

Andrew David Park Ph.D.

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EDUCATION

- Ph.D. (Forest Ecology)** University of Toronto, Ontario, Canada. 1995 - 2001
Thesis: “Post-harvest natural regeneration in pine-oak forests of the Sierra Madre Occidental, Mexico.”
Supervisor: Prof. Rorke Bryan (Dean, Faculty of Forestry).
- M.Sc.F. (Forest Science)** University of Toronto, Ontario, Canada. 1993 - 1996
Thesis: “Preconditioning responses of salt-tolerant and salt-sensitive provenances of *Acacia tortilis* (Forsk.) Hayne to high salinity.”
Supervisor: Prof. Terry Blake (Faculty of Forestry).
- B.Sc. (Biological Sciences)** Simon Fraser University, BC, Canada. 1989 - 1991

EMPLOYMENT HISTORY

Forestry and Biology

Associate Professor 2004 – present
Dept. Biology, University of Winnipeg, 515 Portage Avenue, Winnipeg, Mb. R3B 2E9

I am conducting research into forest restoration in Panama, and aspen regeneration in the aspen parklands / boreal transition zone in Manitoba. My teaching duties include curriculum development and lecturing in “Principles of Ecology”, “Forest Ecology”, “Principles of Silviculture” and “Ecological Methodology”.

Post-doctoral research fellow 2002 – 2004
Groupe de Recherche en Écologie Forestière, Université du Québec,
CP 8888, Succursale Centre-Ville, Montréal, Québec, H3C 3P8.

I took part in projects that included investigations of dendroecology and spatial dynamics in post-fire successional sequences in boreal forests, and the affinity of multiple taxa for identified cohorts of black spruce forests.

Gap dynamics research consultant 2001
BOLFOR, Casilla #6204, Santa Cruz, Bolivia.

I designed and executed an ecological survey of natural regeneration and environment in a chronosequence of logging gaps in a humid tropical forest in central Bolivia.

Participatory Development Worker 1995
W.U.S.C., 1404 Scott St. Box 3000 Ottawa, ON. K1Y 4M8.

As part of a multidisciplinary team, I used Participatory Rural Appraisal to investigate fuelwood scarcities in Malawi, and helped facilitate plans for a multi-species tree nursery.

Forestry Technician / Biologist 1992 - 1993 and summer, 1994
Laing and McCulloch Forest Management Services, Box 880, Smithers, B. C., VOJ 2N0

My duties include conducting silvicultural surveys, silviculture planning, wildlife habitat mapping, ecosite classification, pre-harvest silvicultural prescriptions, and statistical analyses. I was project manager on site degradation surveys and investigations of site index discrepancies in second growth forests.

Cooperative Education Student
Simon Fraser University, Burnaby, BC, Canada.

Research Assistant, Marten Habitat Suitability Project, 1991
BC Ministry of Environment, Smithers, BC.

Activities included winter tracking of wildlife species on snowshoes and an analysis of marten scat to determine dietary preferences. I also developed a visual key to the guard hairs of prey species for use in future research.

Hydrology Technician, 1991
BC Ministry of Forests, Skeena Regional Office, Smithers, BC.

Engaged in routine sediment sampling and completed a project to analyze sediment loads in small streams flowing through fresh cutblocks.

Ecophysiology Research Assistant, 1990
BC Ministry of Forests, Prince George Regional Office, Prince George, BC.

Took field measurements of photosynthesis and light environments in ecophysiological regeneration trials.

Behavioural Ecology Research Assistant 1989
Simon Fraser University, Burnaby, BC.

Assisted in field monitoring of feeding behaviour in transient population of killer whales, and investigations of sensitivity of wild guppies to predation threats.

Teaching

Sessional Lecturer 1996 - 2000
University of Toronto, Departments of Geography and Division of the Environment.

Developed and taught a third year joint Forestry/Geography course: JFG 328: *Conservation and Management of Canada's Forests.*

Taught ENV 200, *Assessing Global Change*, for the Division of the Environment. ENV 200 is an environment course for non-science majors.

Coordinated teaching and organization of a joint graduate-undergraduate course: FOR 1580, *Ecology and Conservation of Tropical Forests.*

Developed and taught a 6-lecture module in spatial aspects of ecological data for a

second year biostatistics course: JBS200.

