Curriculum vitae
Mark Alun Lewis

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Birth Date: December 7, 1962

Nationality: Canadian

Degrees:

University of Oxford
D.Phil. in Mathematics (Mathematical Biology), November 1990. Thesis entitled "Analysis of Dynamic and Stationary Biological Pattern Formation." Supervised by Professor J. D. Murray, FRS.

University of Victoria, Canada
B.Sc., Double Major in Biology and Combined Mathematics/Computer Science, May 1987, First Class.

Positions:

7/01–now *Professor and Senior Canada Research Chair in Mathematical Biology*
Department of Mathematical Sciences and Department of Biological Sciences, University of Alberta.

7/00–2/02 *Professor*
Department of Mathematics, University of Utah.

7/95–7/00 *Associate Professor*
Department of Mathematics, University of Utah.

5/95–6/02 *Adjunct Faculty*
Department of Biology, University of Utah.

7/93–now *Affiliate Faculty*
Department of Applied Mathematics, University of Washington, Seattle.

4/99–7/99 *Senior Visitor*
Institute for Industrial and Applied Mathematics, University of Minnesota.

9/98–12/98 *Research Fellow*
Centre for Population Biology at Silwood Park, Imperial College, University of London.

95 winter *Visiting Fellow*
Department of Ecology and Evolution, Princeton University (Sloan Research Fellow).

8/92-6/95 *Assistant Professor*
Department of Mathematics, University of Utah.

1/91–7/92 *Research Associate*
Mathematical Biology, jointly with the departments of Applied Mathematics and Zoology, University of Washington, working with Professors J.D. Murray and P. Kareiva, and supported by an NSERC of Canada Postdoctoral Fellowship Award.

Awards:

- Alfred P. Sloan Research Fellowship, June 1994–September 1996;
- National Young Investigator Award (NSF), October 1994–September 1999;
- University of Utah Faculty Fellowship, April 1998–June 1998;
- Senior Canada Research Chair in Mathematical Biology, July 2001–present;
- Killam Annual Professorship (Alberta), 2006–7;
- American Society for Naturalists Presidential Award, 2006;
- McCalla Professorship (Alberta), 2007–8;
- Lee Segel Prize for Best Original Research Paper, 2008.

Major Grants:

Alberta Sustainable Resource Development, Instream flow needs: an ecologically dynamic approach 2008-2010. Award amount $60,000.

BC Pacific Salmon Forum, Estimating sea lice transmission from farm to wild juvenile salmon 2007-2008 (coPI Martin Krkosek). Award amount $20,000.

BC Pacific Salmon Forum, Survival and predation field experiments 2007-2008 (coPI Martin Krkosek). Award amount $19,900.

Natural Science and Engineering Research Council of Canada, Major Resources Support, Pacific Institute for Mathematical Sciences 2008–2013 (Ivar Ekeland PI) Award. Amount: $5,500,000.

Natural Science and Engineering Research Council of Canada, Spatial Dynamics in Ecology 2006–2011. Award amount: $51,800 per annum.

Natural Science and Engineering Research Council of Canada, Canadian Aquatic Invasive Species Network 2006–2011 (Hugh MacIsaac PI). Award amount: $3,781,944.

Natural Resources Canada Mountain Pine Beetle Initiative, Modeling Spatiotemporal patterns of MPB infestation 2004–2007 (CoPI Fangliang He). Award amount: $394,090.

MITACS - Networks of Centres of Excellence, Network for Biological Invasions and Dispersal Research 2003–2010 (J. Watmough PI). Award amount from NCE (not including matching from nonacademic participants): $690,000.

Natural Sciences and Engineering Research Council of Canada, Collaborative Research Opportunities Grant: Ecological Forecasting and Risk Analysis of Nonindigenous Species. April 2003–April 2007 (CoPI Hugh MacIsaac). Award amount: $685,292.

National Science Foundation, University of Notre Dame subcontract, Ecological Forecasting and Risk Analysis of Nonindenous Species. September 2002–September 2007. Award amount: $15,000 per annum.

Natural Sciences and Engineering Research Council of Canada, Models for dispersal in spatial ecology. April 2002–April 2006. Award amount: $45,000 per annum.

