

## Kiska, Dustin E.

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**From:** Robert Gorman <rdgorman@rdgormanlaw.com>  
**Sent:** Monday, May 13, 2024 6:20 PM  
**To:** Jones, Megan D.  
**Cc:** Kiska, Dustin E.  
**Subject:** Re: Ladera Golf Course Request for Master Plan Amendment -light poles

[EXTERNAL] Forward to [phishing@cabq.gov](mailto:phishing@cabq.gov) and delete if an email causes any concern.

Ms. Jones:

I hereby request that the 9 exhibits that I tendered by posted with the record. I sent the exhibits in advance with the understanding that they would be made a part of the record, and that they would be provided to the commission members in advance of the hearing. Please let me know if you need anything further.

Sincerely,

*Robert D. Gorman*

[www.rdgormanlaw.com](http://www.rdgormanlaw.com)



**SAVE PAPER - Only print this e-mail if necessary**

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**From:** Jones, Megan D. <mdjones@cabq.gov>  
**Sent:** Monday, May 13, 2024 6:03 PM  
**To:** Robert Gorman <rdgorman@rdgormanlaw.com>  
**Cc:** Kiska, Dustin E. <dkiska@cabq.gov>  
**Subject:** Re: Ladera Golf Course Request for Master Plan Amendment -light poles

Mr. Gorman,

If you would like the exhibits to be included with the record, you will either need to request that they are posted with the record prior to the 9AM deadline tomorrow, or share them during the hearing on screen, otherwise, the commission will not be reviewing the exhibits.

**Megan Jones, MCRP | MPA**

Principal Planner

Current Planning/EPC | UD&D

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**CITY OF ALBUQUERQUE  
ENVIRONMENTAL PLANNING COMMISSION**

**In the Matter of Ladera Golf Course  
Application for Master Plan Amendment  
(Installation of 60' light poles)**

**Hearing on May 16, 2024 at 8:40 a.m.**

**No. PR-2024-010191/SI-2024-00471**

**GORMAN AMENDED EXHIBIT LIST**

<u>Number</u>	<u>Description</u>	<u>Comments</u>
1.	Early Moon rise	
2.	Early Moon rise 2	
3.	Moon rise-dark sky	
4.	Moon rise in April	
5.	Morning view of golf course	
6.	Morning view 2 -golf course	
7.	National Science Foundation-Globe at Night Article	
8.	National Geographic Light Pollution Article	
9.	Rainbow over Golf Course	

