

**JAMES N. SANCHIRICO**  
ENVIRONMENTAL SCIENCE AND POLICY  
UNIVERSITY OF CALIFORNIA, DAVIS  
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## **EXPERIENCE**

**University of California at Davis**, Dept. of Environ. Science and Policy  
Professor 2009-present  
Assoc. Professor 2007-2009

**Resources for the Future, Washington DC**  
Nonresident Fellow 2009-present  
University Fellow 2007-2010  
Senior Fellow 2006-2007  
Fellow 1998-2006

**U.S. Environmental Protection Agency**, Expert coral reef valuation 2008-2009  
**Georgetown University**, Adjunct Professor, Department of Economics 2005-2007  
**Stanford University**, Visiting Scholar, Center for Environmental Science and Policy, Institute for International Studies 2003-2004

## **EDUCATION**

**Ph.D., University of California at Davis**, Agricultural and Resource Economics 1998  
**B.A. with Distinction, Boston University**, Economics and Mathematics 1991  
**University of London, University College**, Environmental Economics 1990

## **PROFESSIONAL ACTIVITIES**

- *Testimony*, Economic Frameworks and values for regulatory assessment, Little Hoover Commission, Sacramento CA (Jan. 27, 2011)
- *Keynote address*, The use of spatial-dynamic bioeconomic modeling for the design of adaptation policies, Natural Resource Modeling Association's annual meeting, Helsinki, June 2010.
- *Invited Speaker*, Ocean Zoning: Building in flexibility and adaptability Public lecture at the Aquarium of the Pacific, Long Beach, CA, May 2010
- *Invited presentation*, Comprehensive planning, dominant-use zones, and user rights: a new era in ocean governance, U.S. Interagency Ocean Policy Task Force, Washington DC., Sept. 2009.
- *Testimony*, Economic Benefits of Fishing Cooperatives and Individual Fishing Quota Systems at the Hearing on Fishing Safety: The Policy Implications of Cooperatives and Vessel Improvements on July 9, 2008. Oceans, Atmosphere, Fisheries, and Coast Guard Subcommittee of Commerce, Transportation, and Safety Committee of the U.S. Senate.
- *Member*, Advisory Committee, Gordon & Betty Moore Foundation, Marine Initiative 2010-present.

- *Member*, Advisory Committee, John Muir Institute, UC Davis, June 2010-present.
- *Member*, Executive Committee, Graduate Group in Ecology, UC Davis, Sept. 2010-present
- *Member*, Advisory Committee, Marine Ecosystem Services (MARES) Program at Forest Trends, June 2009-present.
- *Member*, NOAA Science Advisory Board Ecosystem Science and Management Working Group, Feb. 2009-present.
- *Member*, NOAA Science Advisory Board, June 2007-June 2010. (2<sup>nd</sup> term 2010-2013)
- *Member*, NOAA Science Advisory Board Social Science Working Group, June 2007-June 2008.
- *Member*, Science and Technical Panel Expert Committee, Global Environmental Facility (GEF), June 2007-present.
- *Member*, International Technical Review Committee, CBD Program of Work on Protected Areas, United Nations Development Program and GEF
- *Member*, Massachusetts Ocean Partnership Fund, Science and Technical panel, Nov. 2006-June 2007.
- *Member*, National Research Council, Committee to review The National Science and Technology Council's Joint Subcommittee on Ocean Science and Technology (JSOST) Research Priorities Plan, March 2006-December 2007.
- *Member*, California Marine Life Protection Act Initiative Baseline Science-Management Panel, June-Nov. 2006
- *Editorial Council*, Ecology Letters, Sept. 2009-present.
- *Editorial Council*, Journal of Environmental Economics and Management, 2006-2011.
- *Editorial Council*, Journal of Agricultural and Resource Economics, 2006-2009.
- *Associate Editor*, Marine Resource Economics, 2001-2005.
- *Selection Committee*, AERE 1<sup>st</sup> annual conference, 2011.
- *Selection Committee*, National Marine Fisheries Marine Resource Economics Fellowships, 2003.

## **AWARDS**

**Quality of Research Discovery Award** for "The Economics of Spatial-Dynamic Processes:

Applications to Renewable Resources", Agricultural & Applied Economics Assoc., 2010.

**FEEM 20th Anniversary Prize in Environmental Economics** was given to researchers at Resources for the Future for their contributions to resource and environmental economics between 1989 and 2009 (Shared with Martin Weitzman, Harvard).

