

RAY RASKER

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ray@headwaterseconomics.org

EDUCATION

Ph.D., Resource Economics, Department of Forest Resources, Oregon State University.
October 1989. Specialization: - ecological economics, natural resource policy, the role of markets in natural resource management, rural economic development.

Master of Agriculture, Colorado State University, Fort Collins, Colorado. Research topic: analysis of the demand for North American cattle genetics in the Netherlands. May 1984.
Specialization - agricultural economics and marketing. 4.0 GPA.

Bachelor of Science, Wildlife Biology School of Forest Resources, University of Washington, Seattle, Washington. April 1982.

EMPLOYMENT

Current Executive Director, Headwaters Economics (www.headwaterseconomics.org)
Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions. We work throughout the U.S. and Canada. Budget (FY19): \$2.1 million.

Current Affiliate Faculty, Department of Ecology, Montana State University.

2005-2006 Senior Economist, Sonoran Institute.

Responsible for research on conservation and development; serve as spokesperson on topics related to economic development and conservation in the West; oversee the production and upkeep of technological products such as software and databases (e.g., Economic Profile System); solicit and fulfill fee-for-service research contracts; serve as a liaison between federal sources of rural development funding and community development projects; conduct community-level *Economic Strategy* workshops throughout the West and assist in fundraising.

2002-2005 Director, Socioeconomics Program, Sonoran Institute

Responsible for research, development of instructional materials, and teaching courses on economic analysis, the changing economy of the West, and opportunities for sustainable development. Development and distribution of software (EPS, Economic Profile System) to field staff of US land management agencies. Publishing peer reviewed studies and book chapters on economics and the environment. Grew Socioeconomics Program budget from \$150,000/year and 2 staff to \$500,000/year and 8 employees in four states.

1997-2002 Director, Northwest Office, Sonoran Institute

Responsible for management and fund raising for a 5-person office in Bozeman, MT, with a field office in Canmore, AB. Other duties: research on the changing economy of the West and the relationship between the environment and community well-being; training programs on how to conduct economic

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analysis; training programs for NGOs and land management agencies on balancing economic growth with economic protection; on the board of the Yellowstone to Yukon Conservation Initiative. Northwest Office Budget: \$500,000/year. Supervised 8 employees.

1998- 2005 Adjunct Assistant Professor Department of Earth Sciences, Montana State University.

PRESENTATIONS/LECTURES

A sought-after speaker, giving dozens of talks per year. Travel extensively for presentations that are delivered to a variety of audiences, including presentations and lectures at the White House, Princeton University, University of Pittsburgh, University of Colorado School of Law, and University of Edmonton, the U.S. Forest Service and Bureau of Land Management, the Department of the Interior's Office of Policy Analysis, and numerous presentations to chambers of commerce and economic development groups. Have testified several times before Congress as a subject matter expert. Interviewed frequently for TV, radio, and print news stories.

MEDIA

For recent press see: <http://headwaterseconomics.org/doc/media>

Research findings have appeared in: New York Times, The Guardian, Time Magazine, Christian Science Monitor, Denver Post, Chicago Tribune, Seattle Times, Washington Post, National Geographic, National Public Radio, BBC World News, CNN, NBC, Al Jazeera, Associated Press (many papers) and many regional newspapers.

PUBLICATIONS (* indicates refereed journal)

* Tania Schoennagel, T., J. Balch, H. Brenkert-Smith, P. Dennison, B. Harvey, M. Krawchuk, N. Mietkiewicz, P. Morgan, M. Moritz, R. Rasker, M. Turner, C. Whitlock. 2017. "Adapt More to Wildfire in Western north American Forests as Climate Changes." *PNAS*.
www.pnas.org/cgi/doi/10.1073/pnas.1617464114.

* Rasker, R. 2015. "Innovate New Ways to Resolve the Increasing Risk from Wildfires in the American West." *Solutions Journal*. March-April: 55-62.

