

**Guillermo E. Herrera**

Department of Economics  
Bowdoin College  
9700 College Station  
Brunswick, ME 04011

Tel: +1 (207) 725-3496  
Fax: +1(207) 725-3691  
gherrera@bowdoin.edu

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**EDUCATION**

*University of Washington, Seattle, WA*

- Ph.D., Economics, May 2001
- M.Sc., Quantitative Ecology and Resource Management (QERM), August 1998
- M.A., Economics, June 1997

*Harvard College, Cambridge MA*

- A.B., Biology, *cum laude*, June 1989

**RESEARCH AND TEACHING POSITIONS**

2016 – Professor of Economics, Bowdoin College

2014 – Chair, Department of Economics, Bowdoin College

2007 – 2015 Associate Professor of Economics, Bowdoin College

2006 – Adjunct Scientist, Marine Policy Center, Woods Hole Oceanographic Institution

2011 – 2012 Senior Research Fellow, Marine Policy Center, Woods Hole Oceanographic Institution

2001 – 2007 Assistant Professor of Economics, Bowdoin College

2003 – 2005 Senior Research Fellow, Marine Policy Center, Woods Hole Oceanographic Institution

2000 – 2001 Instructor of Economics, Bowdoin College

1999 – 2000 Visiting Instructor of Economics, Western Washington University

1998 – 1999 Visiting Instructor, Albers School of Business, Seattle University

1994 – 1998 Instructor; Teaching/Research Assistant, University of Washington

## PUBLICATIONS (\* = peer-reviewed)

- \* Herrera, G.E., Evans, K.S., and L.Y. Lewis, 2017. Aligning economic and ecological priorities: conflicts, complementarities, and regulatory frictions. Forthcoming, *Agricultural and Resource Economics Review*.
- \* Herrera, G.E., H.V. Moeller, and M.G. Neubert, 2016. High-seas fish wars generate marine reserves. *Proceedings of the National Academy of Sciences (PNAS)* 113(14):3767-3772.
- \* Moberg, E., E. Shyu, G.E. Herrera, S. Lenhart, Y. Lou, and M.G. Neubert, 2015. On the bioeconomics of reserves when dispersal evolves. *Natural Resource Modeling* 28(4):456-474.
- \* Ryan, R.W., D.S. Holland and G.E. Herrera 2014. Ecosystem Externalities in Fisheries. *Marine Resource Economics* 29(1): 39-53
- \* Holland, D. and G.E. Herrera, 2012. The impact of age structure, uncertainty, and asymmetric spatial dynamics on regulatory performance in a fishery metapopulation. *Ecological Economics* 77:207-218.
- \* Ryan, R., D. Holland, and G.E. Herrera, 2010. Bioeconomic equilibrium in a bait-constrained fishery. *Marine Resource Economics* 25(3):281-93.
- \* Holland, D. and G.E. Herrera, 2010. The benefits and risks of increased spatial resolution in management of fishery metapopulations under uncertainty. *Natural Resource Modeling* 23(4):494-502.
- \* Holland, D. and G.E. Herrera, 2009. Uncertainty in the management of fisheries: contradictory implications and a new approach. *Marine Resource Economics* 24(3):289-299.
- Herrera, G.E. and S. Lenhart, 2009. Spatial optimal control of renewable resource stocks. In *Spatial Ecology*, ed. S. Cantrell., C. Cosner, and S. Ruan, pp. 343-358. CRC/Chapman-Hall.
- \* Joshi, H.R., G.E. Herrera, S. Lenhart, and M. Neubert, 2009. Optimal dynamic harvest of a mobile renewable resource. *Natural Resource Modeling* 22(2):322-343.
- \* Neubert, M.G. and G.E. Herrera, 2008. Triple benefits from spatial resource management. *Theoretical Ecology* 1(1):5-12.
- \* Herrera, G.E., 2007. Dynamic use of closures and imperfectly enforced quotas in a metapopulation. *American Journal of Agricultural Economics* 89(1):176-189.
- Bauer, M., D, ed., 2006. *Harmful Algal Research and Response: A Human Dimensions Strategy*. National Office for Marine Biotoxins and Harmful Algal Blooms, Woods Hole Oceanographic Institution, Woods Hole, MA
- \* Herrera, G.E., 2006. The benefits of spatial regulation in a multispecies fishery. *Marine Resource Economics* 21(1):249-261.
- \* Herrera, G.E. and P. Hoagland, 2006. Commercial whaling, tourism, and boycotts: An economic perspective. *Marine Policy* 30(3):261-269.
- \* Holland, D. and G.E. Herrera, 2006. Flexible catch balancing in multispecies ITQ fisheries. *Canadian Journal of Fisheries and Aquatic Science* 63:1669-1685.
- \* Herrera, G.E., 2005. Stochastic bycatch, informational asymmetry, and discarding. *Journal of Environmental Economics and Management* 49(3):263-283.