**Elsevier's Economics and Finance Journals Most Cited Articles list (2005-2009)**. Two articles (#13 and #15).

**Quality of Research Discovery Award** (Honorable Mention) for "Bioeconomics of Spatial Exploitation in a Patchy Environment", American Agricultural Economics Assoc., 2000.

**Outstanding Dissertation Award**, American Agricultural Economics Association, 1999.

**Outstanding Teaching Assistant**, Department of Agricultural and Resource Economics, University of California at Davis, 1995.

**Sea Grant Trainee Fellowship**, California Sea Grant Program, 1995-1998.

## **JOURNAL ARTICLES**

42. Sanchirico, J.N. and M. Springborn. How to get there from here: Ecological and economic

- dynamics of ecosystem service provision. *Environmental and Resource Economics*. 2010: 1-25.
41. Pascoe, S., J. Innes, D. Holland, M. Fina, O. Thebaud, R. Townsend, J. Sanchirico, R. Arnason, C. Wilcox, and T. Hutton. Use of Incentive-Based Management Systems to Limit Bycatch and Discarding. *International Review of Environmental and Resource Economics*. 2010. 4:1-39.
  40. Kellner, J., J.N. Sanchirico, A. Hastings, and P.J. Mumby. Optimizing for multiple species and multiple values: Tradeoffs inherent in ecosystem-based fisheries management. *Conservation Letters*. 2010. no. doi: 10.1111/j.1755-263X.2010.00132.x.
  39. H S Banzhaf, W E Oates, J N Sanchirico. Selection and Design of Local Referenda for Land Conservation. *Journal of Policy Analysis and Management* 2010. 29(4):769-798.
  38. Sanchirico, J.N., J.Wilen, and C. Coleman. Optimal rebuilding of a metapopulation. *American Journal of Agricultural Economics*. 2010 92(4): 1087-1102 first published online May 25, 2010 doi:10.1093/ajae/aaq045
  37. Smith, M., J. Lynham, J.N. Sanchirico, J. Wilson. The political economy of marine reserves: Understanding the role of opportunity costs. *Proceedings of the National Academies of Sciences (PNAS)*. Jan. 19, 2010 doi: 10.1073/pnas.0907365107.
  36. Sanchirico, J.N., H.J. Albers, C. Fischer, and C. Coleman. Spatial Management of Invasive Species: Pathways and Policy Options. *Environmental and Resource Economics*. 45(4): 517-535. 2010. Published online Nov. 1, 2009: 2010 DOI 10.1007/s10640-009-9326-0
  35. Sanchirico, J.N., J. Eagle, S. Palumbi, and B. Thompson. Comprehensive planning, dominant-use zones, and user rights: a new era in ocean governance. *Bulletin of Marine Science*, 86(2), in press.
    - Article featured in Scientific American as one of the top 20 world changing ideas in the Dec. 2009 issue.
  34. Fischer, C., H.J. Albers, and J.N. Sanchirico. Invasive Species Management in a Spatially Heterogeneous World: Spatial vs. Uniform Policies. *Resource and Energy Economics*. Forthcoming.
  33. Pizer, W., J.N. Sanchirico, and M. Batz. Regional patterns of U.S. household carbon emissions. *Climatic Change*. 99( 1-2) / March, 2010. DOI: 10.1007/s10584-009-9637-8
  32. Sanchirico, J. N. and P. Mumby. Mapping Ecosystem Functions to the Valuation of Ecosystem Services: Implications of species-habitat associations for coastal land-use decisions. *Theoretical Ecology* 2009(2): 67-77.
  31. Smith, M., J. N. Sanchirico, and J.E. Wilen. The Economics of Spatial-Dynamic Processes: Applications to Renewable Resources. *Journal of Environmental Economics and Management* 57(1), January 2009: 104-121.
    - Won 2010 Quality of Research Discovery Award, Agricultural and Applied Economics Association (AAEA).
  30. Broad, K. and J.N. Sanchirico. Local perspectives on marine reserve creation in the Bahamas. *Ocean and Coastal Management*. 51(11), 2008: 763-771.
  29. Armsworth, P. and J.N. Sanchirico. The Effectiveness of Buying Easements as a Conservation Strategy. *Conservation Letters*. 1(4) Published Online: 28 Aug 2008. P. 182 – 189.
  28. Eagle, J., J.N. Sanchirico and B. Thompson. Ocean Zoning and Spatial Access Privileges: Rewriting the Tragedy of the Regulated Ocean. *New York University Environmental Law*

