



Clear View: What is it Worth?



Glacier National Park, Lake McDonald

FROM ITS INCEPTION, the National Park Service has been directed to “conserve the scenery and the natural and historic objects and the wildlife” within National Park units, and to manage the resources so as to “leave them unimpaired for the enjoyment of future generations.” Whether or not scenery in National Parks can be enjoyed is highly dependent on visibility—how clear the atmosphere is. Visibility can be significantly impaired by air pollution from electric utilities, cars and other mobile sources, and other industry.

The pollution that affects visibility also impacts other park resources including plants, animals and entire ecosystems, as well as historic and cultural items and structures. In making policies that impact these park resources, lawmakers and stakeholders consider a variety of issues under a variety of disciplines, including economics.

While there may be many non-economic reasons for protecting park resources, economics provides a means to compare the potential

benefits of a policy with its potential costs.

Although costs of environmental regulations are generally easier to estimate and therefore often more accessible to policymakers than are benefits, economists have estimated benefits of air pollution control by looking at health problems and even deaths that scientists believe are caused by air pollution.

Lost work time and healthcare costs translate into dollar amounts. It's

been shown that people would be “willing to pay” to avoid illnesses. And, economists also have long estimated monetary worth for quality of life and life itself. Health benefits expected to result from meeting various interim goals (10 and 15 years out) of the Regional Haze Rule—which requires steady progress towards the national goal of eliminating man-made visibility impairment by 2064—are estimated to be as much as \$17,726 million (1990\$).

Great Smokey Mountains National Park
Visual Range 350 km (217 miles)



Visual Range 25 km (16 miles)



The difficulty in putting monetary values on things like air, flora and fauna in national parks, however, is that these are not things that people buy and sell.

Nonetheless, for the past 25 years policy and science scholars and practitioners have conducted studies aimed at estimating the economic value of visibility in parks. Studies have found that park visitors notice haze and it detracts from their enjoyment of the park. Other studies have found that decreased visibility in national parks decreases tourism to those areas and therefore the money they bring into those economies.

In 1997 alone, the National Park Service collected \$122.2 million in entrance and parking fees, and season passes. Concessionaire sales were estimated at \$650 million. Travel related expenditures by visitors to National Parks generate an estimated \$14.55 billion (1996\$) annually in local economies. There are significant tourism dollars at stake if declining environmental conditions such as visibility keep some visitors away from parks.

The leading study on economic values of visibility in National Parks estimated that the public is willing to pay, on average, \$46.31 to \$76.06 (1999\$) per year per household to improve visibility or to prevent it from being degraded in National Parks in the Southwest, the Southeast and California. When these values are multiplied by the number of households in the country or even in a particular region, these dollar amounts grow to the billions.

These studies, like any similar economic forecast, are based on certain assumptions and carry some amount of inherent uncertainty. The U.S. Environmental Protection Agency (EPA) with the approval of



the Office of Management and Budget, however, has used these estimates in analyses of its clean air regulations. For instance, the required economic analysis of EPA's Regional Haze Rule found that visibility benefits from meeting various interim goals (10 and 15 years out) ranged \$642 million to \$2,269 million (1990\$).

Many potential environmental benefits of air pollution control have not been quantified. The avoidance of damage to the water, wildlife and soils of the ecosystems; the protection of cultural



and historical resources; decreases of urban "brown clouds;" elimination of risks to drinking water and others all are arguably worth money to people and should ultimately be quantified for use in policy decisions that have the potential to impact these resources.

Yosemite National Park
Visual Range 234 km (145 miles)

Visual Range 35 km (22 miles)

References

- 16 U.S.C. sec. 1 (National Park Service Organic Act)
Abt Associates, Inc. (2000). *Out of Sight: The Science and Economics of Visibility Impairment*. (Prepared for the Clean Air Task Force, Boston: MA).
Chestnut, L.G. & R.D. Rowe (1990). *New National Park Visibility Value Estimates* (in *Visibility and Fine Particles: An Air and Waste Mgmt Assoc./EPA Specialty Conference*, 1989, Estes Park: CO).
Cooperative Institute for Research in the Atmosphere (1985). *Assessment of Visibility Impairment on Visitor Enjoyment and Utilization of Park Resources*. Colorado State University and National Oceanic and Atmospheric Administration, Ft. Collins: CO.
MacFarland, K.K., W. Malm and J. Molenaar (1983). *An Examination of Methodologies and Social Indicators for Assessing the Value of Visibility*, (in Rowe, R.D. & L.G. Chestnut (eds.) (1983) *Managing Air Quality and Scenic Resources at National Parks and Wilderness Areas*. Westview Press, Boulder: CO).
Peacock, B., C. Killingsworth and B. Simon (1998). *State and National Economic Impacts Associated with Travel Related Expenditures by Recreational Visitors to Lands Managed by the U.S. DOI*. U.S. Department of Interior, Wash. D.C.