

Appendix A: Annotated Bibliography on Economic Benefits of Protected Public Lands

Several studies discuss the forces behind the changing economy of much of rural America. Many of these studies attribute strong economic and population growth to “lifestyle migrants.” These are residents who either rely on investment or retirement income or who have businesses or employment which is not tied to a particular location. These migrants seek locations with high levels of amenities, including those that are associated with an abundance of protected public lands such as wilderness and national monuments.

Berrens, R., J. Talberth, J. Thacher, M. Hand. 2006. *Economic and Community Benefits of Protecting New Mexico’s Inventoried Roadless Areas*. Sante Fe, NM: Center for Sustainable Economy. 69 pp. Available online at http://www.sustainable-economy.org/main/send_client_files?f=Final%2520Report.pdf.

Berrens et al. (2006) examine several categories of non-market economic values associated with the 1.6 million acres of inventoried roadless areas on National Forests in New Mexico. These authors use specific data on roadless area size and characteristics, data on the economic values of recreation in New Mexico, the economic value of clean water and other non-market values to estimate the total annual value of retaining the wilderness character associated with inventoried roadless areas: “Annual economic benefits range up to \$42 million for maintenance of water quality, \$24 million for carbon sequestration, \$26 million for outdoor recreation, \$14 million for passive uses, and \$1.4 million in enhanced property values. Annual community effects range up to 938 jobs and \$23 million in personal income.” (p. 3)

Duffy-Deno, K.T. 1998. The effect of federal wilderness on county growth in the intermountain western United States. *Journal of Regional Science*. 38(1):109-136.

Duffy-Deno (1998) examines 250 non-urban counties in the eight intermountain west states. He finds that there is no evidence that the existence of federal wilderness is directly or indirectly associated with population or employment changes in these counties. The study also finds that there is no evidence that wilderness has any affect on resource extraction employment in these western counties.

Holmes, F. P. and W.E. Hecox. 2004. Does wilderness impoverish rural regions? *International Journal of Wilderness*. 10(3): 34-39. Available online at http://www.wilderness.net/library/documents/IJWDec04_Holmes.pdf.

In a study of 113 rural Western Counties, Holmes and Hecox (2004) find a positive correlation between the percent of land in designated wilderness and population, income and employment growth. They also find that wilderness is correlated with higher growth in investment income and entrepreneurial activity.

Loomis, J.B. and R. Richardson. 2000. Economic Values of Protecting Roadless Areas in the United States. Prepared for The Wilderness Society and Heritage Forests Campaign. 44pp. Available online at <http://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/ForestEconomics/Economics-Loomis00.pdf>.

According to research by Loomis and Richardson (2000), the 42 million acres of roadless lands “...can be expected to provide almost \$600 million in recreation benefits each year, more than \$280 million in passive use values, and nearly 24,000 jobs. (p. iii)” In additions, these research find that roadless areas

also produce between \$490 million and \$1 billion in carbon sequestration services and \$490 million in waste treatment services.

Loomis, J.B. 2000. Economic values of wilderness recreation and passive use: What we think we know at the beginning of the 21st century. In: McCool, Stephen F.; Cole, David N.; Borrie, William T.; O'Loughlin, Jennifer, comps. 2000. Wilderness science in a time of change conference—Volume 2: Wilderness within the context of larger systems; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15-VOL-2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 5-13. Available online at http://www.fs.fed.us/rm/pubs/rmrs_p015_2/rmrs_p015_2_005_013.pdf.

Loomis (2000) estimates that the value of recreation on all U.S. wilderness lands is \$574 million per year. The economic value of Western wilderness (not including Alaska) is estimated to be \$168/acre or \$7 billion per year. The economic value of Eastern wilderness is \$468 million annually.

Lorah, P.A. 2000. Population growth, economic security, and cultural change in wilderness counties. In: McCool, Stephen F.; Cole, David N.; Borrie, William T.; O'Loughlin, Jennifer, comps. 2000. Wilderness science in a time of change conference—Volume 2: Wilderness within the context of larger systems; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15-VOL-2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 230-237. Available online at http://www.fs.fed.us/rm/pubs/rmrs_p015_2/rmrs_p015_2_230_237.pdf.

Counter to many people's beliefs, Lorah (2000) finds that counties with wilderness showed growth in income, population and employment. He also finds that the presence of wilderness in these counties has also helped them to diversify economies that had been stagnant due to over-reliance on declining resource extraction industries.

Phillips, S. 2000. Windfalls for wilderness: Land protection and land value in the Green Mountains. In: McCool, Stephen F.; Cole, David N.; Borrie, William T.; O'Loughlin, Jennifer, comps. 2000. Wilderness science in a time of change conference—Volume 2: Wilderness within the context of larger systems; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15-VOL-2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 258-267. Available online at http://www.wilderness.net/library/documents/Phillips_2-33.pdf.

Final results described in Phillips, S. 2004. Windfalls for Wilderness: Land Protection and Land Value in the Green Mountains. Ph.D. Dissertation. Virginia Polytechnic Institute and State University, Blacksburg, VA. (A summary of the doctoral thesis is provided in The Economic Benefits of Wilderness: Focus on Property Value Enhancement, Wilderness Society Science and Policy Brief, no. 2, March 2004. 8 pages.)

Data on land sales near Green Mountain National Forest wilderness areas show that the presence of wilderness areas, proximity to these wilderness areas and the extent of the wilderness areas each is associated with higher residential property values.

Rosenberger, R.S. and D.B.K. English 2005. Impacts of Wilderness on Local Economic Development. In: Cordell, H.K., J.C. Bergstrom and J.M. Bowker (eds). The Multiple Values of Wilderness. Venture Publishing: State College, PA.

While wilderness recreation generates some economic activity for local communities, the more important impact lies in what Rosenberger and English (2005) call a “wilderness-related advantage.” They cite several research studies which together indicate that rural counties with wilderness or other protected federal lands experience greater population and economic growth than those without wilderness.

Rudzitis, G. and R. Johnson. 2000. The impact of wilderness and other wildlands on local economies and regional development trends. In: McCool, Stephen F.; Cole, David N.; Borrie, William T.; O’Loughlin, Jennifer, comps. 2000. Wilderness science in a time of change conference—Volume 2: Wilderness within the context of larger systems; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15-VOL-2. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 14-26. Available online at http://www.wilderness.net/library/documents/science1999/Volume2/Rudzitis_2-4.pdf.

This study (Rudzitis and Johnson 2000) also finds that while wilderness recreation benefits to local communities are modest, the presence of wilderness appears to draw residents and new economic activity that does have a substantial positive impact on local economies.