Gude, P., R. Rasker, M. Essen, M. Delorey and M. Lawson. 2015. "An Empirical Investigation of the Effect of the Firewise Program on Wildfire Suppression Costs." *Headwaters Economics*.

* Lawson, M., R. Rasker, and P. Gude. 2014. "The Importance of Non-Labor Income: An Analysis of Socioeconomic Performance in Western Counties by Type of Non-Labor Income." *Journal of Regional Analysis and Policy*. 44(2): 175-190.

Kousky, C. and R. Rasker. 2014. "Lessons for Wildfire from Federal Flood Risk Management Programs." *Headwaters Economics*. Bozeman, Montana.

R. Rasker. 2014. "Reducing Wildfire Risk to Communities: Nine Solution for Controlling the Pace, Scale, and Pattern of Future Development in the Wildland-Urban Interface." *Headwaters Economics*. Bozeman, Montana.

* Haggerty, J., M. Haggerty, and R. Rasker. 2014. "Uneven Local Benefits of Renewable Energy in the U.S. West: Property Tax Policy Effects." *Western Economics Forum*. 13(1): 8-22.

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* Haggerty, J., M. Haggerty, R. Rasker and P. Gude. 2014. "County Economic Development at a Glance: A Single Measure of Opportunity." Western Economics Forum. 13(1): 1-7.

* Haggerty, J., P. Gude, M. Delorey, and R. Rasker. 2014. "Long-Term Effects of Income Specialization in Oil and Gas extraction: the U.S. West, 1980-2011." Energy Economics. 45: 186-195

* Rasker, R., P. Gude, and M. Delorey. 2013. "The Effect of Protected Federal Lands on Economic Prosperity in the Non-metropolitan West." Journal of Regional Analysis and Policy. 43(2): 110-122.

* Gude P.H., K.L. Jones, R. Rasker, M.C. Greenwood. 2013. "Evidence for the Effect of Homes on Wildfire Suppression Costs." International Journal of Wildland Fire. 22(4) 537-548

* Gude P.H., R. Rasker, K.L. Jones, J.H. Haggerty, M.C. Greenwood. 2012. "The Recession and the New Economy of the West: The Familiar Boom and Bust Cycle?" Growth and Change 43(3): 419-441.

Rasker, R. Page-pairs: "The Economy" (pg 50-51), "Market Access" (pg 58-59), and "Wildland Economics" (pg 60-61), *In* Marcus, A., J. Meachum, A. Rodman, and A. Steingisser (eds). 2012. *Atlas of Yellowstone*. University of California Press. Berkeley, California.

* Gude P.H., K.L. Jones, R. Rasker, M.C. Greenwood. In Press. "Evidence for the Effect of Homes on Wildfire Suppression Costs." International Journal of Wildland Fire. 22:537-548.

Gude P.H., K.L. Jones, R. Rasker, M.C. Greenwood. "How Much do Homes Contribute to Wildfire Suppression Costs? Evidence from Oregon and California." *Headwaters Economics*. Bozeman, Montana.

Rasker, R. 2012. *Colorado's Economy and the Role of Federal Lands*. *Headwaters Economics*. Bozeman, Montana.

Rasker, R. 2012. *New Mexico's Economy and the Role of Federal Lands*. *Headwaters Economics*. Bozeman, Montana.

Rasker, R. 2012. *Montana's Economy and the Role of Federal Lands*. *Headwaters Economics*. Bozeman, Montana.

Rasker, R., B. Alexander, J. Haggerty, P. Gude, M. Haggerty, and C. Mehl. 2012. *Implementing Climate change Adaptation: Lessons Learned from Ten Examples*. *Headwaters Economics*. Bozeman, Montana.

Rasker, R. and C. Mehl. 2011. "Getting the Economics Right: Helping Montanans Improve Land Use Planning and Economic Development." Montana Policy Review. Fall. Pgs. 39-41.

Rasker, R., P. Gude, and C. Mehl. 2011. *The People, Economy, Land, and Resources of Missoula County and Potential Vulnerabilities to Climate Change*. *Headwaters Economics*. Bozeman, Montana.

