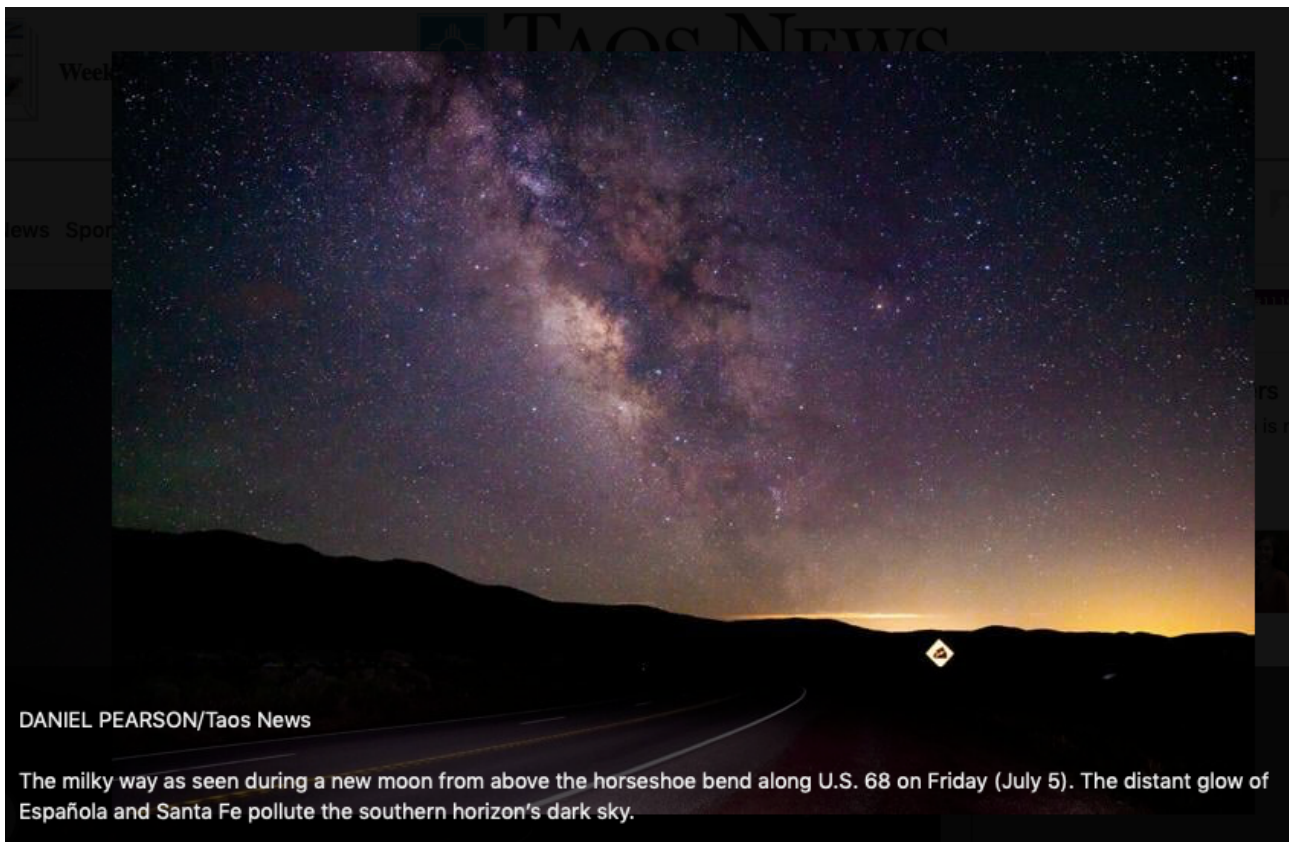


# Dark Sky Advocates & Town Council move to update 20-year-old ordinance 'Preserving ancestral skies'

- By Emery Veilleux
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Dark sky advocates, local astronomers and lovers of Taos' natural environment are pushing for updates to the nearly 20-year-old lighting ordinances that protect Taos' dark sky heritage. Technological advances, increasing development and the construction of the UNM-Taos Cielo Centro observatory have spurred a grassroots effort for stronger legislation and greater public education.

The town council decided Monday (July 22) to begin the process of updating the 20-year-old lighting ordinance, though the process is expected to be lengthy.

## **Seeing the Milky Way**

For John Briggs, astronomer and member of the NM DarkSky, the state chapter of Dark Sky International, a host of factors have to align just right to see the Milky Way in his hometown of Magdalena. It has to be a cloudless night; ideally, a new moon; and he has to be facing away from the light dome that glows from nearby Albuquerque.