- Journal*. Nov. 2008.
27. Harborne A. R., P. J. Mumby, C. V. Kappel, C. P. Dahlgren, F. Micheli, K. E. Holmes, J. N. Sanchirico, K. Broad, I. A. Elliott and D. R. Brumbaugh. Reserve effects versus natural variation in coral reef communities. *Journal of Applied Ecology*. (2008): 45:1010-1018.
  26. Sanchirico, J.N. and J. Wilen. Sustainable use of Renewable Resources: Implications of Spatial-Dynamic Ecological and Economic Processes. *International Review of Environmental and Resource Economics* (2008): 1:3567-405.
  25. Mumby PJ, Broad K, Brumbaugh DR, Dahlgren CP, Harborne AR, Hastings A, Holmes KE, Kappel CV, Micheli F, and Sanchirico JN. Coral reef habitats as surrogates of species, ecological functions and ecosystem services. *Conservation Biology* (2008):22(4):941-951.
  24. Sanchirico, James N., M. Smith, and D. Lipton. An approach to ecosystem-based fishery management. *Ecological Economics* (2008): 64(13): 586-596.
  23. Newell, R., Papps, K., and J. N. Sanchirico. Asset Pricing in Created Markets for Fishing Quota. *American Journal of Agricultural Economics*. 89(2) (May 2007): 259–272.
  22. Sanchirico, J.N. and J.E. Wilen. Global Marine Fishery Resources: Status and Prospectus. *International Journal of Global Environmental Issues*. Vol. 7, No. 2/3, 2007
  21. Mumby, P. J., F. Micheli, C. P. Dahlgren, S. Y. Litvin, A. B. Gill, D. R. Brumbaugh, K. Broad, J. N. Sanchirico, C. V. Kappel, A. R. Harborne, K. E. Holmes. Marine Parks Need Sharks? – response. *Science* 312: 527, 2006 (*in Letters*).
  20. Sanchirico, J.N, Maldavkar, U., A. Hastings, and J. Wilen. When are no-take zones an economically optimal fishery management strategy? *Ecological Applications*., 16(5):1643-1659, 2006.
  19. Sanchirico, J.N., D. Holland, K. Quigley, and M. Fina. Catch-quota balancing in Multispecies Individual Fishing Quotas. *Marine Policy* 30(6): 767-785, 2006.
  18. Armsworth, P., G.C. Daily, P. Kareiva, and J.N. Sanchirico. Land Market Feedbacks Can Undermine Biodiversity Conservation. *Proceedings of the National Academies of Sciences (PNAS)*, 103(13), March 22, 2006, 10.1073/pnas.0505278103.
  17. Pizer, W., D. Burtraw, W. Harrington, R. Newell, and J. N. Sanchirico. Modeling Costs of Economy-wide versus Sectoral Climate Policies using Combined Aggregate-Sectoral Models. *The Energy Journal* 27(3), 2006.
  16. Mumby, Peter J. C. P. Dahlgren, A. R. Harborne, C. Kappel, F. Micheli, , D. Brumbaugh, K. Holmes, J. M. Mendes, K. Broad, J. N. Sanchirico, K. Buch, S. Box, R. Stoffle, A. Gill. Fishing, trophic cascades, and the process of grazing on coral reefs. *Science* 311, 98-101, 2006.
  15. Sanchirico, J. N. and J. E. Wilen. Optimal Spatial Management of Renewable Resources: Matching Policy Scope to Ecosystem Scale. *J. of Environ. Econom. Management* 50(1), 23-46, 2005.
    - Number 2 in the most cited articles in JEEM from 2005 to 2009. (April 2010)
    - Reprinted in *Ecological Economics* Vol. II (C. Perrings, ed.), SAGE Publishing Ltd. Dec. 2008: ISBN: 9781412948609
  14. Sanchirico, J. N. A Social Scientist’s Perspective on the Census of Marine Life. *Marine Policy* 29(6), 507-520, 2005.
  13. Newell, R., J. N. Sanchirico, and S. Kerr. Fishing Quota Markets, *J. of Environ. Econom. Management*, 49(3): 437-462, 2005.