Rasker, R., B. Alexander, and M. Haggerty. 2011. *The Economic Value of Public Lands in Grand County, Utah*. *Headwaters Economics*. Bozeman, Montana.

Rasker, R., B. Alexander, and M. Haggerty. 2011. *The Effects of Climate Change on the Downhill Skiing and Recreational Fishing Economy in the Crown of the Continent*. *Headwaters Economics*. Bozeman, Montana.

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Haggerty, M., and R. Rasker. 2010. County Payments, Jobs, and Forest Health: Ideas for Reforming the Secure rural Schools and community Self-Determination Act (SRS) and Payments in Lieu of Taxes (PILT). Headwaters Economics. Bozeman, Montana.

Gude, P and R. Rasker 2010. Yellowstone River Atlas:
<http://headwaterseconomics.org/tools/atlas/yellowstone-river/>

Gude, P and R. Rasker 2010. Atlas of Bison Conservation:
<http://headwaterseconomics.org/tools/atlas/bison-conservation/>

Alexander, B. and R. Rasker. 2010. Improving Deschutes County's competitiveness: business Location and Retention Factors. Headwaters Economics. Bozeman, Montana.

* Rasker, R., P.H. Gude, J.A. Gude, J. van den Noort. 2009. "The Economic Importance of Air Travel in High-Amenity Rural Areas." Journal of Rural Studies 25(2009): 343-353

Rasker, R. 2008. Economic Change in the American West - Solutions to the Downside of Amenity Migration In Moss A.G.L. (ed.) Understanding and Managing Amenity-led Migration in Mountain Regions, Banff, Alberta) Proceedings of the Mountain Culture at the Banff Centre conference held May 15-19, 2008. Co-published by the International Amenity Migration Centre. p. 131-138

* Gude, P., R. Rasker and van den Noort, J. 2008. "Potential for Future Development on Fire-Prone Lands." Journal of Forestry. June: 198-205.

Rasker, R and B. Alexander. 2008. Fossil Fuel Extraction as a County Economic Development Strategy: Are Energy-Focusing Counties Benefiting? Headwaters Economics. September. Bozeman, Montana.

Rasker, R and B. Alexander. 2008. U.S. Energy Needs and the Role of Western Public Lands. Headwaters Economics. Headwaters Economics. September. Bozeman, Montana.

Rasker, R and B. Alexander. 2008. Energy Development and the Changing Economy of the West. Headwaters Economics. Headwaters Economics. September. Bozeman, Montana.

Rasker, R., M. Haggerty, J. Haggerty. 2008. The Economy of the Gila Region. Headwaters Economics. August. Bozeman, Montana

Rasker, R., and B. Alexander. 2008. The Potential Economic Impacts of the Badlands Wilderness in Central Oregon. Headwaters Economics. April. Bozeman, Montana.

Gude, P., R. Rasker and B. Alexander. 2007. Atlas of the Northwest:
<http://headwaterseconomics.org/tools/atlas/northwest-atlas/>

Rasker, R., and B. Alexander. 2007. The Union Pacific Railroad Line, Timber and Southwest Montana. Headwaters Economics. Bozeman, Montana.

Rasker, R., and B. Alexander. 2007. Potential Economic Impacts of the Badlands Wilderness in Central Oregon. Headwaters Economics. September. Bozeman, Montana.

Rasker, R., and B. Alexander. 2007. Timber, Restoration Forestry and Wilderness in Northeast Washington. Headwaters Economics. September. Bozeman, Montana.

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Rasker, R., B. Alexander, J. Van Den Noort, S. Waring. 2006. Economic Profile System (EPS) User's Manual: A Tool for Planning and Community Participation. (second edition) Sonoran Institute, Bozeman Montana.

* Gude, P.H., Hansen, A.J., Rasker, R., Maxwell, B. 2006. "Rates and Drivers of Rural Residential Development in the Greater Yellowstone." Landscape and Urban Planning. 77: 131-151.

