Stargazing

written by admin | April 2, 2021
[Upper Peninsula Dark Sky Festival, April 11-13, 2024]



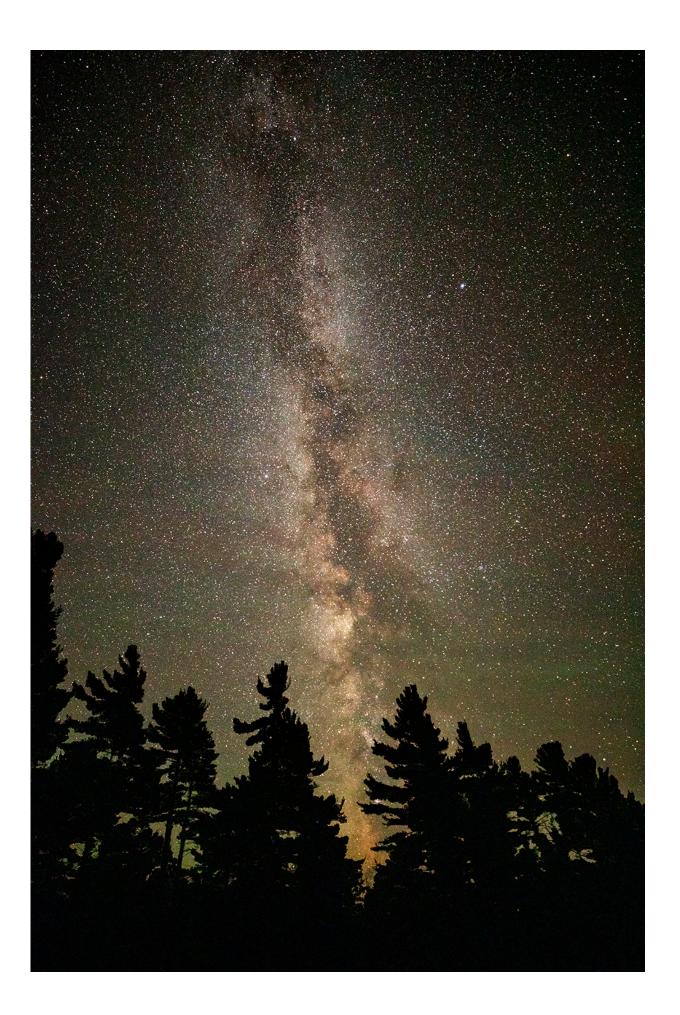
Keweenaw Dark Sky Park

[an International Dark Sky Park, read the application]

Property is accessible at night to the general public for stargazing.

For best viewing locations see the map below or talk with a team member at the OAC.

The Keweenaw is fortunate to have dark skies, where one can look up and easily see a multitude of bright stars in the sky. There is very little artificial light around the Keweenaw. This is especially the case at the tip of the Keweenaw, where the Keweenaw Mountain Lodge is located.



The Milky Way looms over Hole 4 of the golf course. This image was taken on August 13, 2023 at 2:00am by OAC team member Chris Guibert.

There are many nights which provide prime opportunities for stargazing, where you can look see the following at or around the resort:

- Constellations [download the current month's evening sky map from skymaps.com]
- Meteor Showers
- Northern Lights
- Moonlit Snowshoe Hikes

The Lodge's Stargazing Event Calendar

Upcoming Stargazing Events

•Lights Out!

May 4 - May 10

 Stargazing: Northern Lights Photography Workshop

May 10 @ 9:00 pm - 11:30 pm EDT

Lights Out!

June 3 - June 9

- Stargazing: Night Sky Photography Workshop June 8 @ 9:00 pm - 11:30 pm EDT
- Lights Out!

July 1 - July 7

Past Stargazing Events

- 2024 Upper Peninsula Dark Sky Festival
 April 11 April 13
- Lights Out!

