Ambystoma maculatum*). *Biological Conservation* 141:807-814
- Blomquist, S.M., J.D. Zydlewsk and M.L. Hunter Jr. 2008. Efficacy of PIT tags for tracking the terrestrial anurans *Rana pipiens* and *Rana sylvatica*. *Herpetological Review* 39:174-179.
- Lindenmayer, D. et al. 2008. A checklist for ecological management of landscapes for conservation. *Ecology Letters* 11:78-91.
- Cornelius, C., K. Cockle, N. Politi, I. Berkunsky, L. Sandoval, V. Ojeda , L. Rivera, M.L. Hunter, Jr., and K. Martin. 2008. Cavity-nesting birds in Neotropical forests: cavities as a potentially limiting resource. *Ornitologia Neotropical* 19:253-268.
- Hunter, M.L. 2007. Climate change and moving species: Furthering the debate on assisted colonization. *Conservation Biology* 21:1356-1358.
- Campbell, S.P., J.W. Witham, and M.L. Hunter Jr. 2007. A long-term study on the effects of a selection timber harvest on a forest bird community in Maine. *Conservation Biology* 21:1218-1229.
- Blomquist, S.B. and M. L. Hunter Jr. 2007. Externally attached radio-transmitters have limited effects on the antipredator behavior and vagility of *Rana pipiens* and *R. sylvatica*. *Journal of Herpetology* 41:430-438.
- Patrick, D. A. Calhoun, and M.L. Hunter, Jr. 2007. The orientation of juvenile wood frogs, *Rana sylvatica*, leaving experimental ponds. *Journal of Herpetology* 41:158-163.
- Anderson, M.W. et al. 2007. Attitude changes of undergraduate university students in general education courses. *Journal of General Education* 56: 149-168.
- Elias, S.P., J. W. Witham, and M. L. Hunter, Jr. 2006. Impact of a group-selection timber harvest on a 22-year population fluctuation pattern in *Clethrionomys gapperi*. *Journal of Mammalogy* 87:440-445.
- Perkins, D. W. and M. L. Hunter. 2006. Use of amphibians to define riparian zones along headwater streams in Maine. *Canadian Journal of Forest Research* 36:2124-2130.
- Patrick, D.A., M.L. L. Hunter Jr., and A. J. K. Calhoun. 2006. Effects of experimental forestry treatments on a Maine amphibian community. *Forest Ecology and Management* 234:323-332.
- Perkins, D. W. and M.L. Hunter, Jr. 2006. Effects of riparian timber management on amphibian communities in Maine. *Journal of Wildlife Management* 70:657-670.
- Schulte, Lisa A., R. J. Mitchell, M. L. Hunter, Jr., J. F. Franklin, R. K. McIntyre, and B. J. Palik. 2006. Evaluating the conceptual tools for forest biodiversity conservation and their implementation in the United States. *Forest Ecology and Management* 232:1-11.
- Hunter, M.L. Jr. 2005. A mesofilter complement to coarse and fine filters. *Conservation Biology* 19:1025-1029.
- Elias, S.P., J. W. Witham, and M. L. Hunter, Jr. 2004. Maine *Peromyscus leucopus* abundance and acorn mast: Population fluctuation patterns over 20 years. *Journal of Mammalogy* 85:743-747