Teaching Assistant 1994 - 1999
University of Toronto, Division of the Environment, 33 Willcocks St., Toronto, M5S 3B3.
Facilitated small-group tutorials and marked all assignments and examinations in ENV. 221 - Environmental Issues I and ENV. 200, - Global Environmental Change.

Community College Instructor 1992 - 1993
Northwest Community College, Box 338, Hazelton, BC, VOJ 1Y0.
Lectured in Botany, Forest Ecology, Communications, and Introductory Resource Management in the Forest Technology Program.

Course attended: "Teaching in Higher Education" 1999
University of Toronto, School of Continuing Studies/Woodsworth College.
Topics covered included styles, interactive teaching, teaching large classes, classroom disruption, and problems of ESL students.

LANGUAGES

Fluent written and spoken Spanish, beginner French and Portuguese.

GRANTS (LAST FIVE YEARS)

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| Manitoba Hydro Forest Enhancement Grant (with Richard Westwood and Jacques Tardif) | 2009-2011 | \$30,000.00 |
| President's award for teaching and learning | 2008 | \$4,550.00 |
| NSERC Discovery Grant (five years) | 2007 - 2011 | \$72,000.00 |
| NSERC Collaborative Grant (2½ years) (with Richard Westwood) | 2006 - 2008 | \$45,000.00 |
| Manitoba Hydro Forest Enhancement Grant (with Richard Westwood) | 2006 - 2008 | \$30,000.00 |
| Manitoba Conservation Sustainable Development Innovations Fund (SDIF) (with Richard Westwood) | 2006 - 2008 | \$10,000.00 |
| University of Winnipeg Startup Funding | 2005 | \$20,000.00 |
| University of Winnipeg Major Grant | 2006 | \$5,000.00 |
| Seed grant from Smithsonian Tropical Research Institute (STRI) | 2005 | US\$5,000.00 |

SCHOLARSHIPS AND PRIZES

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| GREFi and Chaire industriel grants, University of Quebec | 2003 - 4 |
| University of Quebec Post-Doctoral Fellowship | 2002 - 2003 |

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| Ontario Graduate Scholarship in Science and Technology | 1999 – 2000 |
| International Development Research Council Latin America Research Links Scholarship. | 1997 |
| Sisam Award for best student publication (Canadian Institute of Forestry) | 1997 |
| University of Toronto Open Fellowship | 1995 – 1998 |
| Edward Ellsworth Johnson Fellowship. | 1994 – 1995 |

AFFILIATIONS AND VOLUNTEER WORK

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| Volunteer, Hyacinth Macaw conservation, Mato Grosso do Sul, Brazil | 2001 |
| Member, Toronto Bird Observatory | 2000 - 2004 |
| Member, Canadian Institute of Forestry, southern Ontario Section. | 1996 – 2002 |
| Academic Representative – Forestry Graduate Students' Association | 1997 - 1999 |
| Member, Skeena Round Table for Sustainable Development | 1991 - 1992 |

PUBLICATIONS AND PRESENTATIONS

Peer reviewed publications

- Park, A.** (2011). Beware paradigm creep and buzzword mutation. *The Forestry Chronicle* 87 (3).
- van Breugel, M., Jefferson S. Hall, Dylan J. Craven, Timothy G. Gregoire, **Andrew Park**, Daisy H. Dent, Mark H. Wishnie, Emilio Mariscal, Jose Deago, Diogenes Ibarra, Norma Cedeño and Mark S. Ashton (2011). Early growth and survival of 49 tropical tree species across sites differing in soil fertility and rainfall in Panama. *Forest Ecology and Management* 261 (10): 1580-1589.
- Carlyle-Moses, D, **Park, A.**, and J. L. Cameron (2010). Modeling rainfall interception loss in forest restoration trials in Panama. *Ecohydrology* (www.interscience.wiley.com) DOI: 10.1002/eco.105.
- Bastien Henri S., **Park, A.**, C. Messier *et al* (2010). Biomass accumulation and partitioning in tropical tree plantations: effects of species size and site conditions. *Forest Ecology and Management*. 260: 403–410
- Park, A.**, Friesen P. and Sarmiento A. (2010). Dynamics of water storage in litter layers of tropical plantation trees and the invasive grass *Saccharum spontaneum*. *Journal of Hydrology* 383 (2010) 167–178
- Park, A.**, van Breugel, M, Ashton, A. S., Wishnie, M, Mariscal, E., Deago, J., Ibarra, D., Cedeño, N, and Jefferson S. Hall. (2010). Local and regional environmental variation influences the growth of tropical trees in selection trials. *Forest Ecology and Management* 260: 12–21.
- Park, A.** (2008). Response to: Fact and Fantasy about Forest Carbon by Ter-Mikaelian et al., *The Forestry Chronicle* 84 (2): 166–171 (March/April 2008). *The Forestry Chronicle* 84 (5): 637-638.