April 9 - April 15

Eclipse Viewing Party

April 8 @ 2:00 pm - 4:30 pm EDT

International Dark Sky Week

April 2 @ 12:00 am - April 8 @ 12:00 am EDT

 Stargazing: Northern Lights Photography Workshop

March 9 @ 7:30 pm - 10:30 pm EST

<u>View Calendar</u>

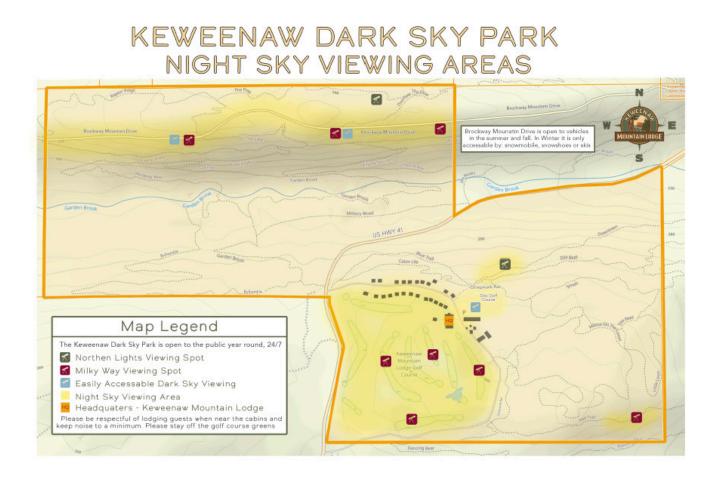
Telescope Lending Program



KML lodging guests are welcome to borrow a telescope from the Outdoors Activity Center (OAC). Using a telescope to view stars enhances the experience of, as one can get closer to what you are seeing above you at night. [Learn more about the Telescope
Lending Program]

Night Sky Viewing Locations and Map

Below are maps of desired areas where you can venture around the property and at the top of the Keweenaw — with the Lodge complex (main building and Outdoor Activity Center) being the stargazing headquarters.



[Click on the above image to download PDF version of the map]

MOON PHASES AND LUNAR CALENDAR MAY 2024

SUN	MON	TUE	WED	тни	FRI	SAT
			1	2	3	4
				6	\bigcirc	$\langle \rangle$
			Last Quarter 7:27 A.M. 23 days	Waning crescent 36.7% 24 days	Waning crescent 26.0% 25 days	Waning crescent 16.3% 26 days
5	6	7	8	9	10	11
Waning crescent 8.5% 27 days	Waning crescent 3.0% 28 days	New Moon 11:24 P.M. O days	Waxing crescent 0.4% 1 day	Waxing crescent 3.2% 2 days	Waxing crescent 8.3% 3 days	Waxing crescent 15.2% 4 days
12	13	14	15	16	17	18
				B		
Waxing crescent 23.4% 5 days	Waxing crescent 32.4% 6 days	Waxing crescent 42.0% 7 days	First Quarter 7:49 A.M. 8 days	Waxing gibbous 61.0% 9 days	Waxing gibbous 70.0% 10 days	Waxing gibbous 78.3% 11 days
19	20	21	22	23	24	25
		3	3	1	2	3
Waxing gibbous 85.6%	Waxing gibbous 91.7%	Waxing gibbous 96.3%	Waxing gibbous 99.1%	Full Flower Moon 9:55 A.M.	Waning gibbous 98.7%	Waning gibbous 95.2%
12 days	13 days	14 days	15 days	16 days	17 days	18 days
26	27	28	29	30	31	
			3	6		
Waning gibbous 89.5% 19 days	Waning gibbous 81.8% 20 days	Waning gibbous 72.5% 21 days	Waning globous 62.0% 22 days	Last Quarter 1:13 P.M. 23 days	Waning crescent 39.3% 24 days	



To learn more about stargazing at the Lodge: keweenawmountainlodge.com

[Click on the above image to download a PDF version of the map

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You can walk around the golf course at night (as long as you stay off the greens and tees) and look up at the stars.

Flashlights: It is useful to take a flashlight with you when you are walking around the property so you watch where you are stepping. To be considerate of others, a red flashlight is preferred. If you do not have one, inquire at the OAC about borrowing one. If using a



flashlight that uses standard colored bulb, be respective of others while viewing the night sky by making sure to shine it downwards and turn it off when not needed.

Northern Lights at the Lodge

The top of the Keweenaw is well known for being able to see the aurora borealis, also called Northern Lights. Looking from the shores of Lake Superior and from atop Brockway Mountain, you have a good opportunity to look north and see "the result of disturbances in the magnetosphere caused by solar wind".



The best times to view the Northern Lights is between October and April, but do remember, there isn't a light switch which turns on the lights. One is at the whim of nature on when they are viewable.