- Lindenmayer, D.B., D.R. Foster, J.F. Franklin, M.L. Hunter, R.F. Noss, D. Perry, and F.A. Schmiegelow. 2004. Salvage harvesting policies after natural disturbances. *Science* 303:1303.
- Belovsky, G.E., D. B. Botkin, T. Crowl , K. Cummins, J. Franklin, M.L. Hunter, A. Joern, D. B. Lindenmayer, J. MacMahon, C. Margules, M. Scott. 2004. Ten suggestions to strengthen the science of ecology. *BioScience*. 54:345-351.
- Hunter, M.L. Jr., A. Calhoun, and D. S. Wilcove. 2004. Goliath Heron fishing with an artificial bait? *Waterbirds* 27:312-313.
- Guerry, A. and M.L. Hunter, Jr. 2002. Amphibian distributions in a landscape of forests and agriculture: An examination of landscape composition and configuration. *Conservation Biology* 16:745-754 .
- Hunter, M.L. Jr. and S. L. Webb. 2002. Enlisting taxonomists to survey poorly known taxa for biodiversity conservation: A lichen case study. *Conservation Biology* 16:660-665.
- DiMauro, D. and M.L. Hunter, Jr. 2002. Reproduction of amphibians in natural and anthropogenic temporary pools in managed forests. *Forest Science* 48:397-406.
- Mitchell, R.J., B.J. Palik, M.L. Hunter, Jr. 2002. Natural disturbance as a guide to silviculture. *Forest Ecology and Management* 155:315-317.
- Perkins, D. W. and M.L. Hunter, Jr. 2002. Effects of placing sticks in pitfall traps on amphibian and small mammal capture rates. *Herpetological Review* 33:282-284.
- Joyal, R., M. McCollough and M.L. Hunter, Jr. 2001. Wetland conservation at a landscape scale: A case study of spotted and Blanding's turtles in southern Maine. *Conservation Biology* 15:1755-1762.
- Noss, R. and M.L. Hunter. 2001. From assemblage to community. *Conservation Biology* 15:1201-1202.
- Plucinski, K.E. and M.L. Hunter, Jr. 2001. Spatial and temporal patterns of seed predation on three tree species in an oak-pine forest. *Ecography* 24:309-317.
- Hunter, M.L. Jr. 2000. Refining normative concepts in conservation. *Conservation Biology* 14:573-574.
- deMaynadier, P.G. and M.L. Hunter, Jr. 2000. Forest roads and amphibian movements in Maine. *Natural Areas Journal* 20:56-65.
- Joyal, L.A., M. McCollough, and M.L. Hunter, Jr. 2000. Population structure and reproductive ecology of Blanding's turtle (*Emydoidea blandingii*) in Maine near the northeastern edge of its range. *Chelonian Conservation and Biology* 3:580-588.
- Monti, L., M.L. Hunter, Jr. and J. Witham. 2000. An evaluation of the artificial cover object (ACO) method for monitoring populations of the redback salamander (*Plethodon cinereus*). *Journal of Herpetology* 34:624-629.
- McCracken, K., M.L. Hunter, Jr. and J. Witham. 1999. Relationships between seed fall of three tree species and *Peromyscus leucopus* and *Clethrionomys gapperi* during ten years in an oak-pine forest. *Journal of Mammalogy* 80:1288-1296.
- White, A., J. Witham, M.L. Hunter, Jr. and A.J. Kimball. 1999. The relationship between plant species richness and biomass in a coastal Maine *Quercus-Pinus* forest. *Journal of Vegetation Science* 10:755-762.
- deMaynadier, P.G. and M.L. Hunter, Jr. 1999. Forest canopy closure and juvenile emigration by pool-breeding amphibians in Maine. *Journal of Wildlife Management* 63:441-450.
- Dibble, A., J.C. Brissette, and Hunter, M.L. Jr. 1999. Putting community data to work: Some understory plants indicate red spruce habitat. *Forest Ecology and Management* 114: 275-291.