- Park, A.** & Cameron, J.L. (2008) The influence of canopy traits on throughfall and stemflow in five tropical trees growing in a Panamanian plantation. *Forest Ecology and Management*, **255**: 1915-25.
- Park, A.**, and E. R. Wilson, (2007). Beautiful Plantations: Can intensive silviculture help Canada to fulfill ecological and timber production objectives? *Forestry Chronicle* 83 (6): 825 – 839.
- Wilson, E. R., Vitols, C. J. and **A. D. Park**, 2007. Root characteristics and growth potential of container and bare-root seedlings of red oak *Quercus rubra* L. in Ontario, Canada. *New Forests* 34 (2): 163 – 176.
- Park, A.**, Justiniano, J. M, and T. S. Fredericksen, 2005. Natural regeneration and environmental relationships of tree species in logging gaps in a Bolivian tropical forest. *Forest Ecology and Management* 217: 147 - 157.
- Namroud, M. C., **Park, A.** Tremblay, F. and Y. Bergeron 2005. Clonal and spatial genetic structure of aspen (*Populus tremuloïdes* Michx.). *Molecular Ecology* 14: 2969–2980.
- Park, A.**, Kneeshaw, D., Bergeron, Y, and A. Leduc, 2005. Spatial relationships and tree species associations across a 236-year boreal mixedwood chronosequence. *Canadian Journal of Forest Research* 35: 750-761.
- Park, A.**, 2003. Spatial segregation of pines and oaks under different fire regimes in the Sierra Madre Occidental. *Plant Ecology* **169 (1)**: 1-20.
- Park, A.**, 2001. Environmental influences on post-harvest natural regeneration in Mexican pine-oak forests. *Forest Ecology and Management* **144**: 213 - 228.
- Park, A.**, 1997. Trees, people, soil and food: a case study of participatory development in rural Malawi. *Forestry Chronicle* **73 (2)**: 221 – 227.
- Park, A.**, 1993. Guidelines for the Maintenance of Biodiversity During Juvenile Spacing Prepared for BC Ministries of Environment and Forestry by Laing and McCulloch Forest Management Services, Queen's Printer, Victoria: 25 pp.

Papers submitted to peer-reviewed journals (reviews pending).

- Friesen P., **Park A.** and A. Sarmiento. Comparing rainfall interception by Tropical plantation trees and the invasive sugar cane *Saccharum spontaneum*. Submitted to *Journal of Hydrology*.
- Renton J., **Park, A.**, and R. Westwood. Influence of cattle grazing on regeneration abundance and health indicators in logged aspen stands of western Manitoba. Submitted to Canadian Journal of Forest Research.

Papers and reports in preparation or revision.

- Park, A., and co-authors. Future forests: phenology, physiology, and adapting boreal and temperate forest management to the uncertainties of climate change.

Book Chapters (peer-reviewed)

- Park, A.** (2003). Forests. Ch. 4 in K. Hillstrom and L. C. Hillstrom (*eds*), The World's Environments, Europe: a continental overview of environmental issues. ABC Clio, Santa Barbara, California: 73-94.

