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**Recommendations for Protecting the Nighttime Environment in the Sweetwater Lake Area**

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**This document is resubmitted as public comment for the NEPA process that ends today, 8/5/2024. Links have been updated.**

Note: Links that I refer to in a number of the bullets are all listed towards the end of this document.

1. The consistent application of the International Dark-Sky Association (IDA) – Illuminating Engineering Society (IES) “Five Principles for Responsible Outdoor Lighting” will protect and preserve the nighttime environment of the Sweetwater Lake for present and future generations. The “Five Principles”: 1) All light should have a clear purpose, 2) Light should be directed only to where needed, 3) Light should be no brighter than necessary, 4) Light should be used only when it is useful, 5) Use warmer color light where possible. See link: IDA-IES “Five Principle for Responsible Outdoor Lighting.”
2. The best insurance policy that the natural night sky over Sweetwater Lake will be protected and preserved for present and future generations is to start the application process as soon as possible for International Dark Sky Park designation/certification. IDSP designation/certification is key to conserving wildlife, cultural, natural, and social values. IDSP designation for the Sweetwater Lake area is a path forward to preventing and minimizing harmful light pollution, therefore safeguarding the wellbeing of humans, flora and fauna as well as the interconnected ecosystems.
3. Starting the IDSP application process as soon as possible—as early as March—will allow for the selection and installation of IDA-certified smart and responsible lighting without having to do expensive retrofits. See the first three links listed below which are excellent resources.
4. Since the Utes lived in the Sweetwater Lake area for centuries prior to the arrival of Europeans, Ute tribal leaders should be involved in all aspects of the planning process. Ute history including the Ute historical or cultural heritage of connecting with the night sky has been lost and is now being rediscovered. See the link to the March 11th “Ute Night Sky Storytelling” in Montrose. It is especially important to reconnect with the Ute and Native Americans interpretation of the night sky. Ute tribal leaders can help with interpretive/educational information for visitors.
5. Nighttime activities may include the following: stargazing with and without telescopes, park ranger guided and unguided night hikes without lights (or red lights when needed), Western/NASA & Ute/Native American/Native Skywatchers night sky storytelling, astronomy programs, workshops on how to use a telescope, night sky photography workshops, etc. It is very important to protect the nighttime environment with the goal of dark and quiet skies, which means no motorized use at night. See Stargazing Etiquette link. Also, see links to March 11th “Ute Night Sky Storytelling” and “Native Skywatchers.”
6. Campground/camping/dispersed camping etiquette for RVs, camper vans, car camping, tent camping, dispersed camping that protects both the daytime and nighttime environment should be considered and implemented, such as the following practices:

1) only red lighting within and without when needed from dusk to dawn or sunset to sunrise,

2) no bistro patio lighting or other added lighting,

3) only red lighting on headlamps, flashlights, etc.

4) encourage vehicles to arrive to campsites before dusk and no vehicle lights before dawn,

5) no campfires,

6) no generators 7:00 PM – 8:00 AM or other daytime morning hour,

7) have free clear red cellophane (and maybe red repair taillight tape) available for camper units to cover inside and outside lights as well as vehicle lights,

8) have staff on duty 24/7 since light polluting lights and practices that include light trespass occur at night.

Note: Camping etiquette that protects the natural environment is not the norm. For example, Black Canyon of the Gunnison North Rim Campground has similar camping rules as noted above in place. However, a number of campers will disregard rules that protect the night sky and this disregard tends to happen when park rangers are off duty. Consistent and persistent education is needed.

See link: “Rocky Mountain Star Stare [Camping] Rules”

1. Maybe there could be a place or places to set up telescopes and serve as a telescope viewing area. The Cosmic Campground has telescope pads at each campsite. This idea may or may not be practical for the Sweetwater Lake campground.
2. Consider having both a reservation system and a first come first served system with a sign at the intersection of Colorado River Road and Sweetwater Road to inform people of available campsites which would keep unnecessary vehicles with lights from traveling on Sweetwater Road to the Sweetwater Lake area.
3. In order to have campgrounds that honor both the daytime and nighttime environments with lower numbers of campsites, it is important to inform people of nearby camping areas to handle overflow.
4. The lighting of all campground facilities can be planned via the pre-application and application process for International Dark Sky Park designation/certification.
5. No lighting on the docks. See the attachment Night Lighting Comparison Photo.
6. Many campgrounds that honor the nighttime and daytime environments often allow only dry camping and have only vault toilets, no electrical hook-ups, no dump stations, and a limited number of campsites that blend when possible into the environment. Take a look at Penitente Canyon Campground, Cosmic Campground, Black Canyon of the Gunnison North Rim Campground; each of these campgrounds has a different landscape.

