

Curriculum Vitae

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EDUCATION

Ph.D. (Natural Resource Economics) University of Michigan 1974

M.A. (Economics) University of Michigan 1972

B.A. (General) University of Manitoba 1965

PROFESSIONAL EXPERIENCE

Head, Department of Economics 2001 – 2007

Associate Dean (Student Affairs and Programs) Faculty of Social Sciences, University of Calgary
1997 - 2000

Professor Emeritus, Dept. of Economics, University of Calgary 2013-present.

Professor, Dept. of Economics University of Calgary 1991 – 2013

Associate Professor, Dept. of Economics, University of Calgary 1985 – 1991

Consultant, Resources for the Future and Adjunct Associate Professor Dept. of Economics,
University of Calgary 1982 - 1985

Fellow, Resources for the Future 1978 - 1982

Research Associate, Resources for the Future 1976 - 1978

Assistant Professor, Dept. of Environmental Sciences University of Virginia 1974 - 1976

Assistant Study Director, Institute for Social Research, Survey Research Centre, University of
Michigan 1973- 1974

Research Assistant, School of Natural Resources University of Michigan 1970 – 1973

GRADUATE STUDENTS

30 Master's students supervised. 1985-2010. Graduate Coordinator: Supervisor for all first year graduate students. 1992-1996. Ph.D. Comprehensive Examining Committee-Dept. of Economics, University of Calgary, 2000. Ph.D. Dissertation Defence Committee-Dept of Economics, Simon Fraser University, 2000. Ph.D. Dissertation Defence Committee-Dept. of Rural Economy, University of Alberta, 2001

PUBLICATIONS

Wilman, E.A. with E.N. Wilman, "Fast, Slow, and Adaptive Management of Habitat Modification–Invasion Interactions: Woodland Caribou (*Rangifer tarandus*)." *Ecosphere* Oct 9, 2017. <http://onlinelibrary.wiley.com/doi/10.1002/ecs2.1970/full>

Wilman, E.A. with E.N. Wilman, "Modelling Outcomes of Approaches to sustained human and snow leopard coexistence." *Conservation Biology* Vol. 30, No.1. 2016. pp. 50-58.

Wilman, E.A." An Economic Model of Aboriginal Fire-Stick Farming,"*The Australian Journal of Agricultural and Resource Economics*. Vol 57. 2013, pp. 1-22

Wilman, E.A. Instruments for Forest Habitat Connectivity. School of Public Policy Research Paper Series. Vol. 6 No. 1, 2013, 22 pages.

Wilman, E.A. "Carbon Sequestration in Agricultural Soils," *Journal of Agricultural and Resource Economics*. Vo. 36, No. 1. 2011. pp. 122-138.

Wilman, E.A. Addressing Environmental Problems with Market Based Incentives, *Introducing Microeconomic Analysis*, H. Bougrine, I Parker and M. Seccareccia (eds.) Emond Montgomery Publications, Toronto, 2010.

Wilman, E.A. with T. Tietenberg and P. Tracey. *Environmental Economics and Policy: Canadian Edition*. Pearson Education Canada, Toronto. 2009.

Wilman, E.A. with D.W. Mulholland. "Bioprospecting and Biodiversity Contracts," *Environment and Development Economics* Vol. 8, 2003, pp. 417-425.

Wilman, E.A. and M.S. Mahendrarajah. "Carbon Offsets," *Land Economics*. Vol. 78, No. 3, 2002, pp. 405-416.

Wilman, E.A. "An Economic Model of Aboriginal Fire Stick Farming," (ABSTRACT), *People and Nature Operationalising Ecological Economics, The Sixth Biennial Meeting of the Society for Ecological Economics*, Australian National University, Canberra, Australia, July, 2000, p.117.

