Jerry Rogers
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The Ultimate Cultural Resource?

By the late 1990s, many Americans had noticed that nighttime stars were becoming less and less visible, and most had probably recognized the growing amount of human-generated light as the reason. Although people regretted the change, it probably seemed minor in comparison to more obviously life- and health-threatening degradation of the environment.

In the meantime, a growing cadre of environmentalists had been struggling for over a decade with the problem of light pollution (Hunter and Goff 1988). An international coalition of advanced thinkers had formed the International Dark-Sky Association, an advocacy body to raise public consciousness, certain parts of the news media had begun to call attention to the problem, and the National Park Service (NPS) Southwest Region had developed an initiative of multi-faceted actions to counteract light pollution in the parks (Cook 1991). These actions had limited effectiveness because the night sky of national park units was vulnerable to the impact from light sources well beyond park boundaries. Moreover, although excess nighttime light seemed clearly to be a diminution of the overall quality of human life, the atmosphere and the stars beyond it seemed to fall into the environmental category of natural resources. It took bold action by a fledgling statewide New Mexico citizen's group, with thoughtful support from NPS, to bring the night sky into focus as a cultural resource as well.

Although there had been somewhat desultory attempts earlier, New Mexico was one of the last few states to form a successful statewide citizen organization devoted to the preservation of history and cultural heritage (New Mexico Heritage Preservation Alliance 1995). Such organizations are encouraged and assisted by the National Trust for Historic Preservation. Several individuals involved in launching the New Mexico Heritage Preservation Alliance in 1995 had been players on the national historic preservation scene, particularly through the National Trust. They were eager not only to ensure the success of the new statewide alliance, but to have it demonstrate a precocious energy and bent for innovation. Consequently, in 1998, when the young alliance solicited nominations from which to designate its first list of "most endangered historic places" in the state, a practice long followed by

other statewide organizations, it was in a frame of mind to be daring.

Statewide historic preservation organizations have no authority to remove threats to endangered places, and they generally have little money or staff time to devote to problems. However, they have found that press, public, government authorities, philanthropists, and potential volunteers tend to take great interest in the annual designations. Because the designations possess significant power to stimulate action, they actually have a very good track record for leading to the preservation of important places that had been on the brink of destruction.

In 1998, one of the members of the board of directors of the New Mexico Heritage Preservation Alliance was Jerry Rogers, the superintendent of the NPS support office in Santa Fe. Rogers, who had previously served as Keeper of the National Register and long-time representative of the Secretary of the Interior on the National Trust Board, was on the alliance's committee charged with developing the list of most endangered places. He shared information about the task with his staff, and Joe Sovick, chief of stewardship and partnerships in the support office, immediately suggested doing something concerning the night sky.

Encouraged by Rogers, Sovick put a few initial thoughts on paper (Sovick 1998). His draft revealed the difficulty of encompassing a clear, unpolluted night sky within the meanings suggested by terms such as "historic," "cultural," and "heritage preservation." They generally imply places and things that are created by human hands and meet criteria for the National Register. However, Rogers, as Keeper of the National Register, had observed and contributed over the past twenty years to some tentative beginnings, and then to accelerating progress, in defining the concept of "cultural landscapes." In general, landscape architects had led the cause in defining historic and cultural values in designed landscapes, such as gardens and some parks; geographers had focused upon landscapes that reflected less-formal human activity; and American Indian tribes and anthropologists had focused upon landscapes that were important because of values or beliefs projected upon the landscapes by human societies. In a few cases, large tracts of land, prominent topographical features, and even entire mountains (e.g., Bear Butte in South Dakota) had been listed in the National Register because of cultural values and traditional beliefs projected upon them. Sovick and Rogers were about to suggest that this concept could be applied to the nighttime visible universe.

The endangered historic places nomination, which combined Sovick's passion for the night sky with Rogers' long and varied experience in defining historic significance, read as

follows:

From the Pleistocene to the present the night sky has been an important element in cultural heritage. The combination of what appeared to be eternal order in certain night sky patterns with such changeable things as lunar phases, planetary movements, seasonal angles of declination, and annual meteor showers was one of the early great stimuli to curiosity. The discovery of predictable order among the inconstants was important in the development of belief systems and their attendant cultural values—influencing even the idea of what it means to be human. It remains so today.

Mammoth hunters at Clovis and Folsom, ancestral Puebloans at Chaco and Pecos, Vasquez de Coronado in his explorations, Onate and de Vargas in their conquests, cowboys on night herd duty, and office workers reeling from their daily toils all have lived under, admired, and wondered about the same night sky—virtually unchanged in human history.

