

**Annotated Bibliography:
Studies on the Economic Value of Public lands and
Protected Public Lands that have Appeared
in the Peer-Reviewed Academic Literature:**



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Beyers, W. B. and D.P Lindahl. 1996. “Lone Eagles and High Fliers in Rural Producer Services.” *Rural Development Perspectives*. 11(3): 2-10.

Surveyed rural owners of producer service firms (information technology, for example) and found that more than two-thirds of these export-oriented businesses cite quality of life factors as the most important reason for their business location. Forty-four percent of the locally focused business owners also cite quality of life as the main decision factor for not leaving. Almost none of the firms based their location decision on costs (low taxes, low labor costs and low cost of living).

Booth, D.E. 1999. “Spatial Patterns in the Economic Development of the Mountain West.” *Growth and Change*. 30(3): 384-405

In a study of growth in the mountainous states of the rural West, Booth found that two forces are at work in determining growth: “On the one hand, the beauty of the landscape and other amenities are attracting population and income. On the other hand, access to regional metropolitan centers continues to be an important element in locational decisions. The net result is that counties outside the commuting range of these metropolitan centers, but with close access and good interstate connections have greater population densities and more growth in densities than less accessible counties.” (page 400) In other words, access to larger cities and population center is also important (see Rasker et al, 2009)

Charnley, S., R. J. McLain, and E. M. Donoghue. 2008. “Forest Management Policy, Amenity Migration, and Community Well-Being in the American West: Reflections from the Northwest Forest Plan.” *Human Ecology*. 36: 743-761.

The authors used the Northwest Forest Plan as a case study and found the shift from resource extraction to conservation did not in all cases lead to amenity migration and community development. The authors take issue with other studies that analyze the effects of conservation policies because most do not analyze the effects at the community scale. The authors based their findings on the perceptions of long-time residents, with information obtained via interviews. They did not interview recent “amenity migrants.”

Cromartie, J.B. and J.M. Wardwell. 1999. “Migrants Settling Far and Wide in the Rural West.” *Rural Development Perspectives*. 14(2): 2-8.

Between 1990 and 1997, the non-metropolitan (rural) West grew three times faster than the no-metro portions of the country, with two-thirds of the growth driven from in-migration stimulated in part by the presence of natural amenities.

Deller, S. C., T.-H. Tsai, et al. 2001. The Role of Amenities and Quality of Life in Rural Economic Growth. *American Journal of Agricultural Economics*. 83(2): 352-365.

Showed that Protected natural amenities—such as pristine scenery and wildlife—help sustain property values and attract new investment.

Duffy-Deno, K. 1998. The Effect of Federal Wilderness on County Growth in the Intermountain Western United States. *Journal of Regional Science*. 38(1): 109-136.

A study of 250 non-metro counties in the Rocky Mountains found no evidence that the presence of federal Wilderness in the intermountain states was either directly or indirectly associated with growth in population or employment. With the methods employed (a disequilibrium model of population and employment growth) he found that Wilderness was neither good nor bad for growth.

Migration, and Public Land Policy: Evidence from the Northwest Forest Plan.” *Journal of Agricultural and Resource Economics*. 35(2): 316-333.

The authors found that the Northwest Forest Plan, which reallocated 11 million acres of federal land from timber production to protecting old-growth forest species, led to reduced local employment growth and increased net migration. They found that “The total negative effect on employment was offset only slightly by positive migration-driven effects.”

Fuguitt, G.V. and C.L. Beale. 1996. “Recent Trends in Nonmetropolitan Migration: toward a New Turnaround?” *Growth and Change*. 27: 156-174.

The authors argue that telecommunications technology has allowed businesses to operate far from urban centers and that the fastest growth in the country is in non-metropolitan areas.

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.

Workers in occupations that are flexible in where they can live, in law, finance, insurance, real estate, business, health, and engineering, for example, are attracted to the West in large part because of its amenities. The downside of amenity-influenced migration is urban sprawl. For example, the authors found that from 1970 to 1999, the Greater Yellowstone area experienced a 58 percent increase in population and a 350 percent increase in the area of rural lands supporting exurban-housing densities.

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*. 52(2): 151-162

Amenities have driven much of the growth in the “New West,” but this has resulted in land use changes that threaten biodiversity.

Holmes, P. and W. Hecox. 2002. “Does Wilderness Impoverish Rural Areas?” *International Journal of Wilderness*. 10(3): 34-39.