- Wilman, E.A. "Wildlife Production, Environment and Management," pp. 241-256, in *Modelling Change in Integrated Economic and Environmental Systems*, S. Mahendrarajah, A.J. Jakeman and M.McAleer (eds.), John Wiley and Sons Ltd., 1999.
- Wilman, E.A. and R.D. Burch. "Traditional and Modern Institutions and the Commons," pp. 7388, in *Traditional and Modern Approaches to the Environment: Tensions and Values*, H. Coward (ed.) State University of New York Press, 1998.
- Wilman, E.A. "International Principal Agent Contracts to Limit Global Warming," pp.250-263, in *Designing Institutions for Environmental and Resource Management*, E.T. Loehman and D.M. Kilgour (eds.), Edward Elgar Publishing Ltd., 1998.
- Wilman, E.A., "Review of Valuation of Environmental and Health Benefits of Controlling Air Pollution," in *Proceedings of a Symposium on Technical Risk Issues in Business and Regulatory Decision Making*, D. DelBel Beluz (ed.), Institute for Risk Research, University of Waterloo, October 1996.
- Wilman, E.A., "Pests: Sustained Harvest versus Eradication," *Journal of Environmental Management* Vol. 46, 1996, pp. 139-47
- Wilman, E.A., "Liability versus Property Rule Protection for Surface Entitlement," *Canadian Journal of Agricultural Economics*, Vol. 42, 1994, pp. 177-89.
- Wilman, E.A. with P.N.V. Tu, "A Generalized Predator-Prey Model: Uncertainty and Management," *Journal of Environmental Economics and Management*, Vol. 23, No. 2, September 1992, pp. 123-38.
- Wilman, E.A., "Reducing Global Carbon Emissions: Developed versus Developing Countries," in H. Coward (ed.) *The Future of Fossil Fuel*, Calgary: Calgary Institute for the Humanities, and the Canadian Energy Research Institute, 1992, pp. 89-95.
- Wilman, E.A., "Considerations for Access Fees for Recreational Hunting," in Renecker, L.A. and R.J. Hudson (eds.), 1991, *Wildlife Production: Conservation and Sustainable Development*, AFES Miscellaneous Publication 91-6, University of Alaska, Fairbanks, Alaska, pp. 272-86.
- Wilman, E.A. with M.S. Shedd and R.D. Burch, "An Economic Analysis of Canadian Content Regulations and a New Proposal," *Canadian Public Policy*, Vol. 16, Jan. 1990, pp. 60-72.
- Wilman, E.A. and Vicki J. Stewart, "Economics and the Environment," *CABE News*, Winter, 1990.
- Wilman, E.A. and J.D. Perras, "the Substitute Price Variable in the Travel Cost Equation," *Canadian Journal of Agricultural Economics*, Vol. 37, July 1989, pp. 249-61.

- Wilman, E.A. with P.N.V. Tu and R. Cullen, "Decision Making Under Uncertainty: An Application to Wildlife Management," *Journal of Environmental Management*, Vol. 28, 1989, pp. 243-53.
- Wilman, E.A., "Pricing Policies for Outdoor Recreation," *Land Economics*, Vol. 64, August 1988, pp. 234-41.
- Wilman, E.A. with W.A. Kerr, "A Proposed Formal Structure for Assessing Bear-Human Encounters," *Environmental Management*, Vol. 12, Mar. 1988, pp. 173-79.
- Wilman, E.A., "Modeling Recreation Demands for Public Lands Management," Ch. 8 in *Environmental Resources and Applied Welfare Economics: Essays in Honour of John V. Krutilla* (V.K. Smith, ed.) Resources for the Future, 1988, 165-90.
- Wilman, E.A., "The Valuation of Intangible Benefits and Non-Market Commodities: Techniques and Approaches Applicable to Resource Planning and Management," Alberta Energy and Natural Resources, *Proceedings of a Symposium on the Role of Economics in Integrated Resource Management in Alberta*, October 1987.
- Wilman, E.A., "Sensitivity of Consumers' Surplus Estimates to Variation in the Parameters of the Travel Cost Model," *Canadian Journal of Agricultural Economics*, Vol. 35, March 1987, pp. 197-212.
- Wilman, E.A., "Supply Side Option Value," *Land Economics*, Vol. 63, No. 3, August 1987, pp. 284-90.
- Wilman, E.A., "A Simple Repackaging Model of Outdoor Recreational Behaviour," *American Journal of Agricultural Economics*, Vol. 69, August 1987, pp. 603-12.
- Wilman, E.A., P.N.V. Tu, and William A. Kerr, "Of Bears and People: Close Encounters in the National Parks," *Journal of Environmental Management*, Vol. 24, March 1987, pp. 181-200.
- Wilman, E.A., "Comments on 'Measuring the Benefits of Environmental Preservation or Improvement: A Commentary on Recent Research in the U.S.' by Allen V. Kneese" in Economic Council of Canada, *Proceedings of the Colloquium on the Environment*, 1986.
- Wilman, E. A., "Benefits to Deer Hunters from Forest Management Practices which Provide Deer Habitat," *Proceedings of the 49th North American Wildlife and Natural Resources Conference*, Wildlife Management Institute, 1985, pp. 334-44.
- Wilman, E. A., "Recreation Benefits from Public Lands," in *Valuation of Wildlife Resource Benefits*, George L. Peterson and Alan Randall, eds., (Boulder: Westview Press, 1984), pp. 231-57.
- Wilman, E. A., *External Costs of Coastal Beach Pollution*, Washington, D.C., Resources for the Future, 1984.