A pristine night sky almost universally stimulates thought. Some are humbled in their insignificance before the visible universe, and some are exhilarated by a sense of identification therewith. Some measure and test the movement of our earthly platform within the solar system, the solar system within the galaxy, and the galaxy within the universe until human understanding is exhausted and calculation at its limit. Some speculate about life elsewhere, and some contemplate that the flesh, blood, and bones of our way bodies—even the energy powering our thoughts—are of the light and substance we see coming down from the spangles above.

Without conscious action it will be much more difficult for future generations to have the same experiences, or even to imagine them. As urban areas expand and as change without consideration of the night sky continues, places where it can be experienced grow fewer and more difficult to reach. We risk losing a beauty that has been the backdrop to and motivator of human actions since time immemorial.

Surprisingly, it costs society more to pollute the sky with light than to keep it dark. Most upwardly directed light is wasted. We pay once in the electric bill for the light that goes where it is not needed, again in environmental degradation from emissions in generating the electricity, and again in the loss of the night sky that is masked by wasted light. The most common security lights are mercury vapor lights, which, although the cheapest to purchase are among the most expensive to operate. About 50% of their light goes into the sky at angles that perform no service but do contribute to light pollution.

There is no evil figure, no profiteering corporation, nor invisible force behind the problem. Today's utility companies are environmentally conscious and interested in conserving, not wasting, energy resources. What is most lacking is public recognition of the problem, broad understanding that light pollution is not inevitable, and the will to do something about it. Fortunately costs are minimal in preventing light pollution, especially for new developments. Costs of incorporating outdoor lighting systems friendly to the night sky are not prohibitive. Sometimes they are not costs at all.

Several years ago, when the National Park Service realized that its own mercury vapor lights near the visitor center at Chaco Culture National Historical Park were a form of pollution and removed the lights, the park experienced a 30% reduction in the electric bill. At Chaco we learned that shielded floodlights directed downward, and properly directed motion sensors were effective in meeting visitor and security needs while serving as significant energy savers and pollution preventers.

It is not too late! New Mexico is fortunate that unimpaired remnants of the clear night sky remain. Some progressive New Mexico communities have or are developing ordinances to help preserve this exceptional visual, natural, and cultural resource. Some private developments are writing protective provisions into covenants on the deeds of the houses they build. The New Mexico Heritage Preservation Alliance can demonstrate its interest in everyone's heritage, show support for one of the most ancient and universal cultural values, and make a significant difference in citizen awareness and in public and private action by listing the night sky

among the most threatened heritage resources in 1999 (Rogers 1998).

With the strong support of President Katherine Slick, herself a trustee of the National Trust and a recognized national preservation leader, the alliance readily included the New Mexico night sky among its 1999 list of New Mexico's "Most Endangered Historic Places" (New Mexico Heritage Preservation Alliance 1999). The novelty of the sky as a historic place quickly captured press attention, and positive articles and editorials generated public support for doing something about it.

Preservationists, tribes, certain developers, public-interest nonprofits such as the National Parks Conservation Association, professional and amateur astronomers, and others quickly coalesced to support a bill introduced into the state legislature to protect the night sky. With the alliance in the forefront, Sovick unobtrusively helped the coalition make its case and coordinate to maximum effect.

In almost every one of the various legislative committees that had to review the bill, a committee member would question the existence of a problem and of the need to pass legislation. However, committee members generally accepted the existence of a problem when public testimony emphasized that the New Mexico night sky had recently been designated as an endangered historic resource by the alliance.

On April 6, 1999, just three months after the alliance released its list of most endangered places, Governor Gary Johnson signed into law the New Mexico Night Sky Protection Act.. After previous unsuccessful attempts to enact legislation, the various interest groups in the supporting coalition were highly pleased. Meanwhile, the alliance continues to work in other ways toward preserving the dark sky of New Mexico. Through development of a brochure entitled "Seeing Stars," construction of a traveling exhibit, and other means, the alliance continues to work toward educating the public about protecting the night sky.

References

Cook, John E. 1991. The night sky. Memorandum from regional director to superintendents and all employees, Southwest Regional Office. December 27. Santa Fe: National Park Service.

Hunter, Tim B., and Bob Goff. 1988. Shielding the night sky. *Astronomy* (September), 47-50.

New Mexico Heritage Preservation Alliance. 1995. Articles of Incorporation for the New Mexico Heritage Preservation Alliance. July 11. Santa Fe: NMHPA.

———. 1999. New Mexico's most endangered historic places. January. Santa Fe: NMHPA.

Rogers, Jerry L. 1998. NOMINATION: The New Mexico night sky. Unpublished paper. Santa Fe: NMHPA.

Sovick, Joe. 1998. Justification to make the New Mexico night sky a threatened resource. October 15. Unpublished paper. Santa Fe: National Park Service.

Protecting Dark Skies

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