Submitted by:  
Robert D. Gorman  
resident at: 3212 Vista del Sur NW  
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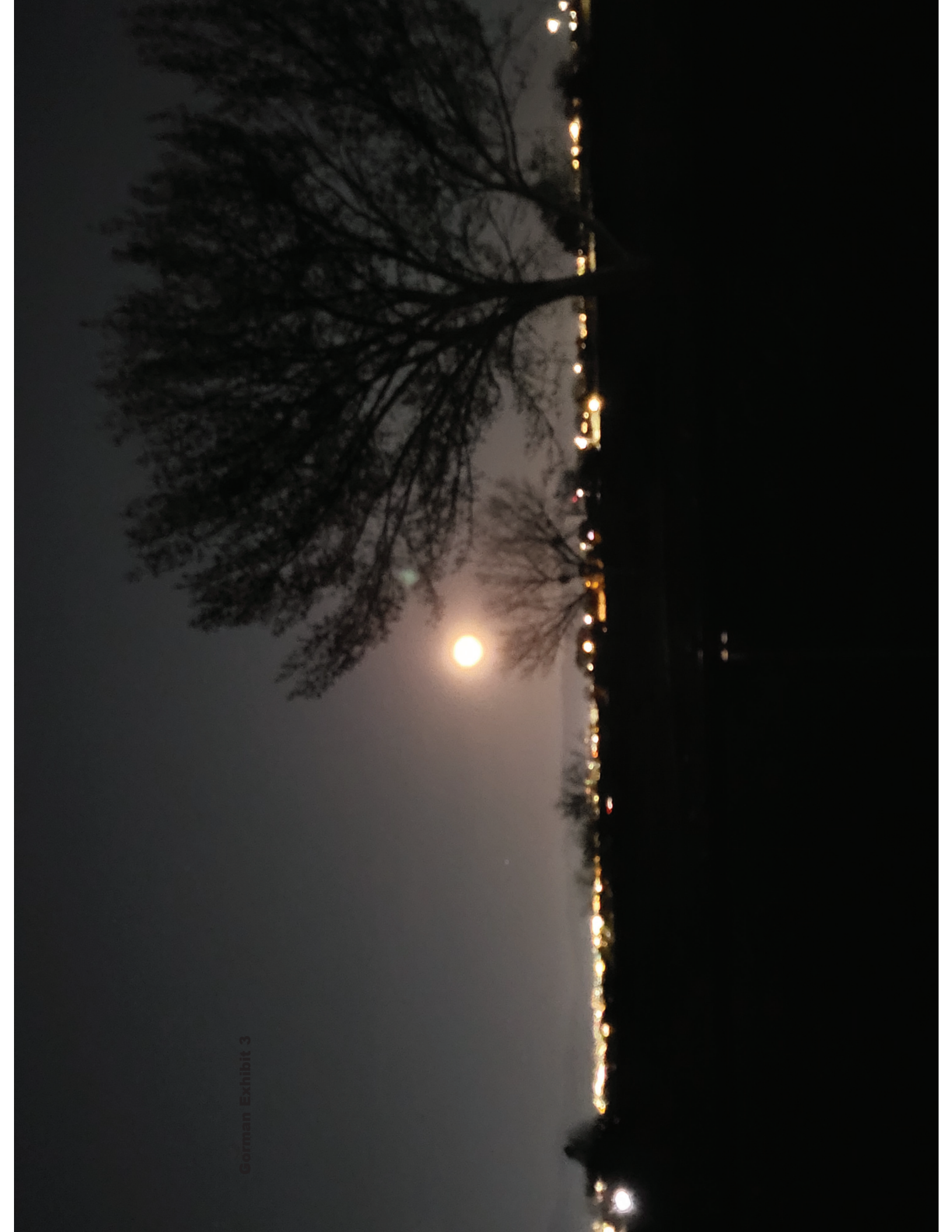
**Gorman Exhibit 1**











