

US NATIONAL PARK SERVICE PERSPECTIVE

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WITH INSPIRATION FROM

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INTRODUCTION

While park managers are adept at measuring ecological parameters such as population density, biodiversity, or water quality, little effort is made to quantify- and thus manage- the transcendental experiences that are the hallmark of a national park. Few here would argue against that the night sky is an integral part of a park or wilderness experience. Yet, the starry sky is one of the many evocative experiences that are sometimes orphaned by government land managers... but this was not always so.

A small portion of Yosemite Valley in California was set aside for its scenic value in 1864, and the great wilderness, geysers, and wildlife of Yellowstone were protected as a national park in 1872. Indeed, the idea of a national park may be the United States greatest social and political contribution. Conservationists of the late 1800's and early 1900s perhaps understood the concept of ecology better than their successors, urging congress to establish parks where nature is kept whole. A noted architect of the time remarked "Inspiration sights and mysteries of nature elevate mankind and bring it closer communication with God." And when Yellowstone was threatened by a railroad development, it wasn't the buffalo or geysers that were rallied around, but the potential violation of the wilderness in its entirety.

Of these auspicious sentiments was born the US National Park Service, charged with protecting natural and cultural resources in perpetuity, and maintaining a healthy relationship between mankind and nature for present and future generations.

The holistic goals of the USNPS then seemed to have been lost for several decades, as management began a trend toward managing and studying pieces. Science first took hold as a management tool with the promotion of "good" wildlife. Gradually this right or protection was extended up the food chain to carnivores, and down to the insects and mosses underfoot. But what of the sky?

Like everyone else, the USNPS was remiss in protecting 1/2 of the equation, that of the night.

Ecologists, literally meaning those who study one's home, are trying to understand and reassemble all of nature's parts. A dark night sky is certainly one of these lost parts. In parks we stand the best chance of protecting night skies, understanding them, even restoring them. I submit that the night sky is not merely a backdrop, 2 dimensional scenery behind the stage of natural experiences, but is an integral component, without which much is lost. That depends on your perspective.

1. A PERSONAL STORY

Two weeks ago I was hiking through Arches National Park in Utah. The sandstone was carved by time into magnificent forms and numerous namesake arches. I found the arches captivating, not because of the odd formation of rock, but because within them they captured the sky. While much attention is paid to the geologic structure of the rock, it is the marriage to the sky that makes them special. Seeing a bright blue sky framed by orange rock is a unique experience. I had to go back at night. I was not disappointed.

Watching stars rise and trace paths through the sandstone opening was spectacular. The moonlight cast an arch shadow on the cliff side, as I lay on my back watching the winged horse and bull constellations leap through the opening. I became convinced that the rock is made special by the sky, and vice versa; there were two parts necessary for this experience.

Of course there is a multitude of integrated components to this experience- the sound of the wind, the sight of stunted trees holding fast in a split in the rock, the presence of a swallow swooping through the arch, and the motion of light and shadow across the ground.

2. WILDERNESS AND NATURE

While many environmentalists are satisfied simply knowing that a particular species is thriving and that all the parts are kept whole, firsthand observations are important to the development of values, philosophies, and spiritual matters. This is central to the wilderness ethic.

In 1959 the ethic of ecology was resurrected by Aldo Leopold's book A Sand County Almanac. It spoke of a rebirth of wonder of the interconnectedness of nature. The US Congress codified this ethic in 1964 in the passage of the Wilderness Act. For a country that has plowed under most of its wild lands, the concept of a wilderness offers a unique experience- a historical vignette into pre-

Columbus North America, an eco-zone that has kept all its parts, and a spiritual frontier. The language of the Wilderness Act is decidedly non-bureaucratic! It identifies land with esoteric qualities such as solitude and primeval character, unconfined, without the trammeling of man. In a parallel development, in 1977 the US Clean Air Act was amended to not only protect air as an entity- its chemistry, composition, and purity, but to also protect air as a medium through which we look through, through which we visually experience the world.