Endowment Fund for the Future, University of Alberta, Distinguished visitor fund. February 2002–April 2002 (CoPI Thomas Hillen). Total Award amount: $8,836.

Canada Research Chair in Mathematical Biology, Chair's Fund for Research. University of Alberta, July 2001–July 2008. Award amount: $69,000 per annum.

Innovation and Science Research Investments Program, Research Program in Mathematical Biology and Centre for Mathematical Biology at the University of Alberta, July 2001. Total Award amount: $95,000.

Canadian Foundation for Innovation, Research Program in Mathematical Biology and Centre for Mathematical Biology at the University of Alberta, July 2001.
Total Award amount: $95,000.

National Science Foundation, Mathematical Sciences: International Conference on Mathematics in Biology at the University of Utah, August 2000. Total Award amount: US$13,000.00.

National Science Foundation, Mathematical Sciences: Discrete-time models for biological invasions, August 1999 — July 2002. Award is joint with M. Neubert, M. Kot and B. Fagan. Total Award amount: $380,000.00. Utah portion: US$127,500.

National Science Foundation, Mathematical Sciences: Gordon Research Conference on Theoretical Biology and Biomathematics, June 1998. Award is joint with J. Milton. Award amount: US$19,296.

Funding Incentive Seed Grant Program, University of Utah, Fluid flow model for optimizing high-frequency ventilation of the lung, April 1997 – September 1998. CoPIs D. Eyre, A. Fogelson, and S. Kern. Award amount: US$35,000.

National Science Foundation, Mathematical Sciences: Special Year in Mathematical Biology 1995-1996. Award is joint with H. Othmer and F. Adler. Award amount: US$309,124.

Alfred P. Sloan Research Fellowship, Mathematics: June 1994–September 1996.
Award amount: US$30,000.

National Science Foundation National Young Investigator Award: October 1994 – July 2000.
Award amount: US$187,802.

National Science Foundation, Mathematical Sciences: Modelling Territorial Patterns and Stability of Wolf-Deer Interactions, September 1992 – August 1995.
Award amount: US$124,380.

Environmental Protection Agency: Developing Guidelines for the Assessment of "Spread Risk" Using Microbe Field Trial Data: A Model Based Approach, September 1992 – August 1994. Award is joint with P. Kareiva (project manager) and J.D. Murray.
Award amount: US$163,858.

Selected Invited Lectures (since 1995):

1995 Dept. Mathematics and Statistics, University of Victoria; Dept. Applied Mathematics, University of Washington, Seattle; Dept. Mathematics, University of British Columbia, Vancouver; Woods Hole Oceanographic Institute, Woods Hole; SWRIMS Conference on Mathematical Modeling in Population Biology, Logan, Utah.

1996 Spatial EcologyWorking Group, NCEAS, Santa Barbara; International Conference on Dynamical Systems and Differential Equations, Missouri; Kyoto Conference on Mathematical Biology, Kyoto, Japan; NCEAS workshop on the role of dispersal in the Holocene expansion of trees, Santa Barbara; Society for Mathematical Biology Annual Meeting, Seattle; 3rd European Conference on Mathematics Applied to Biology and Medicine, Heidelberg, Germany.

1997 International Conference on Differential Equations with Applications to Biology, Halifax; Society for Mathematical Biology Annual Meeting, Raleigh;
Species RangeWorking Group, NCEAS, Santa Barbara.

1998 Dept. Math, University of Minnesota; Dept. Applied Math, University of Washington; Institute for Theoretical Dynamics, University of Davis; Dept. Math, Duke University; Biostatistics, North Carolina State University; AMS Western Division Meeting, Davis; Dept. Biology, Arizona State University; Science at Breakfast Lecture, U Utah; Dept.Math, Bath University; Dept. Biology, Imperial College, University of London; Dept. Math, Heriot Watt University; Dept. Math, Dundee University; Kings College, Cambridge University; Dept. Math, University of Heidelberg; Institute for Theoretical Biology, Leiden University; Dept. Math Utrecht University; AMS Western Division Meeting, Tucson.

1999 Institute for Mathematics and its Applications Minneapolis; Theory and Mathematics in Biology and Medicine, Amsterdam; Ecological Society of America, Spokane; Oberwolfach, Germany.