Rasker, R., S. Waring, R. Carter. 2006. "You've Come a Long Way, Cowboy: Ten Truths and Trends on the New American West." Sonoran Institute, Bozeman Montana.

Rasker R., B. Alexander, R. Carter. 2006. The Potential Economic Impacts of Wilderness in Dona Ana County, New Mexico. Sonoran Institute, Bozeman, Montana.

* Rasker, R. 2006. "An Exploration Into the Economic Impact of Industrial Development Versus Conservation on Western Public Lands." Society and Natural Resources. 19(3): 191-207.

Rasker, R. and S. Waring. 2005. Comprehensive Economic Development Strategy (CEDS): North Central Montana Economic Development District. Sonoran Institute, Bozeman Montana.

* Rasker, R. 2005. "Wilderness for Its Own Sake or as Economic Asset?" J of Land, Resources, Environmental Law 25(1): 15-20.

Rasker, R., B. Alexander, J. van den Noort, R. Carter. 2004. Public Lands Conservation and Economic Well-Being. Sonoran Institute. Bozeman, Montana.

Rasker, R., B. Alexander, J. van den Noort, R. Carter. 2004. Prosperity in the 21st Century West. Sonoran Institute. Bozeman, Montana.

Rasker, R. B. Alexander. 2004. Economic Profile System (EPS) User's Manual: A Tool for Planning and Community Participation. (first edition) Sonoran Institute. Bozeman, Montana.

Rasker, R., B. Alexander, P. Holmes. 2003. The Changing Economy of the West Employment and Personal Income Trends, by Region, State, and Industry 1970 to 2000. Sonoran Institute. Bozeman, Montana.

Rasker, R., B. Alexander. 2003. Getting Ahead in Greater Yellowstone: Making the Most of our Competitive Advantage. Sonoran Institute. Bozeman, Montana.

Rasker, R., B. Alexander. 2003. Working Around the White Clouds. Sonoran Institute. Bozeman, Montana.

Rasker, R., B. Alexander, P. Holmes. 2003. The Changing Economy of the West Employment and Personal Income Trends, by Region, State, and Industry 1970 to 2000. Sonoran Institute. Bozeman, Montana.

Rasker, R. 2003. A Desktop Reference Guide to Collaborative, Community-Based Planning. Sonoran Institute. Bozeman, Montana; Bureau of Land Management, Washington, DC.

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* Hansen, A.J, R. Rasker, B., Maxwell, J.L. Rotella, J.D. Johnson, A. Wright Parmenter, U. Langer, W. B. Cohen, R. L. Lawrence, and M. P.V. Kraska. 2002. "Ecological Causes and Consequences of Demographic Change in the New West." Bioscience. Vol. 52(2): 151-162

Korber, D. and R. Rasker. 2001. Measuring Change in Rural Communities: An Economics Workbook for Western Canada. Sonoran Institute, Bozeman, Montana.

* Rasker R. and A, Hansen. 2000. "Natural Amenities and Population Growth in the Greater Yellowstone Region." Human Ecology Review. Vol. 7(2): 30-40.

Rasker, R. and B. Alexander. 2000. "The Changing Economy of Yellowstone to Yukon: Good News for Wild Lands?" Wild Earth Vol. 10 (1).

* Rasker, R. 1999. "Your Next Job Will be in Services. Should you be Worried?" Chronicle of Community Vol. 3 (2): 38-42.

Rasker, R. 1998. The Changing World Economy and Its Impact on Rural Development in the West. Presented at Rocky Mountain Land Use Institute 7th Annual Conference on Land Use, University of Denver. March 12, 1998. Denver, Colorado.

Salwasser, H., Morton S. and Rasker, R. 1998. The Role of Wildlands in Sustaining Communities and Economies and Vice Versa. Personal, Societal, and Ecological Values of Wilderness: Sixth World Congress Proceeding on Research, Management, and Allocation. Volume 1. USDA Forest Service. Rocky Mountain Research Station. Proceedings RMRS P-4. October.

