WILD MATTERS: Night Skies

By Mary Risser, Chad Moore

The Milky Way over Great Basin National Park is clearly visible as a blue-white band or "river of light." Photo by Dan Duriscoe

"I've never knew the sky could look like this!"
"We were only going to camp here one night, but after seeing this sky, we decided stay longer."

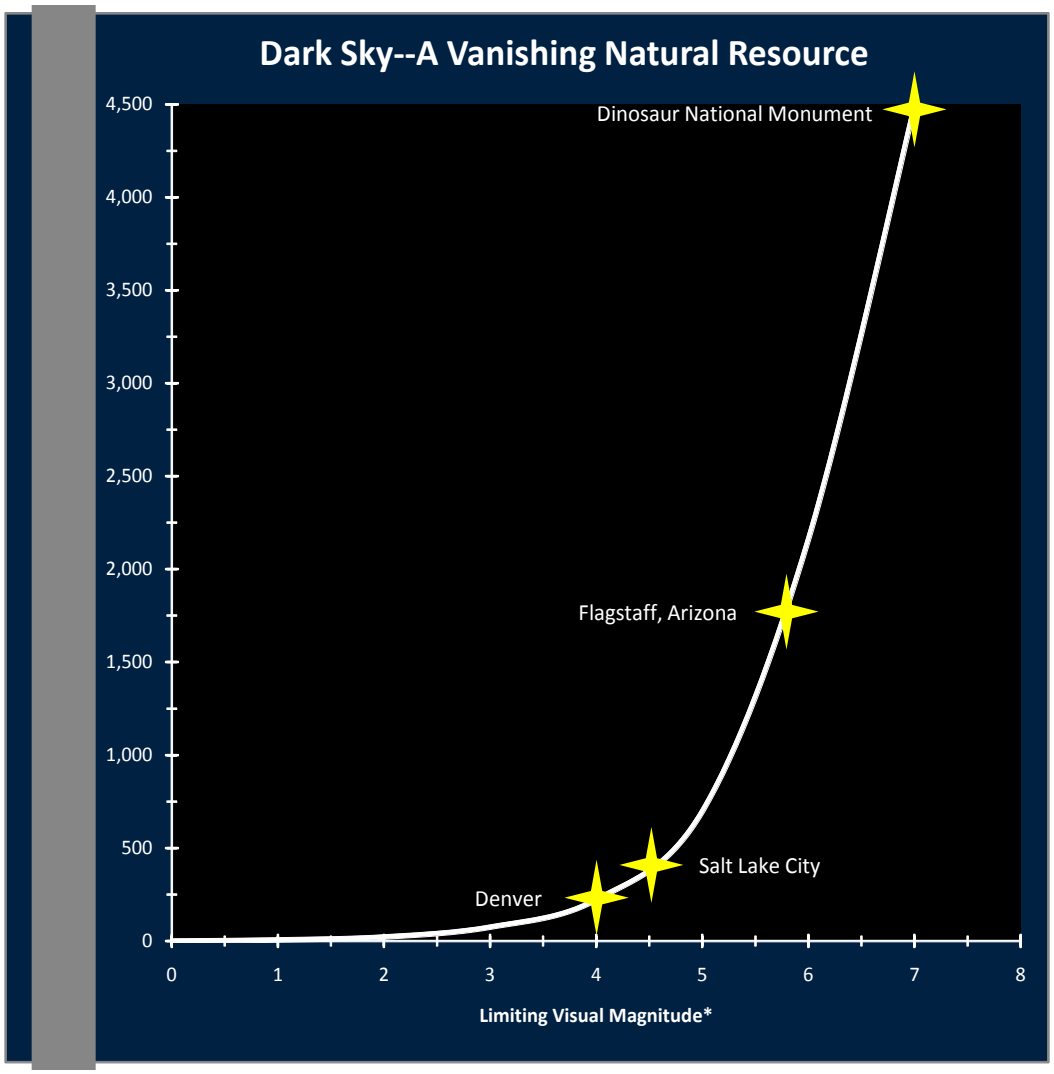
These comments are representative of the many we heard last summer as we, at Dinosaur National Monument, ventured into the world of night sky interpretation. National parks and monuments are among the darkest places remaining in the United States and are great places to rediscover the cosmos. Night skies also comprise a critical component of a Wilderness experience. Wilderness – where land "…retains its primeval character and influence…" – where resources are protected and managed to "…preserve its natural condition…" and where the land – "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable…" (The Wilderness Act of 1964).

The Intermountain Region has some of the "darkest holes" remaining in the country. Three of those are found around Big Bend, Gila Cliff Dwelling, and the Colorado Plateau. In fact, Natural Bridges National Monument is the only National Park Service unit that has achieved recognition as an International Dark Sky Park. Our ability to see the stars of our own Milky Way Galaxy, however, can vary greatly even within a National Park Service unit. For example, the view of the night sky would be vastly different in the bottom of a river canyon where canyon walls shield the lights from a gateway community than it would appear from a campground near the park boundary, where the glow of "civilization" lights the horizon.

Night skies are compromised by light pollution—the cumulative glow of poorly designed outdoor lighting, which allows wasted light to scatter outward and upward. The effects of light pollution are not fully known, but we do know that migration, reproduction, and feeding of many species are adversely affected. In 2009, the American Medical Association acknowledged risks to human health and safety, as well. Glare from bad lighting is a public health hazard, especially for older Americans. Research supports the notion that many species (including humans) need darkness to survive and thrive.

The Washington Office Night Sky Program was established in 1999 and is the only program of its type in the federal government, except for one position with the US Naval Observatory. The Program, now part of the WASO Natural Sounds and Night Skies Division, is multi-faceted in that it supports park's requests for inventory and monitoring, provides briefing to local communities in support of lighting ordinances,

supports robust interpretive efforts, and creates modeling software to interpret night sky data. More than 30 Intermountain Region parks have already completed Night Sky Quality Inventories and at least 13 more are in progress. As we at Dinosaur developed specifications for a new visitor center and exhibit hall, staff with the Night Sky Program reviewed the lighting plans to ensure that outdoor lighting would not impact the night sky. The Program has a 7-step "Path to Restoration" to address light pollution and night sky restoration. They are also moving forward with a proposed NPS Outdoor Lighting Guidelines and Zoning.



* Limiting Visual Magnitude is a measure of the faintest stars that can be seen with the unaided eye on a clear, moonless night. In truly dark sky areas, such as Dinosaur National Monument, the Milky Way is clearly visible as a blue-white band or "river of light" across the sky. In light-polluted cities, only the moon, the planets and a few of the very brightest stars are visible.

For additional information…

www.nature.nps.gov/air/lightscapes/

www.darksky.org

http://www.darkskiesawareness.org/

Chad Moore, Night Sky Program manager, NPS WASO, 1375 Campus Delivery, CIRA, Colorado State University, Fort Collins, Colorado 80523, 970.491.3700, chad_moore@nps.gov

Dan Duriscoe, GIS Specialist, NPS WASO, 351 Pacu Lane, Bishop, California 93514, 760.872.5044, dan_duriscoe@nps.gov

". . . he opened his eyes fully and saw the wonder, the black roof with glory streaming through its rents, and the miracle of a night sky would always be with him; there would never be another night of his life when the sight of the stars would not have in it some of that first awe and wonder, when his jaded perception would not borrow freshness from that original bright image in the eyes of a star-gazing child."

Wallace Stegner, 1943
from The Big Rock Candy Mountain