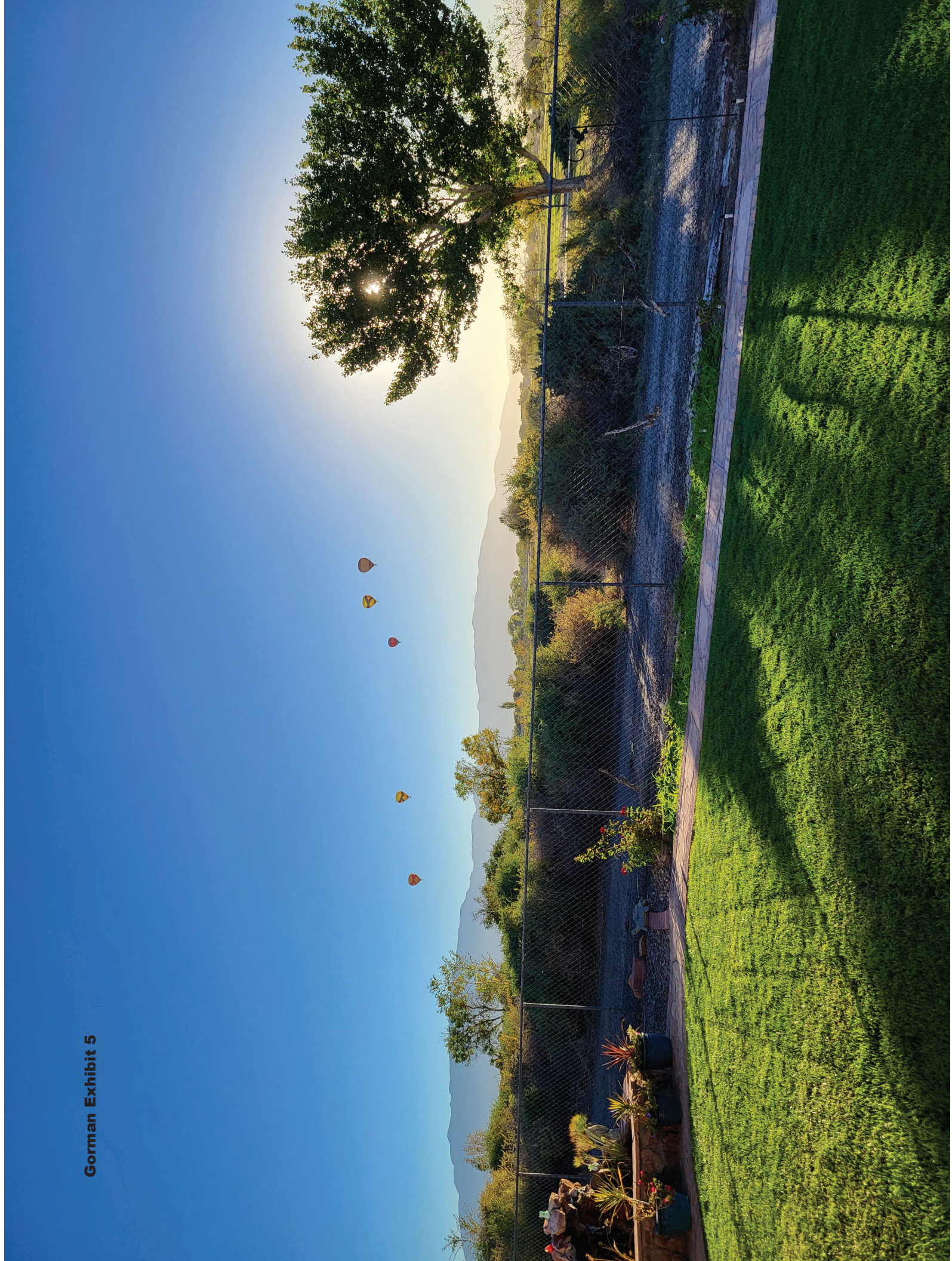
Gorman Exhibit 3







**Gorman Exhibit 5**





**Gorman Exhibit 6**





## Gorman Exhibit 7

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# Light Pollution

## What is Light Pollution?

**Light pollution** is excessive, misdirected, or obtrusive artificial (usually outdoor) light. Too much light pollution has consequences: it washes out starlight in the night sky, interferes with astronomical research, disrupts ecosystems, has adverse health effects and wastes energy.

## Introduction

A little more than 100 years ago, you could walk outside at night even in a city and see the Milky Way galaxy arch across the night sky. Being able to see thousands of stars was part of everyday life, inspiring artists like Van Gogh or musical composers like Holst or writers like Shakespeare. **By allowing artificial lights to wash out our starry night skies, we are losing touch with our cultural heritage (e.g., what has made us who we are). We are also losing touch with what could inspire future generations.**



With more than half of the world's population now living in cities, 3 out of every 4 people in cities have never experienced the wonderment of pristinely dark skies. How do you explain the importance of what they've lost to light pollution? How can you make them aware that light pollution is a concern on many fronts: safety, energy conservation, cost, health and effects on wildlife, as well as our ability to view the stars? Finally, how do you convince them that it's worthwhile to take even small steps, to help fix this problem?

## Effects of Light Pollution

In **disrupting ecosystems**, light pollution poses a serious threat in particular to nocturnal wildlife, having negative impacts on plant and animal physiology. It can confuse the migratory patterns of animals, alter competitive interactions of animals, change predator-prey relations, and cause physiological harm. The rhythm of life is orchestrated by the natural diurnal patterns of light and dark; so disruption to these patterns impacts the ecological dynamics.

With respect to **adverse health effects**, many species, especially humans, are dependent on natural body cycles called circadian rhythms and the production of melatonin, which are regulated by light and dark (e.g., day and night). If humans are exposed to light while sleeping, melatonin production can be suppressed. This can lead to sleep disorders and other health problems such as increased headaches, worker fatigue, medically defined stress, some forms of obesity due to lack of sleep and increased anxiety. And ties are being found to a couple of types of cancer. There are also effects of glare on aging eyes. (See text below.) Health effects are not only due to over-illumination or excessive exposure of light over time, but also improper spectral composition of light (e.g., **certain colors of light**).

With respect to **energy** wastage, lighting is responsible for at least one-fourth of all electricity consumption worldwide. Over illumination can constitute energy wastage, especially upward directed lighting at night. Energy wastage is also a waste in cost and carbon footprint.