The authors found a significant positive correlation between the percent of congressionally designated Wilderness land in a county and growth in population, income, and employment from 1970 to 2000. They discovered that: “Wilderness counties generate far more growth in lower paying industries like hotels and other lodging places and eating and drinking establishments, but they also have remarkable growth in higher paying professional services like legal services and investment offices relative to non-Wilderness counties in the rural West.” (page 5)

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

The authors investigated the relative importance of economic, social, cultural, and environmental factors in people's decision to locate or retain a business in the northern portion of the Greater Yellowstone area. The study revealed that the most important reasons for people's decision to locate or retain a business in the area had to do with the scenic amenities, the rural character of the town, the low crime rate, proximity to wildlife-based recreation, and other social, cultural, and environmental factors.

Knapp, T. A. and P. E. Graves. 1989. "On the Role of Amenities in Models of Migration and Regional Development." *Journal of Regional Science*. 29(1): 71-87.

"Jobs may follow people, if household migration decisions are increasingly influenced by demands for location-specific amenities" (See article by Whitelaw on the theory that jobs follow people). From a review of the literature, the authors find that: "First, employment growth appears to be caused largely by population growth rather than conversely. Second, certain demand-side variables (tax breaks and industrial development bonds) fail to significantly spur growth while supply variables such as education expenditures and climate variables are found to significantly influence county growth." The authors conclude: "Thus, the research effort advocated in this paper focuses upon location-specific amenities as a critical factor in determining regional futures."

Lewis, D. J., G. L. Hunt and A. J. Plantinga. 2002. "Public Land Conservation and Employment Growth in the Northern Forest Region." *Land Economics*. 78(2): 245-259.

Discovered that public land conservation is associated with more robust population growth but not employment growth: "We find that net migration rates were higher in counties with more conservation lands, but the effects are relatively small. No significant effect on employment growth is detected."

Lorah, P. and R. Southwick. 2003. "Environmental Protection, Population Change, and Economic Development in the Rural Western United States." *Population and the Environment*. 24(3): 255-272.

The authors point out that opponents of roadless areas, National Monuments, National Parks, and Wilderness claim that preserving public lands is detrimental to the economy. The researchers tested whether this is true by analyzing the relationship between the presence of protected lands and the performance of the local counties' economies. Their findings show that the population, employment, and income growth rates, from 1969 to 1999, were much higher for the non-metro counties with protected lands than those without protected lands. They also found that in the non-metropolitan portions of the West, the highest level of environmental protection on public lands is associated with the highest levels of growth.

Lewis, D.J., G.L. Hunt and A. J. Plantinga. 2003. "Does Public Lands Policy Affect Local Wage Growth?" *Growth and Change*. 34(1): 64-86.

The authors quantified the effects on wage growth of management practices applied on public lands in the Northern Forest region of the United States. "It was found that wage growth rates are not significantly affected by the shares of land under either management regime ["preservationist" versus "extractive"]. As well, recent declines in national forest timber sales are found to have no effect on wage growth."

McGranahan, D.A. 1999. "Natural Amenities Drive Population Change." *Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Report 781, 1-24*

Conserving lands, while also creating a new visibility for them through protective designations, helps safeguard and highlight the amenities that attract people and business. When population growth rates of U.S. counties were compared, the highest growth occurred in counties with amenities, which included climate, topography, and water area.

Nelson, P.B. 1999. "Quality of Life, Nontraditional Income, and Economic Growth: New Development Opportunities for the Rural West." *Rural Development Perspectives*. 14(2): 32-37.

Nelson argues that have shown that natural amenities, including those offered by public lands, are a key to attracting knowledge-based workers.

Power, T. M. 1991. "Ecosystem Preservation and the Economy of the Greater Yellowstone Area." *Conservation Biology*. 5(3): 395-404.

Power argues that footloose entrepreneurs bring their businesses with them when they locate to scenic areas like Greater Yellowstone.

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: 343-353

The vast distances between towns and cities in the American West can be a detriment to business, yet they also serve to attract technology and knowledge-based workers seeking to live in a picturesque setting. Yet, in spite of the increasing importance of amenities to migration and business location, also needed is access to markets, particularly via commercial air service.

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 has shown that protected public lands, set aside for conservation and recreation rather than commodity production, are significant drivers of economic growth.

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

"In a perfect world, Wilderness proposals would be supported simply for the goodness of the idea that in this highly industrialized world of ours, some places should be set aside and untrammled by human beings. But since rural poverty exists, and because people have immediate needs, Wilderness proposals in the future will stand a higher chance of success if they make economic sense. Mixing economic development and preservation is not where we Wilderness advocates thought we would find ourselves forty years ago. Passing Wilderness legislation these days is very hard work because it also needs to pass the test of being economically beneficial. This combination makes for a much more complicated intellectual challenge, but in the end it is a much more satisfying solution."

