

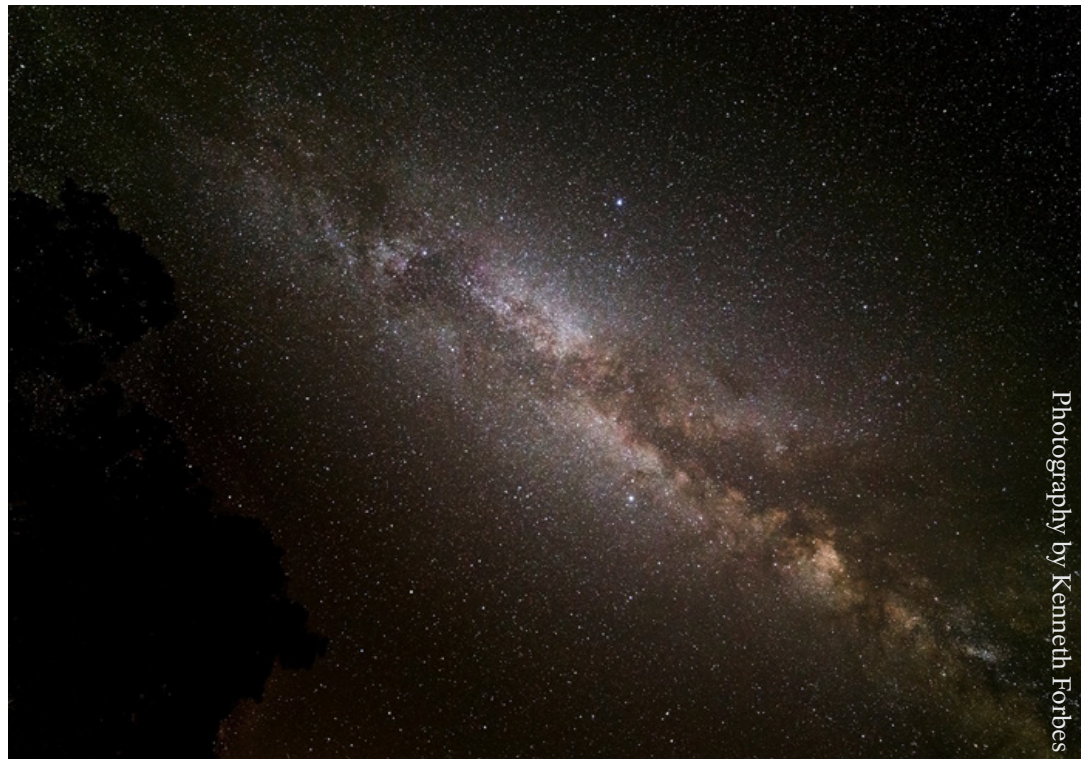
# Lighting Inventory and Management

Capulin Volcano National Monument is requesting designation from IDA as an International Dark Sky Park. Multiple efforts have been set forth in order to meet the IDA requirements expected by all IDA park applicants.

The research conducted by the NPS Night Skies Team shows that CAVO hosts a high quality dark sky with extremely minimal light pollution. Our park exemplifies the specified criteria sought for appointment as a dark sky park. Per the lighting inventory breakdown, all lights on park property are compliant with The Guidelines for Outdoor Lighting (GOL). The dark sky at Capulin Volcano is breathtaking and we hope you will contemplate CAVO as a Gold Tier status designation.

All exterior lighting on park property has been reconstructed to provide the minimal necessary lighting for visibility and navigation purposes. The lighting management plan will document and maintain the changes implemented to achieve 100% compliance with outdoor lighting regulations and future

plans to improve existing compliant lighting fixtures. The park believes that these night sky friendly efforts and adjustments will cultivate the enjoyment, education, and inspiration of all that encompasses an amazing night sky experience for this and future generations. With this in mind, interpretive staff is set to complete outreach opportunities and training for night sky collaboration and education with other night sky professionals.



Photography by Kenneth Forbes

**Summary**

The Guidelines for Outdoor Lighting (GOL) for Dark-sky Preserves and IDA Dark Sky Places indicate some of the best practices and rules of thumb for facilitating a quality nighttime environment. All guidelines should be followed as policy for lighting at CAVO. A few of the basic guidelines include the following:

- Lighting fixtures above 500 lumens need to be either fully shielded or set to a curfew or timer.
- Nighttime lighting units should be contemplated for validity unless utilized for increasing visibility purposes.
- The correlated color temperature of the lamps are not to exceed 4000K.

- Facilities only require illumination when open or available to people.
- To minimize light pollution, lighted pathways should be illuminated only when pedestrians can benefit from them.
- The duration of lighted periods should be kept to a minimum with devices such as motion sensors and time delays.

These six (GOL) guidelines amongst others were put into action at CAVO, and the changes have been documented in summary throughout the lighting and inventory management section.

**Fig 11: Summary of all park lights that emit light into the night sky.**

Exterior and Interior Park Lights					
	Total Lights	Mitigated Lights	Compliant	Incompliant	Compliance%
Visitor Center	7	5	7	0	100
Employee Housing	10	10	10	0	100
<b>Total</b>	<b>17</b>	<b>15</b>	<b>17</b>	<b>0</b>	<b>100</b>

Capulin Volcano is a small park at only 793 acres. As you will notice in the following reports, we also require only a small amount of lighting as well. The specific areas of concern at CAVO include pathways, parking lots, and developed properties within park facilities. The modifications made to lighting fixtures in the park brings the compliance rate to 100% under GOL lighting regulations.

Before we started the new night sky program, there was only one light that was out of compliance. Staff removed the light and it will be replaced with a fully shielded fixture as soon as funding requests are met. The miniscule number of lights emitting into the atmosphere from the park is just one more reason that we have such an amazing star view shed at the monument.