Wilderness areas are a place of reflection and renewal, where one can find their place in the universe. Yet in a sad irony we are losing our view of the universe within these very same areas.

CULTURAL AND HISTORICAL PERSPECTIVE

If national parks and protected areas and the resources they contain are cultural expressions of what we find valuable, then the night sky must certainly be the ultimate cultural resource. This heritage is common to all peoples- spanning continents and centuries; no other singular resource has inspired mankind like a starry sky.

The US National Park Service stewards not only natural landmarks, but historic and cultural sites as well. Connecting with these places and the people who lived there is important, and parks can do that more so than a museum can. In these places too, keeping all the parts is essential to preserving the meaning of a place. One example is at Chaco Culture National Historical Park, in the high mesas of the American Southwest. Stone pueblos were home to thousands of people around 1100 A.D. At numerous points within the large pueblo, even the entire structure itself, alignments with the heavens are noticed. The starry sky and motions of the sun and moon were their clock, calendar, and guide map. The sky held images of their religion and common heritage. The Chacoan culture must have revolved around the sky to a great degree. On an adjacent mesa, an alignment of rocks and pictographs marks the solstices and equinoxes with great precision. Even events, perhaps a supernova, were recorded in the stone.

The night sky wraps each culture on Earth with a celestial blanket rich with meaning. The starry sky is a compass through time and creation, and there we have always found meaning in our struggles, our dreams, events in society, and our own lives. It is the codex of our hearts.

Modern science has not separated us from the stars; science just looks at the sky with different eyes- telescopes, x-ray sensors, and computer models. It was the Apollo mission to the moon that first looked back at Earth and captured an image of the planet as a whole. The thin blue atmosphere looked so fragile amidst the black of space. A small point of life in a lifeless ocean rose above the lunar surface like our sun rises every day. One cannot help but think how small

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of an island we have, how precious it is, and how interconnected all the parts suddenly seem.

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Likewise, the study of astronomy touched off the European Renaissance. Such study or observation of the sky seems to always be followed by philosophical thought and renewed spirituality. Perhaps it is this subsequent discussion that the church feared. For those of us who have shown friends and strangers the starry sky, we know this discussion is inevitable. Standing around a telescope, conversations flow from star formation and galactic mechanics toward the creation of life and nature as imaginations stretch to new lengths. I find it fitting that when the English dictionary sought a new definition for the word LIFE, they turned to astronomer Carl Sagan.

CONCLUSION

The night sky is a key connection between a park visitor and the natural or primeval world. It links us to our philosophical vision of nature, a distant past, and our understanding of the universe. It is no less important to our modern spiritual compass than of humans long past.

Parks and preserves, existing and proposed, harbor the last remaining night skies. The managers of these places have a duty to protect the night sky and other evocative experiences. Parks and preserves are the best places to defend the night sky; there the sky can be kept whole and attached to all the parts we hold dear. Night sky preserves are an excellent prescription for an ailing night sky, but run the risk of not being a holistic solution, isolated, and land set aside for a special interest.

Science can, and has begun to measure, the transcendental experiences of a park such as solitude, natural sounds and night skies. Computer models have been used to estimate the amount of light pollution throughout the globe. Work by the US National Park Service night sky team shows precise measures of the night sky at several parks. These are helping us understand how the experience of a night sky changes with the addition of light pollution. For example, how much light pollution can be tolerated before one cannot see the Milky Way- our own galaxy.

We should look at parks in a new light, not just the individual resources they contain but as a collection of potential experiences and interactions. The loss of a starry sky would be a tragic omission. The stars are cradle of countless myth, tale and religions. It is the ultimate cultural resource, universal natural resource and it is an embodiment of wilderness as it is our first and final frontier. In parks we preserve an ever-narrowing portal to this resource, and all that darkness in

turn protects. If the stars and dark of night are cut from humanity, what will be the result? Will we ever find as much inspiration, wonder, humility, scientific curiosity, peace and poetry?