2000 Dept. Math, University of Alberta; Dept. Biology, University of Alberta; Dept. Math, University of British Columbia; Dept. Biology, University of Santa Barbara, California; UC San Diego Supercomputer Institute; Alberta Entomological Society; Max Planck Institute, Leipzig.

2001 NCEAS workshop on a New Synthesis of Demography and Dispersal (group participant), Santa Barbara, California; Dept. Math, UC Irvine; Dept. Math, University of Utah; Canadian Applied Mathematics Society, University of Victoria, Canada; Society for Mathematical Biology Meeting, Hawaii; 2001 Canada-China Mathematics Congress, Vancouver, Canada; Newton Institute, Cambridge.

2002 Department of Biological Sciences, University of Miami; Department of Mathematical Sciences, University of Miami; SIAM Life-Sciences Conference, Boston; Bio-X EFF Distinguished Lecture Series, Edmonton, Alberta; Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, New Hampshire; 5th Americas Conference of Differential Equations and Dynamical Systems, Edmonton, Alberta; International Conference on Modeling Pattern in Biology, Chubu, Japan; Woods Hole Annual Retreat in Mathematical Biology, Nantucket

2003 22nd Annual Ostrumlecturer,Washington State University; Topical Lecturer SIAM/CAIMS annual meeting, Montreal; Mini-symposium Speaker at Canadian Mathematical Society Annual General Meeting, Edmonton; Society for Mathematical Biology meeting, Dundee, Banff International Research Station, Fields Mathematics Institute workshop on Pattern Formation in Physics, Toronto.

2004 Plenary Speaker, Mathematics in Technology and Complex Systems 5th Annual Conference, Halifax; Plenary Speaker, joint annual meeting of the Canadian Applied Math Society and Canadian Mathematical Society, Halifax; Plenary Speaker, American Institute for Mathematical Sciences meeting, Pomona; Plenary Speaker, Annual Meeting of Japan Society for Mathematical Biology; Invited Speaker, DIVERSITAS workshop on Integrated modelling of economies and ecosystems, Paris; Invited Speaker, Banff International Research Station.

2005 Dept. Zoology, University of British Columbia; Dept. Organismal and Evolutionary Biology, Harvard University; Principal speaker, Sixth Mississippi State–UAB Conference on Differential Equations and Computational Simulations; Graduate summer school lecturer, Park City Math Institute (Institute for Advanced Study); Canadian Mathematical Society Winter Meeting, Victoria.

2006 Lansdowne Lecturer, University of Victoria; Invited speaker, American Association for the Advancement of Science; Keynote speaker, Western Conference on Linear Algebra; Dept. Biology, University of Toledo; Plenary speaker, Mexican Biomathematics Autumn

School (Xalapa); PIMS Distinguished Lecturer, University of British Columbia.

2007 Invited Participant, Summit of Scientists on Aquaculture and the Protection of Wild Salmon; Colloquium Speaker, Dept. Biology, University of Calgary; Interdisciplinary Mathematical Biology Speaker, Iowa State University; Plenary Speaker, New Zealand Institute of Mathematics and its Applications programme on Modelling Invasive Species and Weed Impact; Plenary Speaker, 2007 Alberta North-South Dialogue on Mathematics; Invited Speaker, Canadian Applied and Industrial Mathematics Society Annual Meeting; Invited Speaker, Jim Keener 60th Birthday Conference; Invited Speaker, Ecological Society of America Meeting; Plenary Speaker, Mathematical Biosciences Institute Workshop for Young Researchers in Mathematical Biology; Plenary Speaker, PIMS International Graduate Training Centre in Mathematical Biology (First Graduate Research Summit); Invited Speaker, Mathematical Biology Conference on the Occasion of Jim Cushing's 65th Birthday.

2008 Distinguished Lecturer in the Program for Interdisciplinary Mathematics, Ecology, and Statistics, Colorado State University; Invited Speaker, Banff International Research Station; Plenary Speaker, Society for Mathematical Biology Meeting, Toronto; Plenary Speaker, Western Section of the American Mathematical Society Meeting, Vancouver; Invited Speaker, PIMS Pacific Northwest meeting on Partial Differential Equations; Principal Speaker, Hans Weinbergers 80th Birthday Conference; Invited Speaker, University of Washington Boeing Applied Mathematics Colloquium; Invited Speaker, Institute for Theoretical and Mathematical Ecology, University of Miami; Invited Speaker, Center for Infectious Disease Dynamics, Penn State University.