- Wilman, E. A. with C.J. Bruce, "Passing off and Tying: The Confluence of Tort and Antitrust," *Osgood Hall Law Journal*, Winter 1984, pp. 665-82.
- Wilman, E. A., "National Forest System Planning and Management: An Analytical Review and Suggest Approach," with John V. Krutilla and Michael D. Bowes in *Governmental Interventions, Social Needs and the Management of U.S. Forest: A Research Paper from Resources for the Future*, Washington, D.C., 1983.
- Wilman, E. A., *Assessing the Social Costs of Oil Spills: The Amoco Cadiz Case Study* with Robert C. Anderson, Gardner M. Brown, Jr., Richard C. Congar, Joel P. Dirlam, Thomas A. Grigalunes, Norman F. Meade, Philip E. Sorenson and Timothy J. Tyrrell, Washington, D.C., U.W. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, 1983.
- Wilman, E. A., "Hedonic Prices and Beach Recreational Values," in *Advances in Applied Microeconomics*, V. Kerry Smith, ed. (Greenwich, CT, JAI Press, 1980).
- Wilman, E. A., "A Note on the Value of Time in Recreational Benefit Studies," *Journal of Environmental Economics and Management*, September 1980.
- Wilman, E. A. and John V. Krutilla, *Environmental Impacts and Economic Evaluation Research Needs for Coastal and Marine Resource Management*, Washington, D.C., U.S. Government Printing Office, May 1979 (PB-301 208/5WP).
- Wilman, E. A., "OCS Development and Commercial and Recreational Fishing," *Coastal Zone Management Journal*, Vol. 5, No. 2, 1978.
- Wilman, E. A., "Economic Values and Ecological Impacts Associated with Oil Spills," *Proceedings of the American Institute of Biological Sciences Conference on the Assessment of Ecological Impacts of Oil Spills*, September 1978.
- Gardiner, E. A., "Camping Behavior: An Empirical Analysis with Policy Implications," in Shaul P. Ladany, ed., *Management Science Applications to Leisure Time Operations*, (North Holland Publishing Co., 1975).
- Gardiner, E. A., *Public Investment Criteria: Application to a Project in the Souris River Basin*, Research Report No. 8, Agassiz Centre for Water Studies, University of Manitoba, 1972.
- Gardiner, E.A., "The Direct Income Redistributive Effects of an Irrigation Project," *Annals of Regional Science*, December 1971, pp. 137-52.

BOOK REVIEWS

Worst Case Scenario, NFB Documentary, in *Energy Studies Review*, Vol. 10:2, pp.19-20.

Ecological Economics: Emergence of a New Paradigm, by Institute for Research on Environment and Economy, in *Journal of Development Studies*, Vol. 15, No. 3, 1994, pp. 464-66.

Environment and Economy: Property Rights and Public Policy, by Daniel W. Bromley, in *Canadian Public Policy*, Vol. 29, No. 1, 1993, pp. 252-53.

Natural Resource Economics: Conservation and Exploitation, by Philip A. Neher, in *Canadian Journal of Economics*, Vol. 25, No. 1, 1992, pp. 250-52.

The Brundtland Challenge and the Cost of Inaction, edited by Alex Davidson and Michael Dence, in *Canadian Public Policy*, Vo. 15, December 1989, p. 447.

Resource Rents and Public Policy in Western Canada by T. Gunton and J. Richards in *Canadian Public Policy*, Vo. 14, No. 2, June 1988, pp. 236-37.

Natural Resource Economics: Issues, Analysis and Policy, by Charles W. Howe, in *Journal of the American Planning Association*, April 1980.

Unpriced Values: Decisions without Market Prices by John A. Sinden and Alberta C. Worrell, in *Journal of Regional Science*, Vol. 21, No. 4, November 1981.

REPORTS

SFMN Incentives Project Research Report: Joint Management of Forest Ecosystems. Prepared for the Sustainable Forest Management Project, Dec. 2008.

Carbon Sequestration in Agricultural Soils, prepared for BIOCAP Canada, Dec. 2007.

