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Rachel Bouvier, PhD Principal / Owner Economist

Rachel is the owner and founder of rbouvier consulting, an economic and sustainability consulting firm providing economic impact analysis, risk assessment, social return on investment reports, policy research, and natural resource valuation services to non-profit firms, private companies, municipalities, and government agencies.

Rachel is Associate Professor and Chair of Economics at the University of Southern Maine. She earned her PhD in Economics from the University of Massachusetts at Amherst, where she focused on the relationship between economic development and environmental quality. She also holds a Master's degree in Resource Economics and Community Development from the University of New Hampshire.

CAREER HIGHLIGHTS

As an economic and sustainability consultant, Rachel has worked with private, non-profit, and government clients including the Massachusetts Executive Office of Energy and Environmental Affairs, the New England Interstate Pollution Control Commission, the City of Portland, Maine, The Nature Conservancy, and the Maine Public Utilities Commission. As a professor, Rachel has taught over 1,000 students in Environmental Economics, Natural Resource Economics, Econometrics, Community Economic Development, Rural and Regional Development, and others.

TECHNICAL EXPERTISE

Rachel is experienced in cost-benefit analysis, non-market valuation, survey design and implementation, statistical analysis, social return on investment calculations, cost-effectiveness evaluation, economic impact assessment, training, facilitation, and public speaking.

EDUCATION

- University of Massachusetts, Amherst; Amherst, MA (Doctor of Philosophy, Economics; 2004).
- University of New Hampshire; Durham, NH (Master of Science, Resource Economics, 1996).
- Smith College, Northampton, MA (Bachelor of Arts, Economics, 1994).

SELECTED PROJECTS

Strategic Planning and Economic Development

- Southern Maine Planning and Development Commission, Current. Part of a team assessing the
 economic impact of sea level rise and storm surge on six towns in York County. Funded in part by the
 Economic Development Administration.
- State of Maine Land Use Planning Commission, Current. Advising Commission on requiring and reviewing socio-economic assessments for land use changes.
- New England Interstate Water Pollution Control Council, 2021. Assessing the feasibility of point –
 non-point source water quality trading in the Long Island Sound Study Area.
- Executive Office of Energy and Environmental Affairs, Massachusetts, 2021. Developing topical briefings on connections between land conservation and economic outcomes as part of year-long Resilient Lands Initiative.
- State of Maine Public Utilities Commission, 2020. Developed model by which PUC staff could evaluate the statewide economic impacts of renewable energy proposals.
- City of Portland, Maine, 2017-2019. Part of a multi-year, multi-disciplinary team assisting the City of Portland design their Integrated Water Resources Management Plan. Rachel oversees monetizing costs and benefits of the alternative as well as presenting them to the general public.

Cost-Benefit and Cost-Effectiveness Analysis

- The Nature Conservancy (Maine), 2016. Performed a cost-effectiveness analysis of "traditional" culverts versus stream simulation culverts, using data from The Nature Conservancy, the Maine Department of Transportation, and several Maine municipalities to. The results are being used to promote the economic, as well as environmental, benefits of installing stream simulation culverts.
- Reed & Reed General Contractors, 2016. Demonstrated the economic benefits of installing 100 MW of wind energy in Maine versus importing the same amount of hydroelectric power from elsewhere. Using data from purchase power agreements, in-house engineering data, and the National Renewable Energy Laboratory's JEDI-W model, Results demonstrated that the economic impact of installing indigenous wind energy in Maine far exceeded those of importing hydroelectricity.

Economic Impact Assessment, Needs Assessment, and Market Analysis

- HNTB Corporation/Maine Transit Authority, Current. Performing a socio-economic impact analysis of proposed highway connectivity project in southern Maine.
- HNTB Corporation/Maine Department of Transportation. Current. Examining the economic benefits of a proposed rail to trail project in Southern Maine.
- Cities of Portland, Maine and South Portland, Maine. 2019-2020. Part of a team assessing the economic value of Portland Harbor to the region.
- Coastal Enterprises, Inc, 2019. Developing comprehensive market analysis for innovative method of scallop aquaculture in Maine.