Meetings Organized (since 1995):

1995 Special Year in Mathematical Biology (1995/96) at University of Utah.

1998 Co-chair of Gordon Conference on Theoretical Biology and Biomathematics.

1999 Co-organizer of a workshop: 'From Individuals to Aggregations' at the Institute for Mathematics and its Applications.

2000 Main Organizer of the International Conference on Mathematics in Biology and Society for Mathematical Biology Annual Meeting.

2001 Scientific Organizing Committee member, SIAM Life Sciences Conference, Boston; Mini-symposium organizer, SIAM Life Sciences Conference, Boston; Scientific Organizing Committee member, International Conference on Mathematics in Biology and Society for Mathematical Biology Annual Meeting in Hawaii.

2002 Organizer of PIMS Mathematical Biology Undergraduate Workshop;
Scientific Organizing Committee member, International Conference on Mathematics in Biology and Society for Mathematical Biology Annual Meeting in Knoxville;

Session organizer on Global Change at the Gordon Conference on Theoretical Biology and Biomathematics.

2003 Scientific Organizing Committee member, Fourth Geoffrey J. Butler International Conference in Differential Equations and Mathematical Biology (Alberta), Scientific Committee for Applications of Mathematics in Medicine workshop at the Fields Institute; Co-organizer of BIRS workshop: From molecules to ecosystems; The legacy of Lee Segel; Co-organizer of a BIRS Focused Research Group on Mathematical Models for Plant Dispersal; Scientific Organizing Committee member and Mini-symposium organizer, International Conference on Mathematics in Biology and Society for Mathematical Biology Annual Meeting in Dundee, Scotland; Co-organizer of Pacific Institute for the Mathematical Sciences, Period of Concentration in Mathematical Ecology and Evolution (2003–5).

2004 Scientific committee for Differential Equations and Applications in Mathematical Biology, Malaspina University College, Nanaimo; Co-organizer of MITACS/PIMS Summer School and Workshop: Infectious Diseases, Banff.

2005 Co-organizer of BIRS workshop, Mathematical Models for Biological Invasions, Banff; Scientific Committee member of European Society for Mathematical and Theoretical Biology Meeting; Co-organizer of IPAM Cells and Materials program in Los Angeles; Graduate Program Organizer for Park City Math Institute Summer Program in Mathematical Biology (Institute for Advanced Study); Scientific Organizing Committee member for Mathematics Institutes and NRC Workshop in Computational Biology.

2007 Organizer of PIMS Mathematical Biology Undergraduate Workshop; Scientific Program Committee Member and Mini-symposium Organizer for Canadian Applied and Industrial Mathematics Society Annual Meeting; Symposium Organizer for Ecological Society of America Meeting.

2008 Scientific Committee member for European Society for Mathematical Biology Meeting in Edinburgh; Scientific Advisory Committee member, Society for Mathematical Biology Meeting in Toronto; Scientific Committee for joint Society for Mathematical Biology/Chinese Society for Mathematical Biology Meeting in Hangzhou, China.

Editorial:

Chief Editor:

- *Journal of Mathematical Biology* (from April 08)

Editorial Boards:

- *Journal of Theoretical Biology* (97-01);
- *Journal of Mathematical Biology* (00-08);
- *Ecology* and *Ecological Monographs* (01-04);
- Academic Press Theoretical Ecology Series Editorial Advisory Board, (since 02);
- *SIAM Journal on Applied Math,* (05-08);

- *Applied Math Research eXpress* (since 05);
- *Journal of Biological Dynamics* (since 06);
- *Bulletin of Mathematical Biology* (since 06);
- *IMA Journal of Mathematics Applied to Biology and Medicine* (96-06);
- *Theoretical Ecology* (since 07);