The Implications of A Tradable Emission Permits System for Energy Pipelines: Prepared for the Canadian Energy Pipeline Association, August 2000, with J.R. Boyce and R.L. Mansell.

User Fees for Recreational Hunting: A Report to the Recreation, Parks and Wildlife Association, June 1989.

Recreation Benefits, Final Report submitted to Alberta Lands and Forests, June 1987, with James Perras.

A Methodology for Estimating the Consequences of Forest Management on Recreation Benefits, Multiple Use Forestry Project, Resources for the Future, 1981, with Reed Johnson, John Krutilla, and Michael Bowes.

Hedonic Prices and Beach Recreational Values: A Case Study of Cape Cod and Martha's Vineyard, Final Report submitted to the Office of Coastal Zone Management of the National Oceanic and Atmospheric Administration, August 1979, with John V. Krutilla and James S. Poles.

Environmental Impacts and Economic Evaluation Research Needs for Major Development Activities in the Coastal Zone, Final Report submitted to the Ocean Management Office of the National Oceanic and Atmospheric Administration, September 1978, with John V. Krutilla.

RESOURCES FOR THE FUTURE DISCUSSION PAPERS

Valuation of Public Forest and Rangeland Resources, with the assistance of Paul Sherman, 1983.

Environmental Impacts and Economic Evaluation Research Needs for Coastal and Marine Resource Management, with John V. Krutilla, 1979.

D-28 Pricing of Outdoor Recreation, 1978.

PRESENTATIONS

“Carbon Sequestration in Agricultural Soils” presented at the Canadian Resource and Environmental Economics Study Group Workshop, University of Guelph, October 2010.

“Regulating Greenhouse Gases: Emissions Intensity Limits, A Hybrid Policy, and Offsets,” presented at the Canadian Resource and Environmental Economics Study Group Workshop, Ryerson University, October 2008.

“Carbon Sequestration in Agricultural Soils” Presentation to CERI Workshop Series, Sept. 2004.

“Who Owns the Sky?” presented at the Canadian Institute Conference on Maximizing Opportunities for Emissions Trading and Reduction in the Energy Industry.” Calgary, June , 2003.

"An Economic Model of Aboriginal Fire-Stick Farming," presented at the International Society for Ecological Economics Conference in Canberra, July 2000.

- "Carbon Offsets" presented at the Canadian Resource and Environmental Economics Study Group at the University of Alberta in Oct. 1999.
- "Incentives to Participate in an International Environmental Agreement: Another Perspective," presented as part of the Economics Seminar Series at the Research School for the Social Sciences at Australian National University, April 1999, and to the Economics Department at Monash University, May 1999.
- "Bioprospecting and Biodiversity Contracts," presented at the Canadian Resource and Environmental Economics Study Group Workshop, McMaster University, October 1997, the Ecological Economics Seminar Series at the Centre for Resource and Environmental Studies, Australian National University, November 1998, as part of the Department of Forestry Colloquium at Australian National University, March 1999, and to the Department of Economics at La Trobe University in May, 1999.
- "Simulated Emission Trading Markets," presented at the 37th Meeting of the Canadian Operational Research Society (May 1995), The Canadian Economics Association Meeting (Montreal) (June 1995), and the Canadian Resource and Environmental Economics Study Group Workshop, McGill University (October 1996).
- "Traditional and Modern Institutions and the Commons," presented at the Workshop on Tensions between Traditional and Modern Institutions and the Commons at the Centre for Studies in Religion and Society, Summer Institute, University of Victoria, August 1995.
- "International Principal Agent Contracts to Limit Global Warming," presented at the 1994 Conference of the Western Economic Association International: Markets and the Environment, Vancouver, B.C., June 1994.
- "Environmental Economics, Ecological Economics, Sustainability and Economic Development," presented at the Saskatchewan Energy Conservation and Development Authority's Conference on Social Costing, Saskatoon, Saskatchewan, September 1994
- "Internationally Tradable Permits for Sulphur Dioxide Emissions," (with V.J. Stewart) presented at Third Annual Meeting of the Canadian Resource and Environmental Economics Study Group, Université d'Ottawa, October 1993, 20 pp
- "Product Pricing and Environmental Costs: The Case of Regulated Utilities," presented at the Canadian Association of Members of Public Utility Tribunals (CAMPUT) Educational Conference, Banff, Alberta, May 1993, 10 pp.