Presentations and Posters

- Park, A** (2011). Silvicultural responses to climate change: The role of uncertain future climates and other unknown unknowns. North American Forest Ecology Workshop (NAFEW), Roanoke, VA, June 19 – 23rd, 2011.
- Talbot, C. and **Park, A.** (2011). Assessing potential tree candidates for managed relocation in southern Manitoba. North American Forest Ecology Workshop (NAFEW), Roanoke, VA, June 19 – 23rd, 2011.
- Park, A** (2011). Climate Change and Forestry: Inevitable uncertainty --- or ---- Nothing succeeds like failure? Keynote presentation at the first Manitoba CIF Forest Ecology Workshop. University of Winnipeg, Winnipeg, MB, March 24th, 2011.
- Park, A**, (2010). Climate change and silvicultural options: caught between a frost and a hot place? Presentation to the Canadian Institute of Forestry – Forest Ecology Working Group; Workshop on “Forest Ecosystem Resilience”, September 29 and 30, 2010, Jasper, AB.
- Renton, J, **Park, A**, and Westwood, R. (2010). Influence of cattle grazing on regeneration abundance and health indicators in logged aspen stands of western Manitoba. Presentation to the Canadian Institute of Forestry – Forest Ecology Working Group; Workshop on “Forest Ecosystem Resilience”, September 29 and 30, 2010, Jasper, AB.
- Renton, J, **Park, A**, and Westwood, R. (2009). Influence of cattle grazing on regeneration abundance and health indicators in logged aspen stands of western Manitoba. Presentation at Fourth National Conference on Grazing Lands 2009, Reno, NV.
- Bastien-Henri, S., Messier, C., and **A. D. Park** (2007). Biomass allocation in tropical tree plantations: Comparison among 23 native and non-native species of Panama. Poster presented at the 6th North American Forest Ecology Workshop, June 18th - 21st, Vancouver, B.C.
- Park, A.**, and C. Messier (2005). Beautiful plantations: can intensively managed temperate forest plantations fulfill both ecological and timber production objectives. *Presented at* The 5th North American Forest Ecology Workshop, June 12th – 16th, Aylmer, Quebec.
- Moss-Gillespie, N, and **Park, A.** (2005). Forest certification in a Mexican ejido: field testing F.S.C. principles and criteria in a community-controlled forest. *Presented at* The 5th North American Forest Ecology Workshop, June 12th – 16th, Aylmer, Quebec.
- Moss-Gillespie, N, and **Park, A.** (2003). “Forest certification in a Mexican ejido: field testing F.S.C. principles and criteria in a community-controlled forest”. *Poster presentation at* The XII World Forestry Congress, Sept 22 - 26, 2003, Quebec City, Quebec.
- Park, A.**, Kneeshaw, D., Bergeron, Y., and A. Leduc (2003). Species mixing and spatial patterns in a boreal mixedwood chronosequence. *Presented at* the Fourth North American Forest Ecology Workshop, Corvallis, OR, June 16 – 20, 2003.
- Park, A.**, 2002. “Fire histories and future stand structures in pine-oak stands in the Sierra Madre Occidental”. *Poster presentation at* Emulating Natural Forest landscape Disturbances: Concepts and Applications, May 14-15, 2002, Saulte St. Marie, Ontario.

- Park, A.**, 1999. "Environmental influences on post-harvest natural regeneration in Mexican pine-oak forests." *Presented at The Fourth Mexican Congress on Forest Resources, Durango, Mexico, Nov. 24 – 26, 1999 (in Spanish).*
- Park, A.**, 1999. "Variable fire histories and microenvironment in managed pine oak stands in the Sierra Madre Occidental: presentation of preliminary results." Expert panel presentation (*Magistral*). *Presented at The Fourth Mexican Congress on Forest Resources, Durango, Mexico, Nov. 24 – 26, 1999 (in Spanish).*
- Park, A.**, 1999. "Environmental influences on post-harvest natural regeneration in Mexican pine-oak forests: presentation of preliminary results." *Presented at CONFOR (graduate student forestry conference), Bar Harbor, Maine, February 1999.*

Selected reports

- Park, A.**, Henschel, C., Kuttner, B., and G. McEachern, 2004. A Cut Above: A report on alternatives to clearcut harvesting in the boreal forest. *Report for the Ontario Wildlands League, Toronto.*
- Park, A.**, 2003. Regeneration of commercial and pioneer tree species in a chronosequence of logging gaps in La Chonta, Bolivia. Technical Report for *Proyecto de Manejo Forestal, Sostenible (BOLFOS), Santa Cruz, Bolivia.*
- Park, A.**, 1999. Influencia de los factores ambientales en la determinación de la regeneración natural en bosques de pino-encino de la UCODEFO No. 4 en San Dimas, Durango, México. *Research report for Mexican forest management agency.*
- Park, A.**, 1993. Vancouver Forest Region Site Index Discrepancy Report (*Laing and McCulloch Forest Management Services*).
- Park, A.**, 1992. Post Harvest Site Degradation Report - Kispiox Forest District, 1992. (*Laing and McCulloch Forest Management Services*).
- Park, A.**, 1991. Analysis of the Contents of 112 Marten Scat Collected From Sub-Boreal Spruce Forest Sites in the Prince Rupert Forest Region (*Research report for the Wildlife Section, Skeena Region MOE Regional Office, Smithers*).