Advisory:
- Society for Industrial and Applied Math Program Committee, 2008-present
- Mathematical Biosciences Institute Board of Trustees, September 2007-present
- Mathematical Biosciences Institute Board of Scientific Governors, October 2006-present
- Pacific Institute for Mathematical Sciences Board of Directors, January 2004-June 2005 and July 2006-present
- NSERC Grant Selection Committee in Ecology and Evolution, 2004-5 and 2006-8
- National Science Foundation (NSF) Review Committee for Mathematical Biosciences Institute, 2004
- *Journal of Theoretical Biology* Advisory Board, May 2001–May 2003
- Banff International Research Station for Mathematical Innovation and Discovery Scientific Advisory Board, March 2001-June 2004; Steering Committee March 2001-June 2002
- Panel member for the NSF/NIH joint NIGMS grant committee in mathematical biology, February 2002
- Alberta Ingenuity Fund Associateship Panel, April 2002

Service:
- Director, Centre for Mathematical Biology, University of Alberta, 2002-present
- Program Director, PIMS International Graduate Training Centre in Mathematical Biology, 2007-present
- President, Society for Mathematical Biology, 2001-3
- President Elect, Society for Mathematical Biology, 2000
- Board of Directors, Society for Mathematical Biology, 1996-1999
- External examiner, Department of Mathematics, Arizona State University, 2001
- Okubo Prize Committee Member, 2001
- Bellman Prize Committee Member, 2002
- Canada Research Chairs College of Reviewers, 2002
- Society for Industrial and Applied Math Program Committee 2008-present

Supervised:

<u>Masters Supervision:</u>
Greg Schmitz (1993);
Steve Parrish (1998);
Lora Ballinger (1999);
Brenlyn Thiroit (MStat project, 2000);
Amy Hurford (2005);
Hannah McKenzie (2006);
Justin Marleau (current).

<u>Doctoral Supervision:</u>
Robert van Kirk (1995, Associate Professor of Mathematics Idaho State University);

Tom Robbins (2004, Research Scientist, Idaho Technology);
Jungmin Lee (2006, Postdoctoral Researcher, University of Alberta);
Tomas de Camino-Beck (2006, Postdoctoral Researcher, University of Alberta);
Marty Krkosek (2008, Postdoctoral Researcher);
Chris Jerde (2007, Postdoctoral Research, Notre Dame);
Raluca Eftimie (2008, Postdoctoral Researcher, McMaster);
Peter Molnar (current, expected Sept 2008);
Hannah McKenzie (current);
Andrea Dawson (current);
Harshana Rajankaruna (current).

Postdoctoral Supervision:
Markus Owen (1997-99, Reader, Nottingham);
Bingtuan Li (1999-2001, Associate Professor Louiville);
Christina Cobbold (2001-3, Lecturer, Glasgow);
AnneMarie Pielaat (2001-3, RIVM, The Netherlands),
Leeza Pachepsky (visiting postdoc 2002-4, Microsoft);
Joanna Renclawowicz (2003-4, Polish Academy of Sciences),
Marjorie Wonham (2002-6, Research Associate, University of Alberta);
Frithjof Lutscher (2001-5, Assistant Professor University of Ottawa);
Erik Noonburg (2003-5, Assistant Professor Florida Atlantic University);
Tom Robbins (2004-5, Research Scientist, Idaho Technology);
Bill Nelson (2005-7, Assistant Professor, Queen's University);
Jungmin Lee (2006-7, National Institute for Nanotechnology);
Alex Potapov (Research Associate, 2003-current);
Caroline Bampfylde (2004-2008, Research Scientist, Government of Alberta);
Frank Hilker (2006-2008, Junior Faculty, University of Lisbon);
Tomas de Camino Beck (2006-2008, Postdoctoral Researcher, Penn State);
Frederic Hamelin (2007-2008, Junior Faculty, Agrocampus Rennes, France);
Jim Muirhead (2007-current).