- \* Jin, D. and G.E. Herrera, 2005. A stochastic bioeconomic model with research. *Marine Resource Economics* **20**(3):249-261.
- \* Toguchida, J. et al. 1992. Prevalence and spectrum of germline mutations of the p53 gene among patients with sarcoma. *New England Journal of Medicine* **326**:1301-1308.
- \* Toguchida, J. et al. 1992. Mutation spectrum of the p53 gene in bone and soft tissue sarcomas. *Cancer Research* **52**:6194-6199.

## PRESENTATIONS AND CONFERENCE PAPERS

- Better living through science: complementarities and paradigm shifts in the policy landscape. Keynote address, Workshop of the Northeast Agricultural and Resource Economics Association meetings, Bar Harbor ME, June 2016.
- Discussant, Property: Claims to Ownership and Responsibilities of Stewardship. Conference at Bates College, Oct. 2015
- Spatial Decay in Willingness to Pay for Ecosystem Services: Does Perception of Distance Matter? Northeast Association of Resource and Environmental Economics (NAREA) meetings, Newport, RI June 2015
- Modeling connections between Maine's rivers and nearshore marine. Androscoggin Watershed Conference, Lewiston ME, Dec. 2013
- Assisting alewives at Nequasset. Outreach meeting of the Kennebec Estuary Land Trust (KELT), Woolwich ME, Sept. 2013
- Karen A. Wilson (presenter), Theodore Willis, John Lichter, Beverly Johnson, Lynne Lewis, Guillermo Herrera, Eileen Johnson, Philip Camill, and Edward Ames. River herring as indicators of socio-ecological recovery in a north temperate river-to-marine complex. 143<sup>rd</sup> American Fisheries Society Annual Meeting, Little Rock, AR, Sept 2013.
- First- and second-best regulation of a mobile resource. North American Association of Fisheries Economists (NAAFE) annual meeting, Honolulu, HI, May 2011 [Session Chair]
- Regulation of an age-structured metapopulation. NAAFE annual meeting, Honolulu, HI, May 2011 (presented by co-author Daniel Holland)
- Bioeconomics of a mobile resource. U. Maine Orono Economics Dept. seminar, April 2011.
- Divergent river use and the potential for river restoration. 2011 Maine EPSCOR Sustainability Solutions Initiative conference, University of Maine, Orono, April 2011.
- Fish wars in space: The geometry of property rights and resource exploitation. Bowdoin Economics Department Seminar, April 2010.

- First- and second-best regulation of a mobile renewable resource. 1<sup>st</sup> Annual Colby-Bowdoin-Bates Economics Conference, Bates College, April 2010.
- Human dimensions of river restoration. Bowdoin College Faculty Seminar, April 2010.
- Spatial regulation of a multispecies fishery. International Marine Conservation Congress (IMCC), Washington D.C., May 2009
- Fish in Space: Efficiency and political-economic benefits from spatial resource regulation. Invited guest lecture, Department of Economics, Colby College March 7, 2008.
- Better living through bioeconomics: 'Fish as Food.' Invited guest lecture, Hartwick College, Oneonta, NY, April 2006.
- The political economy of prudent predation. Bowdoin College Faculty Seminar, April 2006.
- Economic issues in spatially structured ecosystems. Invited participant and discussion leader, Spatial Ecology Workshop, Mathematical Biosciences Institute, Ohio State University, March 2006.
- Second-best regulation of spatially structured resources. Invited seminar presentation, Resources for the Future, Washington DC. March 2006.
- Invited workshop participant: Developing a Human Dimensions Research Strategy to Assess and Mitigate Socioeconomic Impacts of Harmful Algal Blooms, Silver Spring MD, Sept. 21-23, 2005. Sponsored by National Oceanic and Atmospheric Administration's (NOAA) National Center for Coastal and Ocean Science; report to be published 2006.
- Imperfect compliance and closed areas as second-best instruments. 3<sup>rd</sup> Workshop on Spatial-Dynamic Models of Economics and Ecosystems, International Center for Theoretical Physics, Trieste, Italy, April 2005.
- Dynamic marine protected areas as an alternative second-best under imperfect compliance. Dept. of Environmental and Resource Economics Seminar Series, Univ. of Rhode Island, December 2004.
- Imperfect compliance, credibility, and heterogeneous governance in a metapopulation. Meetings of the International Institute of Fisheries Economics and Trade (IIFET), Tokyo, June 2004.
- Whaling in the presence of ecological and market linkages and the threat of boycotts. International Institute of Fisheries Economics and Trade (IIFET) meetings, Tokyo, June 2004.
- Panelist: Common Access vs. Private Property Forum – of fish and forests, notions and potions: Managing access to natural resources and scientific research in the 21st century. U. of Maine Law School, Nov. 2003
- Central vs. local governance in a metapopulation. Meetings of the Northeast Agricultural and Resource Economics Association (NAREA), Portsmouth NH, June 2003.
- Promoting tourism in fishing and forestry communities: Complementarities and conflicts, with David Vail. Presented (by D.V.), US Society for Ecological Economics (USSEE) meetings, May 2003.
- A comparison of policy instruments for managing stochastic bycatch and discarding. Marine Policy Center, Woods Hole Oceanographic Institution, December 2002.
- The Drama of the Gulf of Maine: Players and Issues in Industry, Science, Policy, and Community: Reading the Riches of the Gulf Seminar Series, Curtis Library, Brunswick ME, November 2003.
- Implications of asymmetric information and uncertainty for the economics of bycatch and discarding. 2<sup>nd</sup> World Congress of Environmental and Resource Economists (WCERE), Monterey CA, June 2002.
- Three Fish, Four Fish, My Fish, Your Fish: The Economics of Poorly Informed Regulation of Bycatch and Discarding in Ocean Fisheries. Bowdoin College Faculty Seminar, Oct. 2001.