- Number 3 in the most cited articles in JEEM from 2005 to 2009. (April 2010)
- 12. Sanchirico, J. N. Additivity Properties in Metapopulation Models: Implications for the Assessment of Marine Reserves, *J. of Environ. Econom. Mgmt*, 49(1): 1-25, 2005.
- 11. Sanchirico, J. N and S. Hanna. Sink or Swim Time for U.S. Fishery Policy, *Issues in Science and Technology*, Fall 21(1): 2004.
- 10. Sanchirico, J. N and S. Hanna. Navigating U.S. Fishery Policy Into the 21st Century, *Marine Resource Economics*, 19(3): 2004.
- 9. Holland, D., J. N. Sanchirico, R. Curtis, and R. L. Hicks. An Introduction to Spatial Modeling in Fisheries Economics, *Marine Resource Economics*, 19(1): 1-6, 2004.
- 8. Sanchirico, J. N. Designing a Cost-Effective Marine Reserve Network: A Bioeconomic Metapopulation Analysis, *Marine Resource Economics*, 19(1): 46-63, 2004.
- 7. Sanchirico, J. N., R. Stoffle, K. Broad, and L. McManus. A General Model for Designing Networks of Marine Reserves: Comment, *Science*, 31(4): 47-48, 2003 (*in Letters*).
- 6. Sanchirico, J. N. Managing Marine Capture Fisheries with Incentive Based Price Instruments, *Public Finance Management*, 3(1): 67-93, 2003.
- 5. Boyd, J., D. Burtraw, A. Krupnick, R. Newell, V. McConnell, K. Palmer, J. N. Sanchirico, and M. Walls. Trading Cases: Is Trading Credits in Created Markets a Better Way to Reduce Pollution and Protect Natural Resources? *Environmental Science and Technology*, 37(11): 217-223, 2003.
- 4. Sanchirico, J. N. and J. E. Wilen. The Impacts of Marine Reserves on Limited-Entry Fisheries, *Natural Resource Modeling*, 15(3): 380-400, 2002.
  - Reprinted in Spatial Aspects of Environmental Policy, (Geoghegan J. and W. Gray, eds.), Ashgate Publishing Company (forthcoming).
- 3. Sanchirico, J. N. and J. E. Wilen. A Bioeconomic Model of Marine Reserve Creation, *J. of Environ. Econom. Management*, 42(3): 257-76, 2001.
- 2. Sanchirico, J. N. and J. E. Wilen. Dynamics of Spatial Exploitation: A Metapopulation Approach, *Natural Resource Modeling*, 14(3): 391-418, 2001.
- 1. Sanchirico, J. N. and J. E. Wilen. Bioeconomics of Spatial Exploitation in a Patchy Environment, *J. of Environ. Econom. Management*, 37(2): 129-50, 1999.
  - Reprinted in Fisheries Economics: A Collection of Readings, Volumes I and II, (Lee Anderson, ed.), Ashgate Publishing Company, 2001.

## BOOK AND BOOK CHAPTERS

- 12. Jardine, S. and J.N. Sanchirico, Ecological Economics. Sourcebook for Theoretical Ecology, UC Press, Forthcoming.
- 11. Fell, Harrison and J.N. Sanchirico The Political Economy of Addressing Overfishing in U.S. Waters. In *Issues of the Day: 100 Commentaries on Climate, Energy, the Environment, Transportation, and Public Health Policy* (ed. Ian Parry and Felicia Day), Resources for the Future, Washington, D.C.
- 10. R. Johnston, J.N. Sanchirico and Holland, D., Measuring Social Value and Human Well-Being. In *Seas, Society, and Human Well-Being* (ed. R. Bowen, M. Depledge, C. Carlane, and L. Fleming). Jones and Bertlett Learning, Sudbury, MA. Oct. 2010.
- 9. Sanchirico, J.N. Economically optimal spatial and inter-temporal fishing patterns in a metapopulation. In *Marine Protected Areas: Effects, networks and monitoring – A multidisciplinary approach* (ed. J. Claudet). Cambridge University Press. 2011.