Societies:

- Ecological Society of America (ESA),
- Society for Industrial and Applied Mathematics (SIAM),
- Canadian Applied and Industrial Mathematics Society (CAIMS),
- Society for Mathematical Biology (SMB)

Journal Publications
(student, postdoc and research associate names are in **bold**):

1. **Nelson, W.A.**, Lewis, M.A. Connecting host physiology to host resistance in the conifer-bark beetle system. *Theoretical Ecology*. DOI: 10.1007/s12080-008-0017-1.
2. **de Camino Beck, T.**, Lewis, M.A. (2008) Net reproductive rate and the timing of reproductive output. *American Naturalist, 172 (1), 128-39.*

3. **McKenzie, H., Jerde, C.**, Visscher, D.R., Merrill, E.H., Lewis, M.A. Inferring linear feature use in the presence of GPS measurement error. *Environmental & Ecological Statistics.* DOI 10.1007/s10651-008-0095-7.
4. **Potapov, A.B.**, Lewis, M.A. Allee effect and control of lake system invasion. *Bulletin of Mathematical Biology*. DOI 10.1007/s11538-008-9303-8.
5. **Krkošek, M.**, Ford, J., Morton, A., Lele, S., Lewis, M. 2008. Sea lice and pink salmon declines: response to Brooks and Jones. *Reviews in Fisheries Science. 16:4, 413-420.*
6. **Molnar, P.K**, Derocher, A.E., Lewis, M.A. Taylor, M.A. 2008. Modeling the mating system of polar bears - a mechanistic approach to the Allee effect. *Proceedings of the Royal Society of London B. 275: 217-226.*
7. **Lee, J.M.**, Hillen, T., Lewis, M.A. 2008. Continuous travelling waves for Prey-taxis. *Bulletin of Mathematical Biology. 70:654-676.*
8. **Nelson, W.A., Potapov, A**., Lewis, M.A., Hundsdorfer, A., He, F. 2008. Balancing ecological complexity in predictive models: A reassessment of risk models in the mountain pine beetle. *Journal of Applied Ecology. 45:248-257*.
9. **Eftimie, R.**, de Vries, G., Lewis, M.A. 2007. Complex spatial group patterns result from different animal communication mechanisms. *Proceedings of the National Academy of Sciences. 104: 6974-6979*.
10. **Krkošek, M.**, Ford, J.S., Morton, A., Lele, S., Myers, R.A., Lewis, M.A. 2007. Declining wild salmon populations in relation to parasites from farm salmon. *Science 318: 1772-1775*.
11. **Krkošek, M.**, Gottesfeld, A., Proctor, B., Rolston, D., Carr-Harris, C., Lewis, M.A. 2007. Effects of host migration, diversity, and aquaculture on disease threats to wild fish populations. *Proceedings of the Royal Society of London, Series B. 274:3141-3149.*
12. **Krkošek, M.**, Lauzon-Guy, J.S, Lewis, M.A. 2007. Relating dispersal and range expansion of California sea otters. *Theoretical Population Biology: 71: 401-407.*
13. **Jerde, C.**, Lewis, M.A. 2007. Waiting for invasions: A framework for the arrival of non-indigenous species. *The American Naturalist: 170: 1-9.*
14. Weinberger, H.F., Lewis, M.A., Li, B. 2007. Anomalous spreading speeds of cooperative recursion systems. *Journal of Mathematical Biology: 55: 207-222*.
15. **Lutscher, F.**, McCauley, E., Lewis, M.A. 2007. Spatial patterns and coexistence mechanisms in systems with unidirectional flow. *Theoretical Population Biology: 71: 267-277*.
16. **Noonburg, E.G.**, Newman L.A., Lewis, M.A., Crabtree, R., **Potapov, A.** 2007. Sequential decision-making in a variable environment: Modeling elk movement in Yellowstone National Park as a dynamic game. *Theoretical Population Biology: 71, 182-195*.
17. **de Camino Beck, T**., Lewis, M.A. 2007. A new method for calculating net reproductive value from graph reduction with applications to the control of invasive species. *Bulletin of Mathematical Biology: 69: 1341-1354*
18. **Eftimie, R.**, de Vries, G., Lewis, M.A., Lutscher, F. 2007. Modeling group formation and activity patters in self-organizing collectives of individuals. *Bulletin of Mathematical Biology: 69: 1537-1565*.
19. **Bampfylde, C.**, Lewis, M.A. 2007. Biological control through intraguild predation: Case studies in pest control, invasive species and range expansion. *Bulletin of Mathematical Biology: 69: 1031-1066*.
20. Nisbet, R., Anderson, K. , McCauley, E., Lewis, M.A. 2007. Response of equilibrium states to spatial environmental heterogeneity in advective systems. *Mathematical Biosciences and Engineering: 4(1):1-13.*

