



**Economic and Community Benefits of Protecting
New Mexico's Inventoried Roadless Areas***

By

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Synopsis

New Mexico's 1.6 million acres of inventoried roadless areas on national forests are a unique natural capital asset yielding significant economic benefits in the form of clean water, carbon sequestration, recreation, hunting and fishing opportunities, scenery, flood control, and habitat for threatened, endangered, and sensitive species. Nevertheless, their roadless status remains highly uncertain as federal regulations protecting these lands remain in political limbo. An important aspect of the policy debate involves economic values and consequences. While the economic costs of forgone timber production, mining, and oil and gas leasing are relatively well researched and understood there has yet to be any formal consideration of either market or non-market benefits conserved by maintaining roadless areas in an undeveloped state. This paper seeks to inform the debate over future management of inventoried roadless areas in New Mexico by estimating the current magnitude of such benefits.

To accomplish this, we disaggregate, update and recalibrate in part previous work completed at the national scale by Loomis and Richardson (2000) who considered recreation, passive use, scenic, waste treatment, and carbon sequestration values. We do so by incorporating site specific information on roadless area size, composition, and attributes, New Mexico-specific recreation data, and regionally-specific carbon sequestration data as a basis for more refined New Mexico values. In addition, we apply Sedell et al. (2000) to estimate the value of clean water flowing from roadless area watersheds and apply non-market values estimated by Loomis and Ekstrand (1997) for Mexican spotted owl critical habitat. We also estimate the community benefits associated with non-motorized recreation and quantify differences in the relative economic performance of counties with and without significant concentrations of roadless lands.

Our results provide evidence that New Mexico’s inventoried roadless areas generate tens of millions of dollars each year in both economic and community benefits.⁵ Table 1, below, summarizes our results. 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. The magnitude of the values listed in Table 1 underscores the need for careful consideration of the full set of both market and non-market economic benefits of protecting inventoried roadless areas in the context of federal and state administrative processes affecting long term management of these unique natural areas.

Table 1: Annual Economic Benefits and Community Effects of Protecting New Mexico’s Inventoried Roadless Areas (IRAs)

Category	Protection of 1.6 million acres of inventoried roadless areas in NM	Full NM petition for protecting 1.7 million acres, including Valle Vidal
Annual water quality benefits	\$35.33 million	\$42.15 million
Annual carbon sequestration benefits	\$19.56 – \$21.72 million	\$21.69 – \$24.09 million
Annual on-site outdoor recreation benefits (non-motorized)	\$24.97 million	\$26.58 million
Annual passive use benefits	\$12.84 - \$13.05 million	\$13.67 – \$13.88 million
Off-site benefits:		
--Gain in local property values	6%	6%
--Annual market value	\$0.82 - \$1.31 million	\$0.88 - \$1.39 million
Annual community effects:		
-- Jobs	563 – 880	589 – 938
-- Personal income	\$13.69 – \$21.45 million	\$14.98 – \$22.85 million
-- Growth rate of key economic indicators	1.28% above counties w/o significant IRAs	1.28% above counties w/o significant IRAs

⁵ For a complete conceptual review of economic benefits (e.g., consumer surplus) and community effects (e.g., regional economic impacts) measures, see McCollum and Bergstrom (1992, p. 137).