8. Holland, D., J.N. Sanchirico, R. Johnston and D. Joglekar. *Economic Analysis for Ecosystem Based Management: Applications to Marine and Coastal Environments*. RFF Press. 240 pages, 2010.
7. Duce, R, N. Targett, D. Breitberg, D. Conover, C. Cooper, C. Ballard, G. Galloway, W. Kuperman, R. Lukas, J. Sanchirico, A. Solow, and D. Hawk. *A review of the Ocean Research Priorities Plan and Implementation Strategy*. National Research Council, National Academies Press, 2009.
6. Sanchirico, J. N. and Wilen, J. E. Economically optimal management of a metapopulation. In *Spatial Ecology* ed. S. Cantrell, C. Cosner and S. Ruan: Chapman and Hall, Taylor & Francis Group, pp. 317-33, 2010.
5. Wilen, J.E. and J.N. Sanchirico. Bioeconomics of Metapopulations: Sources, Sinks and Optimal Closures. In *Explorations in Environmental and Natural Resource Economics: Essays in Honor of Gardner Brown*, (D. Layton and R. Halvorson, eds.), Edward Elgar Press (2006).
4. Sanchirico, J. N., K. Vitealla, and P. Emerson. Socioeconomic Implications of Siting Marine Reserves in U.S. Waters. In *Ocean Yearbook 19*, (A. Chircop and M. McConnell, eds.), University of Chicago Press, 2005.
3. Sanchirico, J. N. Zoning the Oceans. In *New Approaches on Energy and the Environment: Policy Advice for the President* (Richard Morgenstern and Paul R. Portney, eds.). RFF Press, Washington, DC (Nov. 2004).
2. Kerr, S., R. G. Newell and J. N. Sanchirico. Evaluating the New Zealand Individual Transferable Quota Market for Fisheries Management. In *Tradeable Permits Policy Evaluation, Design and Reform*: OECD pp. 121–134, 2004.
1. Sanchirico, J. N. To Take or Not to Take the Antibiotic? In *R. Laxminarayan, ed. Battling Resistance to Antibiotics and Pesticides: An Economic Approach*. RFF Press, Washington, DC, 2002.

## OTHER PUBLICATIONS (REPORTS, OP-EDS, TESTIMONY, ETC)

22. Sanchirico, J.N. Economic frameworks and values for regulatory assessment. Testimony to the Little Hoover Commission. Available at <http://www.lhc.ca.gov/>.
21. Sanchirico, J.N. Valuing the Oil Spill's Effects on Nature, **RFF Web Commentary**, August 20, 2010. Available at [www.rff.org](http://www.rff.org).
20. Sanchirico, J.N. Zoned In. **Scientific American**, 302(4): 8. (Letter to Editor)
19. Kroetz, K and J.N. Sanchirico. 2010. Economic Insights into the Costs of Design Restrictions in ITQ Programs, **Resources for the Future Report**, Jan. 2010. [www.rff.org](http://www.rff.org)
18. Sanchirico, J.N. 2009. Better-Defined Rights and Responsibilities in Marine Adaptation Policy. **Resources for the Future Issue Brief**. 09-12.
17. Johnston, RJ, DS Holland, JN Sanchirico, and PH Taylor. 2009. *Economic Analysis for Ecosystem-Based Management: An Introduction*. Boston, MA: Massachusetts Ocean Partnership.
16. Kling, D. and J.N. Sanchirico. 09-. **Resources for the Future**, Report , June 2009 ([www.rff.org](http://www.rff.org))
15. Sanchirico, J.N. An Overview of the Economic Benefits of Cooperatives and Individual Fishing Quota Systems prepared for the Subcommittee for Oceans, Atmosphere, Fisheries and Coast Guard of the Senate Committee on Commerce, Science, and Transportation, 2008. Available at [www.rff.org](http://www.rff.org)
14. Banzhaf, H. S., W. Oates, and J.N. Sanchirico. *Conservation Through the Ballot Box: Using Local Referenda to Preserve Open Space*. **Land Lines**. Lincoln Land Institute. 2008.
13. Fell, Harrison and J.N. Sanchirico. *The Political Economy of Addressing Overfishing in U.S.*