- Golf Course Superintendents' Association of Cape Cod, 2018. Performed economic assessment of the golf industry to Cape Cod, using IMPLAN, an economic development software.
- Center for Business and Economic Research / Casco Bay Estuary Partnership, 2017.

 Contributed a section to a report on the economic importance of Casco Bay, focusing on the potential economic impact of climate change on the area.
- Friends of Fort Gorges, 2016. Designed, implemented, and analyzed the first ever visitation survey
 used by the Friends of Fort Gorges, to document the economic impact of the Fort and advocate for its
 preservation.
- **Unity Food Hub, 2016.** Designed and implemented a survey ascertaining the financial impact of the Unity Food Hub in Unity, Maine, on its member farmers.
- Maine Public Advocate, 2015. Performed the first-ever needs assessment for low-income electricity
 consumers in Maine, using data from the Census Bureau, the Maine Housing Bureau, the Maine
 Office of GIS, and several utilities in Maine. Results are being used to design a new, state-wide lowincome electricity assistance program that will be easier to implement, more equitable, and will allow
 more low-income households to obtain assistance with their electricity bills more easily.
- Planning Decisions, Inc. 2015. Assisted Planning Decisions, Inc., in several economic development
 project, including the economic impact of the Coastal Maine Botanical Gardens in Boothbay, Maine,
 as well as the structure economic changes in the greater Waterville, ME area affecting Thomas
 College.
- Friends of the Presumpscot River, 2015. Authored a report demonstrating the economic benefits of
 restoring native fish passage on the Presumpscot River, by documenting both the use and non-use
 values of restoring an historic alewife run.

ACADEMIC POSITIONS HELD

- Associate Professor, Economics, University of Southern Maine, 2019 Current.
- Visiting Associate Professor, Economics, Colby College, February May, 2018.
- Adjunct Associate Professor, Economics, University of Southern Maine, 2016 2017.
- Adjunct Associate Professor, Environmental and Resource Economics, University of New Hampshire,
 2015 current.
- Associate Professor, Economics, University of Southern Maine; Adjunct Associate Professor, Environmental Science and Policy, University of Southern Maine, 2005 – 2014.
 - Courses taught: Community Economic Development, Introduction to Microeconomics, Rural and Regional Economics, Environmental Economics, Natural Resource Economics, Econometrics, Lying with Graphs, and Critical Thinking about Economic and Environmental Justice.
 - Developed and implemented five new courses to add to the Economics department curriculum.
 - Assisted in pilot program for College of Arts, Humanities, and Social Sciences to develop Major Advising Coordinators.
 - Participated in evaluating courses for inclusion in General Education Core Requirements.
 - Promoted from Assistant Professor September, 2010.