Rasker, R. and B. Alexander. 1998. The New Challenge: People, Commerce and the Environment in the Yellowstone to Yukon Region. The Wilderness Society. Bozeman, Montana.

Schmit, L. and R. Rasker. 1996. Federal Lands Payment Programs in the Columbia River Basin. The Wilderness Society. Northern Rockies Regional Office, Bozeman, Montana.

Rasker, R., J.F. Gorte, and C. Alkire. 1996. Logging National Forests to Create Jobs: An Unworkable Covenant. The Wilderness Society. Washington, D.C.

Anderson M., R. Rasker, G. Aplet, J. Greenberg and M. Leahy. 1996 Salvage Logging in the National Forests: An Ecological, Economic and Legal Assessment. The Wilderness Society. Washington, D.C.

* Rasker, R. and A. Hackman. 1996. "Economic Development and the Conservation of Large Carnivores." Conservation Biology. Vol. 10(4):1-13.

Rasker, R. and G. J. Roush. 1996. "Economics and Environmental Quality: New Roles for Environmentalists." In Brick P. and G. Cawley (eds.) A Wolf in the Garden: The Land Rights Movement and the Renewal of the American Environmental Movement. Rowman and Littlefield, N.Y.

* Johnson, J.D. and R. Rasker. 1995. "The Role of Economic and Quality of Life Values in Rural Business Location." Journal of Rural Studies. Vol. 11(4): 405-416.

Rasker, R. and C. Freese. 1995. "Wildlife in the Marketplace: Opportunities and Problems" In: On Fundamental Policies in Wildlife Conservation. Detselig, Calgary, Alberta.

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Rasker, R. 1995. *A New Home on the Range: New Economic Realities in the Columbia River Basin*. The Wilderness Society. Washington, D.C.

* Snepenger D., J. Johnson and R. Rasker. 1994. "Travel Stimulated Entrepreneurial Migration." Journal of Travel Research. Vol. 34(1): 40-44.

Rasker, R., J. Johnson, and V. York. 1994. Measuring Change in Rural Communities: A Workbook for Determining Demographic, Economic and Fiscal Trends. (Second Edition) The Sonoran Institute, Bozeman, Montana.

Rasker, R. 1994. "The Changed World Economy: Opportunities and Challenges for the Rural West." In *Proceedings of the Sixth Annual Conference of the Colorado Riparian Association. Change in the West: The Evolution of the Watershed Approach*. Oct. 5-7, Alamosa, Colorado. pgs. 10-16.

* Rasker R. 1994. "A New Look on Old Vistas: The Economic Role of Environmental Quality in Western Public Lands". University of Colorado Law Review. Vol. 65(2): 369-399.

* Rasker R. and D. Glick. 1994. "The Footloose Entrepreneurs: Pioneers of the New West?" Illiahee. Vol. 10(1): 34-43.

Rasker, R. 1994. "Opportunities for Sustainable Development in the Changing World Economy" (pgs. 87-98) and "Principles of Community-Based Sustainable Development" (pgs. 79-84). In *Symposium Proceedings Grand Canyon: Toward a Geography of Hope*. Grand Canyon Trust, National Park Service. Northern Arizona University, Flagstaff, Arizona.

Johnson, J. and R. Rasker. 1993. "Local Government: Local Business Climate and Quality of Life." Montana Policy Review. Fall: 11-19.

* Rasker, R. 1993. "Rural Development, Conservation and Public Policy in the Greater Yellowstone Ecosystem". Society and Natural Resources. Vol. 6: 109-126.

Glick D, R. Rasker, D. Neary, and L. Propst. 1993. "Conservation in Greater Yellowstone: Community-Based Approaches". Liz Claiborne and Art Ortenberg Foundation. New York, NY.

* Rasker R., M. V. Martin and R. Johnson. 1992. "Economics: Theory Versus Practice in Wildlife Management." Conservation Biology. Vol. 6(3): 338-349.