- Vickery, P.D., M.L. Hunter, Jr., and J.V. Wells. 1999. Effects of fire and herbicide treatment on habitat selection of grassland birds in southern Maine. *Studies in Avian Biology* 19:149-159.
- deMaynadier, P.G. and M.L. Hunter, Jr. 1998. Effects of silvicultural edges on the distribution and abundance of amphibians in Maine. *Conservation Biology* 12:340-352.
- Hartley, M. and M.L. Hunter, Jr. 1998. A meta-analysis of forest cover, edge effects, and predation rates of artificial nests. *Conservation Biology* 12:465-469.
- Whitman, A.A., M.L. Hunter, Jr. and J. W. Witham 1998. Age distribution of ramets of a forest herb, Wild Sarsaparilla, *Aralia nudicaulis*, (Araliaceae). *Canadian Field-Naturalist* 112:37-44.
- Hunter, M.L. Jr. and A. White. 1997. Ecological thresholds and the definition of old-growth forests. *Natural Areas Journal* 17:292-296.
- Hunter, M.L. Jr. and J. Jaros-Su. 1997. Insects, entomologists, and the conservation of biodiversity. *Northeast Naturalist* 4:153-158.
- Hunter, M.L. Jr. 1996. Benchmarks for managing ecosystems: Are human activities natural? *Conservation Biology* 10:695-697.
- Hunter, M.L. Jr. 1996. "A desktop reference for conservationists." Book review of R. Paelkhe's "Conservation and environmentalism: An encyclopedia." *Conservation Biology* 10:1477-1478.
- Boone, R., and M.L. Hunter, Jr. 1996. Using diffusion models to simulate the effects of grizzly bear dispersal in the Rocky Mountains. *Landscape Ecology* 11:51-64.
- deMaynadier, P.G. and M.L. Hunter, Jr. 1995. The relationship between forest management and amphibian ecology: a review of the North American literature. *Environmental Reviews* 3:230-261.
- Mugangu, T., M.L. Hunter, Jr., and J. Gilbert. 1995. Food, water, and predation: a model of habitat selection by buffalo in Virunga National Park, Zaire. *Mammalia* 59:349-362.
- Kimball, A., J. Witham, J. Rudnicky, A. White, and M.L. Hunter, Jr. 1995. Harvest-created and natural canopy gaps in an oak-pine forest in Maine. *Bulletin of the Torrey Botanical Society* 122:115-123.
- Vickery, P. and M.L. Hunter, Jr. 1995. Testing the song perch limitation hypothesis: Do artificial perches affect bird use. *American Midland Naturalist* 133:164-169.
- Vickery, P., M.L. Hunter, Jr. and S. Melvin. 1994. Effects of habitat area on the distribution of grassland birds. *Conservation Biology* 8:1087-1097. Reprinted in P. Vickery and P. Dunwiddie. 1997. *Grasslands of Northeastern North America*, Massachusetts Audubon Society, Lincoln, MA.
- Hunter, M.L. Jr. and A. Hutchinson. 1994. The virtues and shortcomings of parochialism: Conserving species that are locally rare, but globally common. *Conservation Biology* 8:1163-1165.
- Markowsky, J., M.L. Hunter, Jr. and W. Glanz. 1994. Why do brown tremblers tremble? *Journal of Field Ornithology* 65:247-249.
- Rudnicky, T. and M.L. Hunter, Jr. 1993. Reversing the fragmentation perspective: Effects of clearcut size on bird species richness in Maine. *Ecological Applications* 3:357-366.
- Rudnicky, T. and M.L. Hunter, Jr. 1993. Avian nest predation in clearcuts, forests, and edges in a forested landscape. *Journal of Wildlife Management* 57:358-364.
- Gibbs, J., M.L. Hunter, Jr. and S. Melvin. 1993. Snag availability and communities of cavity nesting birds in tropical versus temperate forests. *Biotropica* 25: 236-241.