The good news is that **light pollution can be reduced** fairly easily by shielding lights properly, by only using light when and where it is needed, by only using the amount that is needed, by using energy efficient bulbs, and by using bulbs with appropriate spectral power distributions for the task at hand.

Explore the effects of light pollution on the night sky with [Light Pollution Interactive](#).

## Going further... Three Main Types of Light Pollution

Clinically speaking, **\*three main types of light pollution** include glare, light trespass and skyglow (in addition to over-illumination and clutter). **Glare** from unshielded lighting is a public-health hazard—especially the older you become. Glare light scattering in the eye causes loss of contrast, sometimes blinds you temporarily and leads to unsafe driving conditions, for instance. **Light trespass** occurs when unwanted light enters one's property, for example, by shining unwanted light into a bedroom window of a person trying to sleep. **Skyglow** refers to the glow effect that can be seen over populated areas. Skyglow is the combination of all the reflected light and upward-directed (unshielded) light escaping up into the sky (and for the most part, unused). ... Shielding lights significantly reduces all three of these types of light pollution.

By participating in the citizen-science campaign, Globe at Night, and taking as many measurements as you can from different locations, you will be promoting awareness and helping to monitor light pollution levels locally. The worldwide database is used to compare trends over years and with other data sets (like on animals) to see what effects light pollution has on them. Thank-you for your interest and participation in Globe at Night.





Globe at Night is a program of NSF's NOIRLab, the preeminent US national center for ground-based, nighttime optical and infrared astronomy, which is managed by the Association of Universities for Research in Astronomy (AURA), under cooperative agreement with the National Science Foundation.





ARTICLE  
LEVELED**Gorman Exhibit 8** 

# Light Pollution

People all over the world are living under the nighttime glow of artificial light, and it is causing big problems for humans, wildlife, and the environment. There is a global movement to reduce light pollution, and everyone can help.

**GRADES**

3 - 12

**SUBJECTS**

Conservation, Earth Science, Astronomy





IMAGE

## Hong Kong Light Pollution

Boats, buildings, street lights, and even fireworks contribute to the light pollution in Victoria Harbor, Hong Kong. Light pollution can be detrimental to the health of people and animals in the area.

PHOTOGRAPH BY JODI COBB

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**BACKGROUND INFO****VOCABULARY**

Most environmental pollution on Earth comes from humans and their inventions. Take, for example, the automobile or that miraculous human-made material, plastic. Today, automobile emissions are a major source of air pollution contributing to climate change, and plastics fill our ocean, creating a significant health hazard to marine animals.

And what about the electric lightbulb, thought to be one of the greatest human inventions of all time? Electric light can be a beautiful thing, guiding us home when the sun goes down, keeping us safe and making our homes cozy and bright. However, like carbon dioxide emissions and plastic, too much of a good thing has started to negatively impact the environment.

Light pollution, the excessive or inappropriate use of outdoor artificial light, is affecting human health, wildlife behavior, and our ability to observe stars and other celestial objects.

**That Earthly Sky Glow**

Light pollution is a global issue. This became glaringly obvious when the World Atlas of Night Sky Brightness, a computer-generated map based on thousands of satellite photos, was published in 2016. Available online for viewing, the atlas shows how and where our globe is lit up at night. Vast areas of North America, Europe, the Middle East, and Asia are glowing with



light, while only the most remote regions on Earth (Siberia, the Sahara, and the Amazon) are in total darkness. Some of the most light-polluted countries in the world are Singapore, Qatar, and Kuwait.

Sky glow is the brightening of the night sky, mostly over urban areas, due to the electric lights of cars, streetlamps, offices, factories, outdoor advertising, and buildings, turning night into day for people who work and play long after sunset.

People living in cities with high levels of sky glow have a hard time seeing more than a handful of stars at night. Astronomers are particularly concerned with sky glow pollution as it reduces their ability to view celestial objects.

More than 80 percent of the world's population, and 99 percent of Americans and Europeans, live under sky glow. It sounds pretty, but sky glow caused by anthropogenic activities is one of the most pervasive forms of light pollution.