- Waters. **Resources for the Future Policy Commentary**. October 22, 2007  
 ([http://www.rff.org/rff/News/Weekly\\_Policy\\_Commentary/](http://www.rff.org/rff/News/Weekly_Policy_Commentary/))
12. Sanchirico, J.N. and P. Mumby. Economics, Habitats, & Biological Populations: Finding the Right Value. **Resources** 165 Spring 2007
  11. Sanchirico, J.N. and J. Siikamaki. Natural Resource Economics and Policy in the 21st Century: Conservation of Ecosystem Services. **Resources** 165 Spring 2007
  10. Sanchirico, J.N., M. Smith, D. Lipton. Managing Fish Portfolios. **Resources** 164 Winter 2007.
  9. Sanchirico, J.N. Swimming Upstream. The Challenges of Managing the World's Fisheries. **Resources**. Summer 2006.
  8. Banzhaf, S., W. Oates, J. N. Sanchirico, D. Simpson, and R. Walsh. Voting for Conservation: What is the American Electorate Revealing? **Resources**. Winter 2006.
  7. Sanchirico, J.N. Designing Policies to Protect Coral-Reef Ecosystems. **Resources**. Fall 2005.
  6. Sanchirico, J. N. and S. Hanna. Taking Stock of U.S. Fisheries Policy, *The Providence Journal*, Dec. 20, 2004 (op-ed).
  5. Sanchirico, J. N. and S. Hanna. Taking Stock of U.S. Fisheries Policy. Picked up by *Knight-Ridder Wire Service*. (Published in *The Montana Standard*, Dec. 21, 2004, op-ed).
  4. Sanchirico, J. N. and M. Callaghan. One Fish, Two Fish, Red Fish, Blue Fish: What is the Value of the Census of Marine Life? **Resources**, No. 155, Fall 2004.
  3. Newell, R. and J. N. Sanchirico. Saving Fish and America's Fishermen, *The Providence Journal*, Dec. 18, 2003. (Op-ed)
  2. Sanchirico, J. N. and R. Newell. Catching Market Efficiencies: Quota-based Fishery Management, **Resources**, No. 150, Spring 2003.  
 • *Article featured in Wall Street Journal Editorial, "A Fish Story" on Nov. 6, 2003.*
  1. Sanchirico, J. N. Marine Protected Areas: Can They Revitalize Our Nation's Fisheries? **Resources**, No. 140, Summer 2000.

## TEACHING

### *UC Davis Teaching 2007-2009*

- *ARE 254: Dynamic Optimization (co-taught with ARE faculty), Winter 2009, Fall 2009, Fall 2010*
- *ECL 298: Ecology, Economics, and Policy (co-taught with Mike Springborn), Spring 2010, Spring 2011*
- *ECL 290: Ecosystem Services (co-taught with Jim Quinn), Fall 2007*
- *ECL 296: Seminar in Human behavior and Environmental Policy, Fall 2007*
- *ESP 01: Environmental Science and Policy, Winter 2008, Spring 2009, Spring 2010, Fall 2010*
- *ECL 298: Bioeconomic Analysis, Spring 2008*
- *Guest lecture: ECL 200B Ecology (2 Lectures), ECL 208 Conservation Biology, Ocean and Coastal Law, and ESP 169: Water Policy and Politics, EPHE Core Course (2 lectures)*

### *Pre-UC Davis Appointment*

- *Invited lecturer, Ph.D. Course in Environmental and Resource Economics - Multispecies Fisheries Management and Marine Reserves, University of Tromsø, Tromsø, Norway, May 29 - June 2 2006.*
- *Adjunct Professor, Georgetown University, Environmental and Natural Resource Economics (Econ 275 3 credits), Fall 2005 and Fall 2006.*
- *Guest Lecturer, William and Mary College (Washington Program), Ocean Policy Seminar, Fall 2004.*
- *Guest Lecturer, Stanford University, Economics Dept., Ph.D. Environmental and Natural Resource Economics, Spring 2004 (3 classes).*

- *Guest Lecturer*, Stanford University, Human Biology Program, Environmental Policy and Human Health, Winter 2003.
- *Guest Lecturer*, Stanford University, Economics Dept., Environmental Economics, Fall 2003.
- *Guest Lecturer*, Stanford University Law School, Ocean Policy, Fall 2003.
- *Guest Lecturer*, U.S. Dept of State, Foreign Service Economic and Commercial Studies Program, Economics and Public Policy, April 2000, December 2000, November 2001, November 2002, and December 2004.