- Hunter, M.L. Jr. and P. Yonzon. 1993. Altitudinal distribution of birds, mammals, people, parks, and forests in Nepal. *Conservation Biology* 7:420-423.
- Hunter, M.L. Jr. 1993. Natural disturbance regimes as spatial models for managing boreal forests. *Biological Conservation* 65:115-120.
- Hunter, M.L. Jr. 1993. "Biodiversity goes public." Book review of E. O. Wilson's "The diversity of life." *Conservation Biology* 7:208-209.
- Hunter, M.L. Jr. 1993. Of puffins and parochialism: Is it important to conserve species that are locally rare but globally common? *Maine Naturalist* 1: 39-42.
- Vickery, P., M.L. Hunter, Jr. and J. Wells. 1992. Is density an indicator of breeding success? *Auk* 109:706-710.
- Vickery, P., M.L. Hunter, Jr. and J. Wells. 1992. Use of a new reproductive index to test the relationship between habitat quality and breeding success. *Auk* 109:697-705.
- Mugangu, E. and M.L. Hunter, Jr. 1992. Aquatic foraging by hippopotamus in Zaire: response to a food shortage? *Mammalia* 56:345-349.
- Vickery, P., M.L. Hunter, Jr. and J. Wells. 1992. Predation of grassland birds in southern Maine: is it directed or incidental? *Oikos* 63:281-288.
- Yonzon, P. and M.L. Hunter, Jr. 1991. Conservation of the red panda *Ailurus fulgens*. *Biological Conservation* 57:1-11.
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- Hunter, M.L. Jr. 1989. What constitutes an old growth stand? *Journal of Forestry* 87:33-35.
- Small, M. and M.L. Hunter, Jr. 1989. Response of passerines to abrupt forest-river and forest-powerline edges in Maine. *Wilson Bulletin* 101:77-83.
- Stockwell, S.S. and M.L. Hunter, Jr. 1989. Distribution and abundance of herpetofauna in eight types of Maine peatlands vegetation. *Journal of Herpetology* 23:409-414.
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- Blomquist, S.M., and M.L. Hunter Jr. In review. Environmental stochasticity induces species and life-stage-specific changes in fitness correlates of two anuran species. *Oikos*.

Blomquist, S.M., and M.L. Hunter Jr. In review. The influence of scale on terrestrial habitat selection and breeding success of amphibians: implications for fitness potential in forests managed for timber production. *Ecology*.

Campbell, S.P., J.W. Witham, and M.L. Hunter Jr. In review. Long-term changes in spatial distribution of birds responding to a group-selection timber harvest. *Ecological Applications*

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Strojny, C. A. and M. L. Hunter, Jr. Log diameter influences detection of eastern red-backed salamanders (*Plethodon cinereus*) in harvest gaps, but not in closed-canopy forest conditions. *Herpetological Conservation and Biology*. In revision.

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Foss, C.R., and M.L. Hunter, Jr. Avian density and nesting success: relationships in a managed Acadian spruce-fir forest. To be submitted to *Auk*

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- Hunter, M.L. Jr. 1973. Ecosystems of the Maine Coast: Freshwater and Marine Ecosystems. Reed and D'Andrea, South Gardiner, Maine. 95pp.
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Popular Publications

Hunter, M.L., Jr., 2003. A forest reserve system for Maine. Pages 104-106 in P. Austin, D Bennett, and R. Kimber, eds. On wilderness: Voices from Maine. Tilbury House, Gardiner, Maine.

Hunter, M.L. Jr. 1999. Should a land trust cut its forest? Land Trust News 4(1):3-4.

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Hunter, M.L. Jr. 1984. Discovering Maine's little known animals. The Nature Conservancy-Maine Chapter News (5):6.

Hunter, M.L. Jr. 1978. Letter from an Oxford birdwatcher. American Oxonian 65:31-36.

Funding (grants over \$10,000)

1983-pr. *A long-term forest ecosystem study. Holt Woodlands Research Foundation. Ca. \$100,000/year (with A. J. Kimball, A. S. White, and J. W. Witham).

2000-pr Role of canopy gaps and down woody material in maintaining biodiversity in the Acadian Forest of Maine. USDA Competitive Grants. \$260,000. (With R. Wagner and S. Woods).

2003-pr A Land use practices and the persistence of amphibian populations. @ National Science Foundation Collaborative project with U Missouri and Savannah River Ecology Lab; U. Maine=s portion of budget: \$415,000.