“You learn a lesson witnessing something in nature as grand as the Milky Way on a dark night,” Briggs said. “There are many confusing factors and forces pressed upon us nowadays, and there’s something therapeutic about engaging with the profound beauty of nature.”

“I can only imagine places like Taos are vulnerable,” Briggs said, as the town continues to grow and particularly on the star-filled southern horizon where the Milky Way Galaxy rises — under which lights from Española and Santa Fe are intensifying, too.

Research suggests Briggs’ concerns aren’t overstated. According to National Geographic, 99 percent of Europeans and North Americans live under light-polluted skies. Eighty percent of North Americans can’t see the Milky Way where they live.

The biological impacts of light pollution are well-studied: Artificial light at night can negatively impact health by suppressing melatonin, straining eyes and disrupting circadian rhythms. In addition to sleep patterns, the rhythm of wildlife’s mating behaviors, migrations, feeding and breeding all rely on regular daytime-nighttime cycles.

Still, Briggs said, “I do believe a message of optimism can be conveyed.”

### **Ordinances: Enacted, outdated and loosely enforced**

In 1999, in response to growing light pollution concerns, the Night Sky Protection Act — one of the first of its kind in the country — was passed in New Mexico, creating a statewide regulation for night lighting.

In 2006 and 2007, respectively, Taos County and the Town of Taos took the NSPA a step further and enacted their own dark sky ordinances, which are still in effect today. The ordinances aim to conserve energy, promote security and maintain the

“historic character and night-sky beauty” of Taos by shielding and directing lights to prevent light pollution, light trespass (light shining beyond the property where it is installed) and glare (bright light shining into one’s eyes).

Now, dark sky advocates with El Valle Astronomers in Taos and NM DarkSky feel the nearly 20-year-old ordinances are insufficient and haven’t kept up with the times.

Of particular concern are LEDs, which are highly energy efficient but produce high levels of short-wavelength, blue-spectrum light, which scatters further than warm-colored light. In short, Briggs said LED lighting “makes the problem of light pollution worse. Night lighting has become amazingly inexpensive because LED lighting is so efficient, but consequently people are adding unnecessarily brighter night lights that are often simply not well shielded.”

Some advocates feel code enforcement can also be lacking.

Both Taos’ town and county ordinances employ penalty provisions, such as warnings and fines on noncompliant lights up to a \$500 for a third violation.

“As far as we know, none of this has ever been enforced,” El Valle Astronomers Vice President Roy Troxel said. Troxel feels the Taos County Planning Department, which would enforce the code, “has enough going on. I don’t know that enforcing light ordinances is top of their list,” he added.

Increasing residential and commercial development in Taos County also raises concern among dark sky advocates.

In the 22 years Dr. Colin Nicholls, UNM-Taos chair of math and science and member of El Valle Astronomers, has lived in Taos, he’s noticed an increase in sprawl, particularly on the southern end of town.

“If each one of those houses is strictly compliant to best practices, it isn’t necessarily a problem,” Nicholls said. Although, on stargazing trips to Wild Rivers, when Nichols looks back at the Taos Valley, “This is subjective, but the [light] dome seems to be worse now.”

Still, hope does burn for those who treasure the night. Some experts believe dark skies preservation is a rare arena where solutions are simple: Shielding and directing lights, switching bulb colors, and turning off unnecessary lights are small

actions that create immediate, noticeable impact, Nicholls said. To this effect, he feels public education is key.

“With relatively modest effort, we can protect the stars,” he said. “And it doesn't require massive investment in terms of money. We can even save a little money just by using other lighting practices to reduce energy costs, and that helps everybody.”

Town of Taos Councilor Darien Fernandez feels many people in both the town and county do know the ordinances exist but aren't well-versed in their finer points or legal jargon.

“They don't always know what the language in the ordinance is, and that an incandescent bulb up to 150 watts is allowable. Dark sky doesn't mean everything has to go off,” Fernandez said.

Fernandez feels the town does effectively uphold lighting code, particularly when working with commercial developments and contractors, who often aren't aware of the ordinances. The town is currently working with numerous new south-side businesses — like gas stations — to ensure their lighting plans are compliant.

“Part of where people might feel like enforcement isn't working is where issues aren't resolved in the way they want them to be,” Fernandez said, “But we do act on it pretty quickly.”

Fernandez shares advocates' faith in public education as tools to uphold Taos' dark sky protections. “If there's an opportunity for us to share with the public, ‘Hey, this is what we can and cannot do under the ordinance’ — it helps.”C

## **Cielo Centro**

Local dark sky advocates with El Valle Astronomers in Taos and NM DarkSky feel particularly driven now due to Cielo Centro, an observatory UNM-Taos has been planning for four years.