Rasker, R., Tirrell, N. and D. Kloepfer. 1992. The Wealth of Nature: New Economic Realities in the Yellowstone Region. The Wilderness Society, Washington, D.C.

Rasker R. 1991. "Dynamic Economy Versus Static Policy in the Greater Yellowstone Ecosystem". *In: Proceedings to the Conference on the Economic Value of Wilderness*, (May 8-11, Jackson, Wyoming), Southeastern Forest Experiment Station, U.S.D.A. Forest Service, Asheville, N.C.

Rasker R., R.L. Johnson and D. Cleaves. 1991. "The Market for Waterfowl Hunting on Private Agricultural Land in Western Oregon". Research Bulletin 70, Forest Research Lab, College of Forestry, Oregon State University.

Rasker R. 1989. "Wildlife and Hunting on Private Agricultural Land in Oregon". In: Cudmore, P. (Ed.) Proceedings of the Second International Landowner/Sportsman Relations Conference. Idaho Fish and Game, Boise, Idaho.

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Rasker, R. 1989. Agriculture and Wildlife: An Economic Analysis of Waterfowl Habitat Management on Farms in Western Oregon. Unpublished doctoral dissertation. College of Forestry, Oregon State University, Corvallis, Oregon.

Rasker R. and T. Bedell (Eds.). 1987. Developing Profitable Resource-Based Recreation on Private Land. Proceedings to the 1987 Pacific Northwest Range Management Short Course. Oregon State University, Corvallis, Oregon.

Rasker R. 1983. "The Influence of Holstein-Friesian Cattle on Beef Production in the Netherlands". Colorado Agribusiness. Fall, Colorado State University Cooperative Extension Service.

Rasker R. 1983. "Some Consequences of the Devaluation of Mexico's Peso". Colorado Agribusiness. Spring, Colorado State University Cooperative Extension Service.

UNIVERSITY INSTRUCTION

"Conservation and Sustainable Development" (ESci 580), Department of Earth Sciences, Montana State University. Spring semester 1993, 1994.

"Graduate Seminar" (ESci 500), Department of Earth Sciences, Montana State University. Spring semester 1993, 1994.

"Natural Resource Policy", Department of Political Science, Montana State University. Spring semester 1992.

"Management Seminar", College of Business, Montana State University. Fall semester 1991.

"Recreation Resources Planning", Department of Forest Resources, Oregon State University. Spring term 1987.

Teaching Assistant: "Economics of Outdoor Recreation". Department of Forest Resources, Oregon State University. Fall 1987 and "Quantitative Methods". Department of Forest Resources, Oregon State University. Winter 1989.

AFFILIATIONS (current and past)

Past Board member, Working Dogs for Conservation
Advisory Board, the Brainerd Foundation.
Board of Directors, the Chinook Institute for Community Stewardship (Canmore, Alberta).
Open Lands Board of Gallatin County, Montana
Advisory Board, Parks and Open Space, Gallatin County Board of Commissioners
International Society for Ecological Economics
Society of American Foresters
Board member, Corporation for Northern Rockies
Board member, Montana Science and Technology Alliance
Advisory committee, Gallatin Valley Land Trust
Bozeman Area Bicycle Advisory Board

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HONORS

Outstanding Conservation Leadership Award, Wilburforce Foundation
Sustainable Hero Award, Center of the American West, University of Colorado at Boulder.
Gamma Sigma Delta
Phi Kappa Phi
Robert Bowman Fellowship, Oregon State University

LANGUAGE PROFICIENCY

Fluent in English, proficient in Spanish and Dutch.

PERSONAL BACKGROUND

Age 60, married to Jodi Rasker, and father of two daughters. Born in Calgary, Canada. Have resided in the Netherlands, Costa Rica, Mexico (13 years), Spain, and the United States (WA, CO, OR, and MT). Citizen of the U.S. and Canada. Hobbies include reading, travel, camping, canoeing, and bicycle racing.