## GRANTS AND CONTRACTS

25. Principal Investigator, **NOAA Alaska Fisheries Science Center**, *Alaskan Halibut and Sablefish Fisheries*, 2010.
24. Principal Investigator, **National Science Foundation**, Removal and Restoration: Social, Economic and Ecological Dynamics of Invasive Spartina in San Francisco Bay, 2010-2013.
23. Principal Investigator, **NOAA Alaska Fisheries Science Center**, *Stellar Sea Lion Conservation*, 2009-2010.
22. Principal Investigator, **Environmental Defense Fund**, *Analysis of the West Coast Groundfish IFQ program*, 2009-2010.
21. Principal Investigator, **Resources for the Future**, *Marine and Coastal Adaptation policies*, 2008-2009.
20. Principal Investigator, **NOAA Fisheries**, *Analysis of the New Zealand Fishery Quota Markets*, 2008-2010.
19. Investigator, **Lincoln Land Institute**, *Conservation Voted: What is the American Electorate Revealing?* 2005-2006.
18. Principal Investigator, **U.S. EPA STAR**, *Effects of Climate Change on Ecosystem Services Provided by Coral Reefs and Tidal Marshes*, 2004-2008.
17. Principal Investigator, **U.S. Dept. of Agriculture, Economic Research Service**, *Spatial Management of Invasive Species: An Application to Cheatgrass Management in the Great Basin*, 2004-2006.
16. Co-principal Investigator, **New Zealand Ministry of Fisheries**, *Performance of Fishing Quota Markets*, 2004-2006.
15. Principal Investigator, **Marisla Foundation**, *Coral Reefs in the Bahamas*, 2004-2006.
14. Co-principal Investigator, **The David and Lucile Packard Foundation**, *Drawing Lines in the Ocean: The Economic, Biological and Legal Basis for Zoning the Central Coast of California*, 2004-2005.
13. Co-principal Investigator, **National Oceanic and Atmospheric Administration (NOAA), Chesapeake Bay Office**, *Trophic Portfolios in Commercial Fishing: A Finance-based Approach to Ecosystem Management with an Application to Chesapeake Bay Fisheries*, 2004-2006.
12. Principal Investigator, **NOAA Alaska Fisheries Science Center**, *Improving Estimates of Bycatch in Multi-species Fisheries*, 2004-2006.
11. Principal Investigator, **NOAA Alaska Fisheries and Northwest Science Center**, *Design of Multi-Species IFQ Systems*, 2004-2006.
10. Principal Investigator, **Alfred P. Sloan Foundation**, *What Exists? What Did Exist? Where Does or Did it Live? A Discussion of the Benefits of the Census of the Marine Life*, 2003-2004.
9. Co-principal Investigator, **NOAA**, *Risk, Uncertainty, and Cumulative Effects: The Role of Economics in NMFS Habitat Analysis*, 2003-2004.
8. Principal Investigator, **NOAA**, *A Bioeconomic Analysis of Marine Reserves: Understanding the Role of Site Selection and Connectivity*, 2001-2002.

7. Co-principal Investigator, **New Zealand Ministry of Fisheries**, *Economic Fishery Conservation Through Individual Transferable Quota: Evidence from the New Zealand Experience*, 2001-2002.
6. Investigator, **National Science Foundation: Biocomplexity Environment and the Human Dimension**, *Coupled Natural and Human Dynamics in Coral Reef Ecosystems: The Effect of Marine Reserve Network Design and Implementation on Fisheries, Biodiversity, and Humans*, 2001-2006.
5. Investigator, **Energy Foundation**, *Addressing the Distributional Impacts of Greenhouse Gas Controls*, 2001-2002.
4. Investigator, **U.S. Department of Energy**, *An Integrated System for Analyzing Carbon Trading*, 1998-2001.
3. Principal Investigator, **Resources for the Future**, *Economic Fishery Conservation Through Individual Transferable Quota: Evidence from the New Zealand Experience*, 1999-2001.
2. Principal Investigator, **Resources for the Future**, *Zoning the Oceans: The Future of Fishery Management?* 1999-2003.
1. Principal Investigator, **Michigan Department of Environmental Quality**, Office of the Great Lakes, *An Integrated Analysis of Market Based Instruments for Pollution Reduction and Land-use*. 1999-2001.

## PRESENTATIONS DATING BACK TO 2005

- *Role of bioeconomic modeling in the design and analysis of ecosystem based management policies*, Center for Environmental Science and Policy, University of Miami, Sept. 2010
- *Assessing the Ecological and Economic Damages of the Deepwater Horizon Oil Spill*, Rotary Club of Davis, Davis, CA, Sept. 2010
- *Optimizing for multiple species and multiple values: Trade-offs inherent in ecosystem-based fisheries management*, World Congress of Environmental and Resource Economists, Montreal, Canada, June 2010
- *Marine and coastal adaptation: Role of better defined rights and responsibilities*, An RFF Workshop on Understanding and Designing Public Policy Options for Adapting to Climate Change Impacts in the United States, Washington DC, June 2010
- *Role of bioeconomic modeling in the design and analysis of ecosystem based management policies*, UC Davis Bodega Bay Marine Lab, May 2010
- *Ecosystem-based Management: Insights into the economic and ecological gains from taking a more holistic approach to management*, Resources for the Future, March 2010
- *Prioritization in Ecosystem-Based Management of Coral Reefs*, AAAS Meetings, San Diego, Feb. 2010.
- *Mapping Ecosystem Functions to Ecosystem Service Valuation*, AAAS Meetings, San Diego, Feb. 2010.
- *Marine Fisheries Quota Markets: Successes and Limitations*, Marine and Coastal Katoomba Meeting, Forest Trends, Palo Alto, Feb. 2010
- *Using bioeconomic modeling to design adaptation policies for marine and coastal environments*, UC Davis, Graduate Group in Applied Math symposium, Jan. 2010.
- *Assessments of the New Zealand ITQ system*, NOAA Catch Shares Workshop, San Diego, Nov. 2009.
- *An approach to Ecosystem Based Fisheries Management*, University of Washington, Bellingham, May 2009