“There's always been a need for us to preserve the skies,” Nicholls said. “But the imminent arrival of the observatory means that there's more of a focus now.”

Cielo Centro is soon to house the 12-foot tall Dobsonian telescope donated to the university by the late Melinda King. It's the largest public-access telescope in New

Mexico, Arizona and Colorado, as well as one of the largest in the country. The telescope's 3-foot mirror can gather 23,000 times more light than the human eye, allowing people to observe celestial bodies, like the Virgo Cluster, 65 million light years away.

Nicholls feels the telescope will be a boon for local residents and students, as well as visitors to "appreciate the wonder. And we need to make sure it's still wonderful in 10 to 15 years."

"The problem, of course, is: Why erect a 36-inch reflecting telescope if right across the street a McDonald's is going up?" Troxel said.

Nicholls and Troxel are both members of El Valle Astronomers, the amateur astronomy club organizing the telescope's installation. The club hosts star-viewing parties and educates the public on the night sky. In recent years, the club has spurred the Taos Dark Sky Initiative, a grassroots effort to update Taos County's lighting ordinance to become a Dark Sky Community; educate residents on dark skies; and provide citizens the means to participate in dark-sky protection.

Troxel and Nicholls both feel confident many Taos residents do care about protecting their home's increasingly rare swaths of star-filled skies.

"By preserving ancestral skies — note the word 'ancestral,' ancestral skies — we can improve our connection to our culture and heritage for future generations," Troxel said. "Now, notice I didn't say anything about light pollution or I didn't use the word 'business' or 'tourism,' but everybody in town knows what this means. 'Preserving ancestral skies' — that reverberates very much in Taos."

## **Dark Sky Community**

Nearby Los Alamos passed a strong lighting ordinance in 2022 after two years of research, spurred by grassroots motivation from astronomers and environmentalists to update their over 20-year-old ordinance.

Under the revised code, lights there can emit no more than 2700K (kelvin, a unit of measure of the thermodynamic temperature of light) per bulb — a warm light closer to orange than blue. There are also limits on lumen, or amount of light, permitted per site. Commercial lights must be dimmed after business hours.

Some leniency is afforded in adoption. Commercial and county lighting is required to conform, while residential lighting is encouraged but not required to follow the guidelines. Violating lights grandfathered in when the ordinance passed are given 10 years to retrofit.

“The goal there is, we want to educate people about the proper use of lighting and give them time to adapt and change,” said Galen Gisler, retired LANL scientist, Pajarito Environmental Education Center volunteer and NM DarkSky State Council member. Gisler was instrumental in developing the new ordinance. “We don’t want to make enemies; we’d like to persuade people through education.”

Los Alamos can now call itself a Dark Sky Community, an official designation of Dark Sky International for a municipality that has shown “exceptional dedication to the preservation of the night sky” through a high-quality lighting ordinance and dark-sky education.

Gisler also stressed education as a strong tool for bolstering both support and change for dark sky protections.

“Rather than enforcement, education is the right way to go,” he said.

Gisler hopes NM DarkSky can push to revise statewide NSPA legislation, currently in its 25th year, in the 2025 legislative session, and help other municipalities adjust their lighting ordinances. Albuquerque and Santa Fe, for example, are currently revising their guidelines.

“If Taos is undertaking such a project, we’d certainly be interested in helping out with that,” Gisler added.

### **Ordinance revisited**

During the Taos Town Council’s workshop meeting Monday (July 22), councilors determined the Planning and Zoning Commission will begin revising the nearly 20-year-old dark sky ordinance.

However, staff is concurrently revising the town's short-term rental ordinance and parts of the land use development code, so results are not anticipated soon.

The commission also asked for the town's help ensuring Kit Carson Electric Cooperative complies with lighting code as they replace older incandescent bulbs with LED bulbs.

"They really are really bright," Code Enforcement Officer Antonio Fernandez told the council.

Before the meeting, Fernandez spoke with the Taos News about the council's priority "to keep the spirit of the original law and meet the technology of the times."

"At the local level, people can see an immediate, quick impact, and there's a lot municipalities can do just by creating an ordinance [or] tweaking an old ordinance," Fernandez said. Prioritizing open space with denser development, tweaking building code to allow more affordable housing, preserving Taos' dark sky heritage: "All that can be done through an ordinance."

For Fernandez, the urgency hits close to home.