## Is it Time to Get Up?

Artificial light can wreak havoc on natural body rhythms in both humans and animals. Nocturnal light interrupts sleep and confuses the circadian rhythm—the internal, twenty-four-hour clock that guides day and night activities and affects physiological processes in nearly all living organisms. One of these processes is the production of the hormone melatonin, which is released when it is dark and is inhibited when there is light present. An increased amount of light at night lowers melatonin production, which results in sleep deprivation, fatigue, headaches, stress, anxiety, and other health problems. Recent studies also show a connection between reduced

melatonin levels and cancer. In fact, new scientific discoveries about the health effects of artificial light have convinced the American Medical Association (AMA) to support efforts to control light pollution and conduct research on the potential risks of exposure to light at night. Blue light, in particular, has been shown to reduce levels of melatonin in humans. Blue light is found in cell phones and other computer devices, as well as in light-emitting diodes (LEDs), the kinds of bulbs that have become popular at home and in industrial and city lighting due to their low cost and energy efficiency.

### **Animals are Lost and Confused, Too**

Studies show that light pollution is also impacting animal behaviors, such as migration patterns, wake-sleep habits, and habitat formation. Because of light pollution, sea turtles and birds guided by moonlight during migration get confused, lose their way, and often die. Large numbers of insects, a primary food source for birds and other animals, are drawn to artificial lights and are instantly killed upon contact with light sources. Birds are also affected by this, and many cities have adopted a “Lights Out” program to turn off building lights during bird migration.

A study of blackbirds (*Turdus merula*) in Germany found that traffic noise and artificial night lighting causes birds in the city to become active earlier than birds in natural areas—waking and singing as much as five hours sooner than their country cousins. Even animals living under the sea may be affected by underwater artificial lighting. One study looked at how marine animals responded to brightly lit panels submerged under water off the coast of Wales. Fewer filter feeding animals, such as the sea squirt and sea



bristle, made their homes near the lighted panels. This could mean that the light from oil rigs, passing ships, and harbors is altering marine ecosystems.

Even in places meant to provide protected natural habitats for wildlife, light pollution is making an impact. The National Park Service (NPS) has made maintaining a dark night sky a priority. The NPS Night Skies Team has been monitoring night sky brightness in some one hundred parks, and nearly every park showed at least some light pollution.

### **You Shouldn't Need Sunglasses at Night**

There are three other kinds of light pollution: glare, clutter, and light trespass. Glare is excessive brightness that can cause visual discomfort (for example, when driving). Clutter is bright, confusing, and excessive groupings of light sources (for example, Times Square in New York City, New York). Light trespass is when light extends into an area where it is not wanted or needed (like a streetlight illuminating a nearby bedroom window). Most outdoor lighting is poorly positioned, sending wasted electricity up into the sky.

### **Bring Back the Dark Sky**

There are several organizations working to reduce light pollution. One of these is the U.S.-based International Dark Sky Association (IDA), formed in 1988 to preserve the natural night sky. IDA educates the public and certifies parks and other places that have worked to reduce their light emissions. In 2017, the IDA approved the first U.S. dark sky reserve. The massive Central Idaho Dark Sky Reserve, which clocks in at 3,667 square kilometers (1,416 square miles), joined eleven other dark sky reserves established around the

world. As of December of 2018, IDA lists thirteen dark sky reserves on their site.

## Stop Wasting Energy: Things We Can All Do

More people are taking action to reduce light pollution and bring back the natural night sky. Many states have adopted legislation to control outdoor lighting, and manufacturers have designed and produced high-efficiency light sources that save energy and reduce light pollution.

Individuals are urged to use outdoor lighting only when and where it is needed, to make sure outdoor lights are properly shielded and directing light down instead of up into the sky, and to close window blinds, shades, and curtains at night to keep light inside.

## Instructional Links

Light Pollution - Artificial Sky Brightness

**Credits**



**User Permissions**



## RELATED RESOURCES





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Gorman Exhibit 9



**Kiska, Dustin E.**

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**From:** Denise Foor <denise.foor@hotmail.com>  
**Sent:** Monday, May 13, 2024 4:29 PM  
**To:** Kiska, Dustin E.  
**Subject:** Ladera GC - Driving Range Lighting

[EXTERNAL] Forward to [phishing@cabq.gov](mailto:phishing@cabq.gov) and delete if an email causes any concern.

Members of the Commission,

I would like to recommend the addition of lighting at the Ladera Golf Course Driving Range.

Denise Foor  
Member Golf Advisory Board