- *Connectivity in Marine Seascapes: Predicting ecological and socioeconomic costs of climate change on coral reef ecosystems*. U.S. EPA Star Workshop, Seattle, May 2009. (Presented by Julie Kellner)
- *Comprehensive planning, dominant-use zones, and user rights: a new era in ocean governance*, U.S. Interagency Ocean Policy Task Force, Washington DC., Sept. 2009.
- *Economically optimal management of a metapopulation*, UC San Diego, Feb. 2009.
- *Economically optimal management of a metapopulation*, UC Davis, Applied Math Seminar Series, Feb. 2009.
- *Ocean zoning and spatial access privileges*, Mote Symposium, University of Florida Nov.2008
- *Adaptation policies to global warming impacts on the oceans*, RFF Conference on Adaptation, Oct. 2008.
- *Spatial Management of Invasive Species*. Economic Research Service, Oct. 2008
- *Ocean Zoning, New York University Law School*, Breaking the Logjam conference, March 2008. (Presented by Josh Eagle).
- *To ocean zoning and beyond*, Environmental Policy and Human Behavior Seminar Series, UC Davis, Fall 2007
- *Valuing ecosystem services across space: Role of mangroves in coral reef fisheries*, Ecology and Evolution Seminar Series, UC Davis, Fall 2007
- *To ocean zoning and beyond*, Ocean Management Panel, Capitol Hill Oceans Week, Capitol Hill, Washington DC, June 2007.
- *Economic Tools for EBM in Massachusetts*, Massachusetts Ocean Partnership Fund, Boston, MA, May 2007.
- *Fishing Overcapacity*, Environmental Change and Security Program, Woodrow Wilson Center, Washington DC as part of USAID's series on Fishery Management, April 2007.
- *Optimal Rebuilding of Metapopulations*, University of Minnesota, Department of Applied Economics, April 2007.
- *Ecosystem Portfolios: An approach to ecosystem-based fishery management*, NOAA Chesapeake Bay Office 10th Annual Fisheries Symposium, Maryland, April 2007.
- *To ocean zoning and beyond*. U.S. Coral Reef Task Force, Department of Interior, Washington DC, March 2007.
- *Connectivity in Marine Seascapes: Predicting ecological and socioeconomic costs of climate change on coral reef ecosystems* U.S. EPA STAR Global Aquatic Ecosystem Services and Multi-Stressor Progress Review Workshop June 4, 2006.
- *An Economic Analysis of Recovery of Spatially Explicit Populations*. Joint workshop of NOAA Fisheries Socioeconomics Division and NOAA Fisheries Biological Assessment Division, April 19, 2006. San Francisco.
- *When are no-take zones an economically optimal fishery management strategy?* Department of Agricultural Economics, Michigan State University, Feb. 2006.
- *Human Seascapes: Community Perspectives on Marine Management*. Presented at the AAAS meetings, St. Louis, Feb. 2006 (presented by Kenny Broad).
- *Spatial and Intertemporal Management of Invasive Alien Species: An application to Cheatgrass in the Great Basin*. USDA ERS Conference on Invasive Species Management (PREISM program), D.C., Oct. 2005.
- *No-take Zones as Optimal Fishery Management*, NOAA Northwest Fisheries Science Center Weekly Monster Seminar Jam Series, Seattle, May 2005.
- *No-take Zones as Optimal Fishery Management*, 3<sup>rd</sup> Spatial and Temporal Models in Ecological and Economic Systems Workshop sponsored by The Beijer International

- Institute of Ecological Economics and The Royal Swedish Academy of Sciences, Abdus Salam Institute for Theoretical Physics, Trieste Italy, April 2005.
- *No-take Zones as Optimal Fishery Management*, NOAA Library Brown Bag Series, March 2005.
  - *New Zealand Individual Fishing Quota Markets*, NOAA Socioeconomic Brown Bag Series, Feb. 2005.
  - *No-take Zones as Optimal Fishery Management*, Department of Business and Economics, University of Iceland, Reykjavik, February 2005.