Links the Sweetwater Lake project planning team may find useful:

1. The first three links below address the process for going for International Dark Sky Places designation -
2. “International Dark Sky Places Presentation” and PowerPoint only by Ashley Wilson, IDA Director of Conservation

<https://darksky.app.box.com/s/9r6zkqs0b2n2skdjzpsuyakj71ab70bp/file/866893947629>

<https://drive.google.com/file/d/1PgB7nANoR_tzFEn3l56YAL8aipz5y7-O/view>

1. Natural Sounds and Night Skies Division is excited to present Outdoor Lighting Practices and updated tools to inventory lighting in your park.  This webinar will help park managers and facilities divisions make night sky friendly choices when it come to outdoor lighting.  Light pollution is the biggest threat reducing the quality of our night sky views and nocturnal environments.  By making the right outdoor lighting choices in our parks we protect park resources and set a positive example for neighboring communities and the millions of people that visit each year.  The NPS Outdoor Lighting Inventory combines park input, ArcGIS Online maps, Collector App, light meters, and dashboards to create a long-term inventory of the lighting within a park.  This tool can be used in all environments and provide consistency across the National Park System.  We will discuss lighting practices and provide a demonstration of the inventory tool and answer questions about becoming and remaining night sky friendly.

<https://cpdarkskies.org/2021/02/16/measuring-treasuring-our-night-skies/>

1. “NRSS Monthly Webinar NPS Outdoor Lighting Practices and Inventory for Night Sky Resource Protection”

<https://www.youtube.com/watch?v=dGB4GN7Iigc>

1. Whitening the Sky: light pollution as a form of cultural genocide, Journal of Dark Sky Link: <https://arxiv.org/ftp/arxiv/papers/2001/2001.11527.pdf>
2. “Ute Indian Night Sky Storytelling” with Regina Lopez-Whiteskunk, member of the Ute Mountain Ute Tribe, March 11th, 6:00 PM – 8:00 PM, Montrose, CO

<https://www.coloradocanyonsassociation.org/events/2021/5/4/ute-storytelling>

1. Native Skywatchers

<https://www.nativeskywatchers.com/>

1. “National Parks Are Embracing Indigenous Astronomy”

<https://www.outsideonline.com/adventure-travel/national-parks/national-parks-indigenous-stars/>

1. **“Two Eyed Seeing –NASA & Indigenous Astronomy – For the Benefit of All” combines western interpretation of the night sky with Native American interpretation of the night sky** by Mi’kmaw elders Etuaptmumk:

<https://www.nativeskywatchers.com/two-eyed-seeing-nasa.html>

1. Stargazing Etiquette

<https://cpdarkskies.files.wordpress.com/2021/08/stargazing-etiquette.pdf>

<https://www.darkskiespaonia.com/stargazing-etiquette>

1. I think you already have the link to “Dark Skies Over Public Lands” webinar

<https://www.youtube.com/watch?v=6JF9aF45XNY>

1. National Park Service Natural Sounds and Night Skies Division

<https://www.nps.gov/orgs/1050/index.htm>

<https://www.nps.gov/articles/natural-sounds-and-night-skies.htm>

1. Video “Losing the Dark”

<https://www.darksky.org/our-work/grassroots-advocacy/resources/losing-the-dark/>

1. International Dark-Sky Association (IDA) – Illuminating Engineering Society (IES ) “Five Principles for Responsible Outdoor Lighting”

<https://www.darksky.org/our-work/lighting/lighting-principles/>

1. Rocky Mountain Star Stare Camping Rules

<https://rmss.org/rules/>

1. Press release and Governor’s Proclamation declaring June 2021 Dark Sky Month (hope there will be a Governor’s Proclamation declaring June 2022 Dark Sky Month)

<https://www.darksky.org/colorado-declares-june-dark-sky-month/>

1. 1991 “Colorado’s Wildlife – Creatures of the Night” from Colorado Division of Wildlife

<http://hermes.cde.state.co.us/drupal/islandora/object/co:3543/datastream/OBJ/view>

1. “End of Night” by Paul Bogard

<https://www.amazon.com/End-Night-Searching-Darkness-Artificial/dp/0316182907/ref=tmm_hrd_swatch_0?_encoding=UTF8&qid=&sr=>

1. DarkSky Colorado

<https://darkskycolorado.org/>

1. DarkSky Colorado Media Tool Kit “Protect the Night”

<https://darkskycolorado.org/our-work/protect-the-night/>

1. DarkSky International

<https://www.darksky.org/>

1. Why NEPA Matters And What Does It Have To Do With The Night Sky?

<https://extension.usu.edu/iort/files/gina-pearson-why-nepa-matters-1.pdf>