- “Economic Efficiency and Fairness in Negotiating Reductions in Global Carbon Emissions,” presented at the Calgary Institute for the Humanities Symposium on the Future of Fossil Fuel, January 1991; Economics Department Seminar Series, Victoria University of Wellington, Wellington, New Zealand, September 1991; Economics Department Seminar Series, Auckland University, Auckland, New Zealand, April 1992; Second Annual Meeting of the Canadian Resource and Environmental Economics Study Group, Université Laval, September 1992.
- “Liability versus Property Rule Protection for Surface Rights,” presented at a combined Economics Department - Resource Management Institute seminar at Lincoln University, Christchurch, New Zealand, March 1992, and at the inaugural Law and Economics Seminar at Waikato University, Hamilton, New Zealand, April 1992.
- “Economic Efficiency and Fairness, Negotiating Reductions in Global Carbon Emissions,” presented at Second Annual Meeting of the Canadian Resource and Environmental Economics Study Group, Université Laval, October 1992.
- “Economic Issues in Climate Change,” Royal Society, The University of Calgary, February 1990.
- “Pricing Policies for Recreational Hunting,” presented to the department of Economics, University of Lethbridge, February 1990.
- “Green Taxes,” presented at the joint meeting of the Canadian Economics Association and the Canadian Association of Business Economists, June 1990 (with Vicki Stewart).
- “Canadian Content and Transferable Quotas in Television Broadcasting,” presented at the Canadian Economics Association Meetings, June 1990.
- “Social Justice and the Environment,” The University of Calgary, Catholic Community, Social Justice Committee, February 1989.
- “Economics and the Greenhouse Effect,” Canadian Institute of International Affairs, Calgary Branch, March 1989.
- “Pricing Policies for Outdoor Recreation,” seminar presented to Department of Rural Economy, University of Alberta, February 1988.
- “Irreplaceable Goods, Irreversible Outcomes, Non-Market Values and Benefit Cost Analysis Under Uncertainty,” presented at the Canadian Economic Association Meetings, June 1988.
- “Recreation Benefits,” seminar presented to Alberta Lands and Forests, June 1987.
- “Economics of Multiple Use on the Eastern Slopes,” presented at the Alberta Institute of Agrologists’ and Soil Conservation Society of America’s Conference on Agriculture on the Eastern Slopes, Banff, Alberta, May 1986

“Valuing Quality Changes in Recreational Resources,” presented at the Association of Environmental and Resource Economists’s Workshop on Recreation Demand Modeling, Boulder, Colorado, May 1985.

“Interactive Impacts and Formal Structure: The Case of Bear-Human Encounters,” with W.A. Kerr presented at the Special North American Conference on Impact Assessment in Resource Development sponsored by the International Association for Impact Assessment, Canadian Institute of International Affairs, Calgary Branch, September 1985.

“The Valuation of Intangible Benefits and Non-Market Commodities: Techniques and Approaches Applicable to Resource Planning and Management,” presented at the Symposium on the Role of Economics in Integrated Resource Management, sponsored by the Alberta Energy and Natural Resources, Hinton, Alberta, October 1985.

“Comments on ‘Measuring the Benefits of Environmental Preservation or Improvement: A Commentary on Recent Research in the U.S.’ by Allen V. Kneese,” presented at the Colloquium on the Environment, sponsored by the Economic Council of Canada, Toronto, Ontario, December 1985.

“Benefits to Deer Hunters from Forest Management Practices which Provide Deer Habitat,” presented at the 49th North American Wildlife and Natural Resources Conference, March 1984.

“Valuation of Public Forest and Rangeland Resource,” presented at the Resources for the Future Recreation Benefits Workshop series, June 1983 and at the U.S. Forest Service Seminar Series, June 1983.

“Recreation Benefits from Public Lands,” presented at the Rocky Mountain Forest and Range Experiment station’s Conference on the State of the Art in the Valuation of Wildland Resource Benefits, January 1982.

“Coastal Zone Management and the National Interest,” presented at the Association for Public Policy Analysis and Management meeting, Washington, D.C., October 1981.

“Economic Values of Forest Recreation,” presented at the Women’s Seminar Series, Yale School of Forestry and Environmental studies, November 1981.

“OCS Development and Commercial Recreational Fishing,” presented at the Eastern Economics Association annual meeting, Boston, May 1979.

“Economic Valuation of Alternations in the Flow of Non-Market Services from Coastal and Marine Environments: Some Issues,” presented at the Conference on Environmental Benefit Estimation, University of Chicago, June 1977.