DarkSky NEW MEXICO CHAPTER

The Values of Responsible Lighting in New Mexico

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Why should we value responsible lighting and dark skies in New Mexico?

A valuable natural resource : Over the past 150 years as widespread use of artificial light has increased, a dark night sky, once the domain of many, has now become the domain of a few. New Mexico has a valuable natural resource in its dark skies that helps define our uniqueness and sense of place. We should not let this slip away!!

Economic impact : Dark skies provide positive economic impact in New Mexico in multiple ways. Astrotourism is increasing in the state, e.g., New Mexico True has a New Mexico Dark Skies theme that focuses on several formally designated Dark Sky Paces. There are several residential communities across the state that attract new homeowners from out of state. There are also multiple telescope-hosting small businesses that provide locations for people from around the world to put their telescopes, and the owners will occasionally visit. NM research universities have active observatories that attract students and federal funding; several federal facilities in New Mexico also have observatories. There are a number of amateur astronomy clubs across the state and there is at least one large star party that attracts visitors from out of state.

Worker Safety : It has been recognized that responsible lighting improves worker safety. Reducing glare (direct view of light sources) allows for better visibility. More light is not necessarily safer; putting light where it is needed is.

Security : Similarly, implementing responsible lighting in urban settings can increase security. Glare makes it harder to see intruders or other hazards. Putting security lighting on timers and motion sensors allows easier identification of intr**u**ders.

National security : National labs in New Mexico, e.g. Starfire Optical Range, are involved in satellite tracking and monitoring, efforts that are affected by light pollution.

Human health : Excess light impairs sleep, which may have long-term health impacts. Improved roadway lighting to reduce glare can decrease the frequency of accidents involving both pedestrians and vehicles.

Ecological benefits : Multiple species are adversely affected by excess artificial light at night. In particular, 60% of pollinators, on whom agriculture depends, are negatively affected. A large fraction of migratory birds travel at night and can be misled by artificial light; the Rio Grande corridor is a major bird migration route.

Energy and money savings : Putting light only where it is needed saves energy and saves money.

Respecting property rights : Some property owners are severely affected by light trespass from adjacent private or public properties. Property owners should have the right to light their property as they see fit, but also be mindful of neighboring property owner rights by restricting their artificial light to prevent it from extending beyond their property line.

Human appreciation : For generations, humans have appreciated the night sky. The night sky is the most ancient of all natural beauties. Viewing the stars and Milky Way in an unspoiled dark sky stokes imagination, creativity, wonder, serenity and an awesome sense of connection to something far beyond our daily experience. The ability to do so is declining rapidly: for example, it's estimated that only 20% of the US population is able to see the Milky Way. New Mexico has a great resource in its dark skies, a heritage that we should preserve and pass on to future generations,

A cultural resource : The original Night Sky Protection Act arose when the New Mexico Heritage Preservation Alliance declared the night sky as a threatened cultural resource, one we all share: One Big Sky. The night sky provides a connection across all cultures, Indigenous, Spanish and other European ancestry. Oral traditions and storytelling in cultures worldwide are being lost to light pollution.

Scientific study : The three research universities in the state all have active astronomy programs. Our ability to learn about the Universe, which may have implications that we cannot fully foresee, depends on dark skies to see fainter objects. Loss of natural darkness across the US has led to many advanced observatory projects being located outside the continental US. Dark skies help to keep New Mexico competitive.

Amateur astronomy : There are many amateur astronomers who take great satisfaction in looking at the night sky. Some produce artistic work, others are involved in scientific studies, and others spend significant time sharing their enthusiasm with the public.

How can we implement responsible lighting and protect dark skies in New Mexico?

DarkSky International and the Illuminating Engineering Society have developed five simple principles for responsible outdoor lighting:

1. **Useful** : **Use light only if it is needed.** All light should have a clear purpose. Consider how the use of light will impact the area, including wildlife and their habitats.

2. **Targeted** : **Direct light so it falls only where it is needed.** Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.

3. **Low level** : **Light should be no brighter than necessary.** Use the lowest light level required. Be mindful of surface conditions, as some surfaces may reflect more light into the night sky than intended.

4. **Controlled** : **Use light only when it is needed.** Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.

5. **Warm colored** : **Use warmer-color lights where possible.** Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.

If we implement these relatively simple principles, we enhance safety and security, save money and energy, help humans and protect wildlife, preserve cultural and aesthetic values, enable scientific studies, and help to attract people to New Mexico – a winning combination!