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

"Much of the recent growth in population, jobs and income in the Greater Yellowstone Region, as well as other parts of the rural West, has been driven by ecological and social amenities, in contrast to the historical dependence on resource extractive industries and agriculture." The results of statistical analysis of county-level growth metrics indicate that ecological and amenity variables are necessary conditions for growth, but they are not sufficient. An educated workforce and access to larger markets via air travel are also important.

Rasker, R. and A. Hackman. 1996. "Economic Development and the Conservation of Large Carnivores." *Conservation Biology*. 10(4): 991-1002.

The conservation of carnivores such as grizzly bears requires the protection of large expanses of open space. Employment and income trends were analyzed in northwestern Montana comparing counties with a high degree of protected public lands versus those without: employment and income in Wilderness counties grew faster, and showed higher degrees of economic diversification and lower unemployment when compared to "resource extraction" dependent counties.

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

In today's economy, the "multiple use" mandate of federal public lands has less relevance when the fastest growing regions of the West are closely tied to "no use" designation that favor the protection of wildland and wildlife habitat.

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

Demonstrate that the protection of large portions of public lands in the Greater Yellowstone ecosystem have contributed to economic growth, and more so than areas that are highly dependent on resource extraction.

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

"In the greater Yellowstone area, there is a perceived controversy between conservation efforts and economic well-being. This controversy is fueled by misconceptions about the economy and the role played by public lands in the region." In this article, three commonly held myths are addressed by describing changes that have taken place in the economy, and, in view of these, Rasker concludes that economic well-being can be compatible with ecological protection, particularly if an unspoiled natural landscape is the critical element stimulating economic activity.

Rudzitis, G. and H.E. Johansen. 1989. "Migration into Western Wilderness Counties: Causes and Consequences." *Western Wildlands*. Spring, Pages 19-23; Rudzitis, G. and H.E. Johansen. 1991. "How Important is Wilderness? Results from a United States Survey." *Environmental Management*. Vol. 15,: 227-233and; Rudzitis, G. 1993. "Nonmetropolitan Geography: Migration, Sense of Place, and the American West." *Urban Geography*. Vol. 14(6): 574-585.

In the three articles listed above, Rudzitis and Johanson demonstrated that Wilderness counties grew faster than non-Wilderness counties and Wilderness was an important motivator for local residents. During the 1960s, counties containing federally designated Wilderness areas had population increases three times greater than other non-metropolitan counties. In the 1970s, they grew at a rate twice that of non-metropolitan areas, and in the 1980s, their population increased 24 percent – six times more than the national average of four percent for non-metropolitan areas and almost twice as much as counties in the rural West. To test the importance of amenities in people's decisions to migrate, the authors surveyed more than 11,000 randomly selected migrants and residents in 15 Wilderness counties in the West. Sixty percent said the presence of designated Wilderness was an important reason for why they moved, 45 percent said that Wilderness was why they stayed in the area, and 81 percent felt Wilderness areas were important to their counties. The most significant reasons for locating to a Wilderness county were the environmental and physical amenities, the scenery, outdoor recreation, and the pace of life. When asked about their attitudes toward development, 90 percent of recent migrants and 85 percent of established residents felt it was necessary to "keep the environment in its natural state."

Shumway J.M. and S.M. Otterstrom. 2001. "Spatial Patterns of Migration and Income Change in the Mountain West: The Dominance of Service-Based, Amenity-Rich Counties." *Professional Geographer*. 53(4): 492-502.

The authors found that the greatest number of new migrants to the West is in counties characterized by their recreational nature, scenic amenities, proximity to national parks or other federal lands, and preponderance of service-based economies. They conclude that in these so-called New West counties, the importance of mineral, cattle, and lumber production is dwarfed by an economy that is now based on "a new paradigm of the amenity region, which creates increased demands for amenity space, residential and recreational property, second homes, and environmental protection." (page 501).

Snepenger, D.J., J.D. Johnson and R. Rasker. 1995. Travel-stimulated entrepreneurial migration. *Journal of Travel Research*. 34(1): 40-44.

Find that quality of life factors (environmental, recreational and social amenities) are important in businesses owner's decision to locate in the northern portion of the Greater Yellowstone region. Also, find that the majority of business owners came to the Greater Yellowstone area first as tourists.

Whitelaw, E. 1992. "Oregon's Real Economy." *Old Oregon*. Winter: 31-33.

Whitelaw suggests that the theory of economic development has shifted, from "jobs first, then migration," to "migration first, then jobs." In other words, people initially decide where they want to live, and this decision is influenced by amenities, including those provided by public lands.

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Related Resources:

A summary of regional reports, case studies, tools, a library of additional research, and related news articles on the value of western protected public lands is available here:

<http://headwaterseconomics.org/land/reports/protected-lands-value/>.