21. **Potapov, A.**, Lewis, M.A., Finoff, D. 2007. Prevention of a lake system invasion: Macroscopic description. *Natural Resource Modeling. 20: 351-379.*
22. **Krkošek, M.**, Lewis, M.A., Volpe, J., Morton, A. 2006. Fish farms and sea lice infestations of wild juvenile salmon in the Broughton Archipelago - A rebuttal to Brooks (2005). *Reviews in Fisheries Science: 14(1): 1-11*.
23. **Krkošek, M**., Lewis, M.A., Morton, A., Frazer, L.N., Volpe, J.P. 2006. Epizootics of wild fish induced by farm fish. *Proceedings of the National Academy of Sciences: 103(42):15506-15510*. *Supplemental material*.
24. **Hurford. A**., Hebblewhite, M., Lewis, M.A. 2006. A spatially explicit model for the Allee effect: Why wolves recolonize so slowly in Greater Yellowstone. *Theoretical Population Biology: 70: 244-254*.
25. **Lutscher, F.**, Lewis, M.A., McCauley, E. 2006. Effects of heterogeneity on spread and persistence in rivers. *Bulletin of Mathematical Biology: 68: 2129-2160*.
26. Moorcroft, P.R., Lewis, M.A., Crabtree, R. 2006. Mechanistic home range models capture spatial patterns and dynamics of coyote territories in Yellowstone. *Proceedings of the Royal Society of London B: 273 1651-1659*.
27. Lewis, M.A., **Renclawowicz, J.**, van den Driessche, P., **Wonham, M.J.** 2006. A comparison of continuous and discrete time West Nile virus models. *Bulletin of Mathematical Biology: 68:491-509*.
28. **Wonham, M.J.**, Lewis, M.A., **Renclawowicz, J.**, van den Driessche, P. 2006. Transmission assumptions generate conflicting predictions in host–vector disease models: a case study in West Nile virus. *Ecology Letters: 9, 706–725*.
29. Topaz, C., Bertozzi, A., Lewis, M.A. 2006. A nonlocal continuum model for biological aggregation. *Bulletin of Mathematical Biology: 68: 1601-1623*.
30. Moorcroft, P., Pacala, S., Lewis, M.A. 2006. Potential role of natural enemies on tree species range expansions following climate change. *Journal of Theoretical Biology: 241, Issue 3, 601–616*.
31. Lewis, M.A., **Renclawowicz, J.**, van den Driessche, P. 2006. Traveling waves and spread rates for a West Nile virus model. *Bulletin of Mathematical Biology 68:3-23.*
32. **Wonham, M.J.**, Lewis, M.A., MacIsaac, H.J. 2005. Minimizing invasion risk by reducing propagule pressure: Application to ballast-water exchange. *Frontiers in the Ecology and the Environment: 3, 473-478.*
33. **Lutscher, F., Pachepsky, E.**, Lewis, M.A. 2005. The effect of dispersal patterns on stream populations. *SIAM Review: 47, 749--772*. (modified version of next article, selected as SIGEST paper of outstanding interest and chosen for republication in SIAM Review).
34. **Lutscher, F., Pachepsky, E.**, Lewis, M.A. 2005. The effect of dispersal patterns on stream populations. *SIAM Journal of Applied Math: 65: 1305--1327*
35. **Wonham, M.J.**, Bailey, S.A., MacIsaac, H.J., Lewis, M.A. 2005. Modeling the invasion risk of diapausing organisms transported in ballast sediments. *Can. J. Fish. Aquat. Science: 62, 2386-2398.*
36. Drake, J., Lodge, D., Lewis, M.A. 2005. Theory and preliminary analysis of species invasions from ballast water: Controlling discharge volume and location. *America Midland Naturalist: 154: 459-470.*
37. Fagan, W., Lewis, M.A., Neubert, M., Aumann, C., Apple, J., Bishop, J. 2005. When can herbivores slow or reverse the spread of an invading plant? A test case from Mount Saint Helens. *American Naturalist: 166 (6), 669-685*.