2003-pr A Calibration of Conservation Theory and Principles Applied at Various Geographic Scales @ National Commission on Science for Sustainable Forestry \$99,725 (with Robert Mitchell, Jerry Franklin, Lisa Schulte, Kevin McIntyre, and Brian Palik).

2003-pr "Effects of Roads on Movements and Mortality of Blanding's and Spotted Turtles in Southern Maine" Maine Department of Transportation, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Maine Dept Inland Fisheries and Wildlife, The Nature Conservancy \$189,000. (with Phillip deMaynadier),

2001-pr A Inquiry-based learning modules for conservation biology education @ National Science Foundation \$998,000 plus (with Eleanor Sterling and James Gibbs)

- 2002 Use of Natural Disturbances to Guide Restoration Silviculture. National Commission on Science for Sustainable Forestry \$199,438 (with Robert Mitchell, Jerry Franklin, and Brian Palik)
- 1998 Amphibian Populations of Acadia National Park: Patterns and Processes in Relation to Anthropogenic and Natural Changes in Wetland Ecosystems. U.S. Geological Survey. \$210,000. (With A. Calhoun and W. Glanz)
- 1995-98. *Conserving forest biodiversity. Pew Charitable Trusts. \$150,000. (with R. Seymour).
- 1993-96. The ecology of vernal pools. USDA Forest Service, US Fish and Wildlife Service; U.S. E.P.A, \$39,000 (with M. McCollough)
- 1991 *Ecology and conservation of Blanding's and spotted turtles in Maine. Davis Conservation Foundation, Maine Dept. Inland Fisheries and Wildlife, \$16,000. (with M. McCollough)
- 1991 New England biodiversity project. Part 2. Environmental Protection Agency. \$100,000 (with R. O'Connor, R. Owen, and S. Sader).
- 1990 An ecological reserves system for Maine. Maine Research Fund. \$17,915. (with J. McMahon and G. Jacobson).
- 1988 Habitat selection by the African buffalo in Virunga National Park, Zaire. Rockefeller Foundation - \$25,400. (with E. Mugangu and J. R. Gilbert)
- 1985 Nepal-Himalayas red panda project. World Wildlife Fund, Metropolitan Toronto Zoo \$77,000 (with P. Yonzon).
- 1982 *The peatland wildlife of Maine. Maine Dept. Inland Fisheries and Wildlife Service - \$68,782.
- 1982 *Effects of acid precipitation on the aquatic habitat and ecology of waterfowl and fish. U.S. Fish and Wildlife Service - \$132,434. (with K. E. Gibbs and J. G. Stanley).
- 1982 *A long term environmental monitoring program for the spruce budworm suppression project. Maine Forest Service - \$45,998. (with K. E. Gibbs).
- 1971-81 *Monitoring the indirect effects of spruce budworm suppression, the effects of catastrophic food supply depression on the behavior of birds. Maine Forest Service. \$103,000

*Senior or sole principal investigator.

Teaching

- 1979-pr University of Maine Graduate School. Advisor for 21 Ph.D. and 13 Masters students in Wildlife Ecology. Served on 50 graduate committees in 8 departments.
- 1979-pr University of Maine, Dept. Wildlife Ecology: Advanced Conservation Biology; Conservation Biology; Forest Wildlife Management; International Conservation; Landscape Ecology and Conservation; Tropical Ecology field course; Introduction to Wildlife Conservation; Wildlife Management Planning; Behavioral Ecology; Photogrammetry (labs); Senior Seminar.
- 1978-79 University of Maine Honors Program: Sophomore seminar; Freshman seminar. Supervised four honor's theses.
- 1986 Wildlife populations and habitat management workshop for Nepali biologists.
- 1978 Oxford University: Introduction to Ecology.
- 1972-73 Abenaki Experimental College: Maine Ecosystems; Maine Fauna.

Public Speaking

Hundreds of presentations in 13 countries, 26 states, and 8 Canadian provinces, mostly on forest biodiversity issues.