## RESEARCH GRANTS, AWARDS AND DISTINCTIONS

- Bowdoin College Faculty Research Grant in support of stated preference valuation of Maine river restoration, 2013
- Northeast Regional Sea Grant: "Decision-Support for the Economic Analysis of Trade-Offs in Coastal and Marine Spatial Planning (CMSP) for the US Northeast Region," 2012-14.
- Bowdoin College Faculty Leave Supplement, 2011-12
- USAID: "Improving reef biodiversity and sustainable fishing in the Municipality of Miches, Dominican Republic," 2010-2011
- NSF EPSCOR: "Ecological and economic recovery and sustainability of the Kennebec and Androscoggin rivers, estuary, and near-shore environment." Part of U. Maine Orono's Sustainability Solutions Initiative, 2010-14.
- Bowdoin College Rusack Fund for Coastal Studies, "Development of a sustainable fisheries plan in Miches, Dominican Republic," 2009 – 2011
- NSF Coupled Natural and Human Systems (CNH): "Collaborative Research: Direct and Indirect Coupling of Fisheries Through Economic, Regulatory, Environmental, and Ecological Linkages," 2008 – 2012
- Maine Sea Grant: "The benefits and risks of increased spatial resolution in management of New England groundfish stocks" 2008 – 2009
- Adjunct Scientist, Marine Policy Center, Woods Hole Oceanographic Institution, 2006 – 2009; renewed through 2013
- Fletcher Family Research Award, 2006
- NSF Mathematical Social and Behavioral Sciences (MSBS) program, "Collaborative Research: Spatial theory for renewable resource economics," 2006 – 2007
- ECOHAB funding for algal bloom research, 2005 – 2006
- Senior Research Fellowship, Marine Policy Center, Woods Hole Oceanographic Institution, 2002 – 2004
- University of Washington Dissertation Fellowship, 1999 – 2000
- Seafirst Dissertation Fellowship 1998 – 1999
- Langton Teaching Award (sole recipient), University of Washington Department of Economics, 1996 – 1997
- National Science Foundation Predoctoral Fellow, 1991 – 1993

## CLASSES TAUGHT

- Principles of Microeconomics
- Principles of Macroeconomics
- Microeconomic Theory
- Natural Resource Economics and Policy
- Environmental and Resource Economics
- Business Statistics

## COLLEGE SERVICE

- Working Group on Classroom Visitation, 2016-17
- Faculty Diversity Committee, 2015 – 2016
- Sustainability Implementation Committee, 2014 –
- Appeals and Faculty Grievances (*elected*), 2012 – 2015
- Committee on Appointments, Promotions, and Tenure (*elected*), 2009 – 2011
- Ladd House Faculty Advisor, 2009 – 2015
- Curriculum Implementation Committee (CIC), Chair, 2008 – 2009
- Committee on Governance (*elected*), 2007 – 2008
- Coastal Studies Committee (CSC), 2005 – 2010
- Curriculum and Educational Policy Committee (CEP), 2001 – 2003.
- Environmental Studies Committee (ESCOM), 2000 –
- Organizer, Summer Working Group on Coastal Studies in the Social Sciences, 2002
- Co-founder (with Matt Klinge) of the Environmental Research Group (ERG)
- Faculty Liaison, Cycling Team, 2000 –

## REVIEWER FOR

Journals: *American Journal of Agricultural Economics*, *Applied Mathematical Modeling*, *Canadian Journal of Fisheries and Aquatic Science*, *Ecological Economics*, *Journal of Environmental Economics and Management*, *Journal of Environmental Management*, *Land Economics*, *Marine Resource Economics*, *Natural Resource Modeling*, *Resource and Energy Economics*, *Theoretical Ecology*

### Other:

- External Review Committee, Woods Hole Oceanographic Institution, June 2015
- *Portland Press Herald's* Source Awards judging committee member, April 2015
- National Science Foundation: Water, Sustainability, Climate III proposal review panel
- National Science Foundation: Coupled Natural and Human Systems (CNH) review panel
- Rhode Island Sea Grant (National Oceanic and Atmospheric Administration) reviewer
- National Research Council (*Licensing Geographic Data and Services*, 2004)

## AFFILIATIONS

*American Economics Association (AEA)*; *Association of Environmental and Resource Economics (AERE)*; *American Agricultural Economics Association (AAEA)*; *International Institute for Fisheries Economics and Trade (IIFT)*; *U.S. Society for Ecological Economics (USSEE)*; *Northeast Agricultural and Resource Economics Association (NAREA)*

## LANGUAGE

- Fluent in Spanish