38. **Hilker, F.M.**, Lewis, M.A., Seno, H., Langlais, M., Malchow, H. 2005. Pathogens can slow down or reverse invasion fronts of their hosts. *Biological Invasions: 7, 817-832*.
39. **Pielaat, A.**, Lewis, M.A., Lele, S., **de Camino-Beck, T**. 2005. Sequential sampling designs for catching the tail of dispersal kernels. *Ecological Modeling: 190, 205-222*.
40. **Li, B.**, Weinberger, H.F., Lewis, M.A. 2005. Spreading speeds as slowest wave speeds for cooperative systems. *Mathematical Biosciences: 196: 82-98*
41. **Krkošek, M.**, Lewis, M.A., Volpe, J.P. 2005. Transmission dynamics of parasitic sea lice from farm to wild salmon. *Proceedings of the Royal Society of London B: 272: 689--696*
42. **Lutscher, F.**, **Pachepsky, E.**, Lewis, M.A. 2005. The effect of dispersal patterns on stream populations. *SIAM Journal on Applied Math: 65, 1305-1327*.
43. **Pachepsky, L., Lutscher, F.**, Nisbet, R., Lewis, M.A. 2005. Persistence, spread, and the drift paradox. *Theoretical Population Biolog: 67: 61-73*.
44. **Cobbold, C.A.**, Lewis, M.A., Roland, J., **Lutscher, F.** 2005. How parasitism affects critical patch size in a host-parasitoid system: Application to Forest Tent Caterpillar. *Theoretical Population Biology: 67, 109-125*.
45. Holt, R., Keitt, T., Lewis, M.A., Maurer, B., Taper, M. 2005. Theoretical models of species' borders: Single species approaches. *Oikos: 108:18-27*.
46. **Potapov, A.**, Lewis, M.A. 2004. Climate and competition: The effect of moving range boundaries on habitat invasibility. *Bulletin of Mathematical Biology: 66: 975-1008*.
47. **Wonham, M.J., de Camino-Beck, T.**, Lewis, M.A. 2004. An epidemiological model for West Nile Virus: Invasion analysis and control applications. *Proceedings of the Royal Society of London B: 271, 501-507*.
48. **Lutscher, F.**, Lewis, M.A. 2004. Spatially-explicit matrix models: A mathematical analysis of stage-structured integrodifference equations. *Journal of Mathematical Biology: 48, 293-324*.
49. Leung, B., Lodge, D.M., Finnoff, D, Shogren, J.F., Lewis, M.A., Lamberti, G. 2003. An ounce of prevention or a pound of cure: Bioeconomic risk analysis of invasive species. *Proceedings of the Royal Society of London B: 269, 2407--2413*.
50. Clark, J., Lewis, M.A., McLachlan, J., HilleRisLambers, J. 2003. Estimating population spread based on dispersal data: What can we forecast and how well? *Ecology: 84, 1979-1988*.
51. Hadeler, K.P., Lewis, M.A. 2002. Spatial dynamics of the diffusive logistic equation with sedentary component. *Canadian Applied Math. Quarterly: 10, 473-500*.
52. MacIsaac, H.J., **Robbins, T.C.**, Lewis, M.A. 2002. Modeling aquatic species invasions. *Canadian Journal of Fisheries and Aquatic Science: 59, 1245-1256*.
53. Fagan, W., Lewis, M.A., Neubert, M.G., van den Driessche, P. 2002. Invasion theory and biological control. *Ecology Letters: 5, 148-157*.
54. Briscoe, B., Lewis, M.A, **Parrish, S.** 2002. Home range formation in wolves due to scent marking. *Bulletin of Mathematical Biology: 64, 261-284*.
55. Lewis, M.A., **Li, B.**, Weinberger, H.F. 2002 Spreading speed and the linear determinacy for two-species competition models. *Journal of Mathematical Biology: 45, 219-233*
56. Weinberger, H.F, Lewis, M.A., **Li, B.** 2002. Analysis of linear determinacy for spread in cooperative models. *Journal of Mathematical Biology: 45, 183-218*
57. Lewis, M.A., Moorcroft, P.R. 2001. ESS analysis of mechanistic home range models: the value of signals in spatial resource partitioning. Journal of Theoretical Biology: 210, 449-461
58. **Owen, M,** Lewis, M.A. 2001. Can predation slow, stall or reverse a prey invasion? *Bulletin of Mathematical Biology: 63, 655-684*.
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