ACADEMIC and PROFESSIONAL PUBLICATIONS

- 2015. The Friends of the Presumpscot River and rbouvier consulting. "The Economic Value of a Restored Fishery on the Presumpscot River." Online at www.presumpscotriver.org.
- 2014. Bouvier, R. "Distribution of Income and Toxic Emissions in Maine, United States: Inequality in Two Dimensions," <u>Ecological Economics</u>, 102(1): 39-47.
- 2014. Bouvier, R. "The Distribution of Environmentally Related Well-Being: A Conceptual Framework," Local Environment [published on-line April 23 at http://www.tandfonline.com/doi/abs/10.1080/13549839.2014.903235?journalCode=cloe20#.VNTV6J3F-T9.
- 2013. Wagner, T.P., Toews, P., & Bouvier, R. "Increasing diversion of household hazardous wastes and materials through mandatory retail take-back," <u>Journal of Environmental Management</u>, 123: 88-97.
- 2011. Bouvier, R. and T. Wagner. "The Influence of Collection Facility Attributes on Household Collection Rates of Electronic Waste: The Case of Televisions and Computer Monitors." <u>Resources,</u> <u>Conservation and Recycling</u> 55(11): 1051–1059.
- 2010. Bouvier, R. "The Natural Environment as Field-Level Actor: The Environment and the Pulp and Paper Industry in Maine." <u>Journal of Economic Issues</u> 44(3): 717-735.
- 2009. Bouvier, R. "Sulfur Dioxide Emissions and Per Capita Income: A Disaggregation of The Effects
 of Long Run and Short Run Income Growth." <u>Environment and Development Economics</u> 14(5): 601619.
- 2009. Bouvier, R. "Determinants of Environmental Performance: Pulp and Paper Mills, Regulations, and Community in Maine." Economic Development Quarterly 23(2): 111-126.
- 2009. Bouvier, R. "Review of Frontiers in Rural and Resource Economics [book review]." <u>Agricultural and Resource Economics Review</u> 38(1):78-82.
- 2009 Bouvier, R. [with Travis Wagner]. "The Influence of Municipal Facility Operational Characteristics on the Collection of Household Electronic Waste [extended abstract]." <u>Agricultural and Resource Economics Review</u> 38(2): 284.
- 2000. Bouvier, R., Halstead, J., Manalo, A., and Conway, K. "The Effect of Landfills on Rural Residential Property Values: Some Empirical Evidence," <u>Journal of Regional Analysis and Policy</u>, 30(2): 23-37.
- 1997. Halstead, J., Bouvier, R., Hansen, B. "On the Issue of Functional Form Choice in Hedonic Price Functions: Further Evidence," by John M. Halstead, Rachel Bouvier, and Bruce E. Hansen. Environmental Management, 21(5): 759-65.

PRESENTATIONS

- "Obstacles And Opportunities for Nutrient Trading in The Long Island Sound Study Area," January, 2022. Boston, MA.
- "Ecosystem Services and Green Infrastructure: Understanding Valuation, Benefits, and SITES v2
 Applications," October 22, 2018. American Society of Landscape Architects Annual Conference,
 Philadelphia, PA. With Marla Stelk, Martha Sheils, and Lisa Cowen.
- "Turn and Face the Strange: The Economic Impacts of Climate Change," June 2018. Energy and

- Environmental Council of Maine, Hallowell, ME.
- "Beyond the Bottom Line: Calculating the Social Return on Investment," June 2018. Startup Maine, Portland, ME.
- "Marsh-o-nomics: The economic benefits of salt marsh conservation and restoration," May 23, 2018. Friends of Scarborough Marsh, Scarborough, ME.
- "The Price of Everything and the Value of Nothing," June 27, 2017, Association of State Wetland Managers, Windham, ME.
- "Promoting the Value of Sustainability in an Adverse Political Climate," April 13, 2017, PelotonLabs, Portland, ME.
- "The Price of Everything and the Value of Nothing: What Economists Can (and Can't) Say About Ecological Restoration," Workshop given to the Society for Ecological Restoration, October 2016, Durham, NH.
- Moderator, "A Changing Climate: How Municipal Government Can Be Part of the Solution," Freeport, ME, March 2016.
- Participated in panel on Renewable Energy Incentives to over 100 professionals, legislators, and others.
- Presented to professional audiences from 10 100 on environmental issues.
- Delivered presentations to academic audiences at both national and international scholarly conferences.
- Facilitated constructive group discussions, motivated creative problem-solving, and mediated group conflicts.

VOLUNTEER AND PROFESSIONAL AFFILIATIONS

- GrowSmart Maine, Treasurer and Executive Board, 2015 to present.
- Friends of the Presumpscot River, Executive Board, 2011 to 2014.
- Northeast Agricultural and Resource Economics Association, Board of Directors, 2011-2013.
- Environmental & Energy Technology Council of Maine, member.
- Society for Ecological Restoration, member.

CERTIFICATION AND AWARDS

- "Successful Green Small Business," SCORE, Portland, ME, 2016.
- Institute for Sustainable Infrastructure, Envision Sustainability Professional, 2016.
- University of Southern Maine Faculty Senate Research Awards (2006; 2012).