[Learn more about viewing the Northern Lights at the Lodge]



Copper Harbor Ice, Hunters Point and Porters Island – April 10, 2022 2:15 am – Camera settings: 15 seconds F3.5 ISO 1000

[We are also working on a <u>"Northern Lights" camera setup</u> that will allow you to view the stars and the Northern Lights from our web site, like our webcams fo the Lodge and Hole 1 / Brockway Mountain. <u>Learn More</u>]

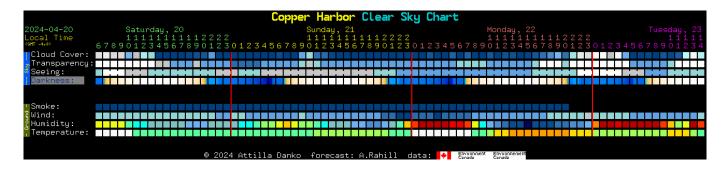
Surrounding Areas

At the top of the Keweenaw, there are not very many areas that are developed. This offers stargazers multiple locations to look up and see the stars. This includes places along the Lake Superior lake front (on M-26 and US Hwy 41), in multiple county and state parks, and up Brockway Mountain; all of which are just a short jaunt away from the Lodge. Below is a map of several vantage points in surrounding areas.



Clear Sky Chart for Copper Harbor, Michigan

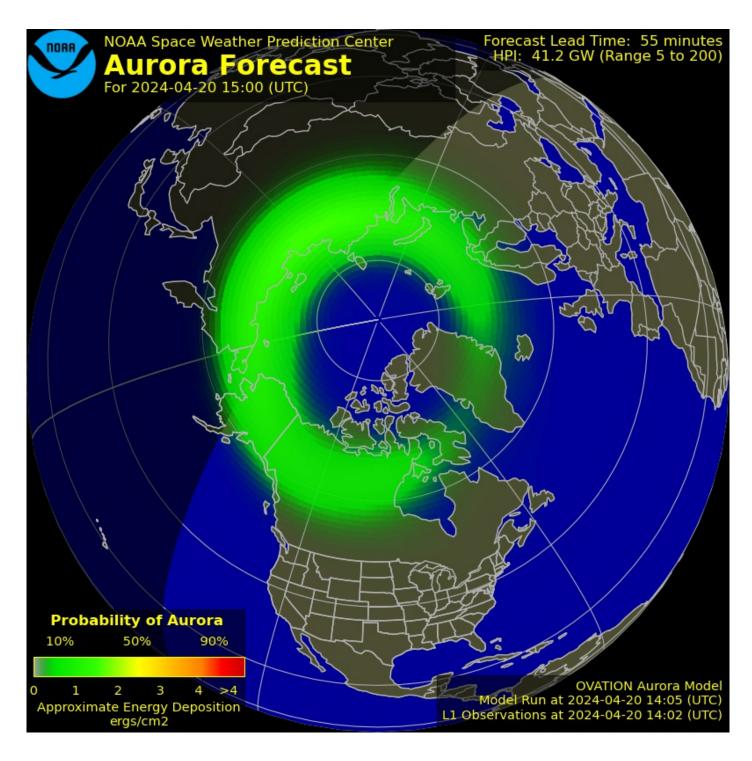
This chart shows how clear the skies are predicted to be over the next several days.



To see what the constellations look like currently over Copper Harbor, via the Heaven's Above site:

• <u>Heaven's Above: Copper Harbor: Constellations</u>

Aurora Forecast, from NOAA



The image above is from <u>NOAA's Space Weather Prediction Center</u>, and is updated automatically from NOAA's web site.

New Moon

The stages of the moon offers <u>different viewing experiences of</u> <u>the stars</u>. A new moon is when the sun and the moon are aligned,

and the moon is invisible from earth. Thus, the sky is darker during a new moon, and the stars are brighter.

Below is the current year (2024) New Moon Calendar.

July 5
August 4
September 2
October 2
November 1
December 1

2024 Full and New Moon Calendar





Moon Calendar for April 2024

MOON PHASES AND LUNAR CALENDAR April2024

SUN	MON	TUE	WED	THU	FRI	SAT
		2	3 ())	4	5	6
	Last Quarter 11:15 P.M. 22 days	Waning crescent 44.2% 23 days	Waning crescent 33.3% 24 days	Waning crescent 22.9% 25 days	Waning crescent 13.8% 25 days	Waning crescent 6.6% 27 days
7	8	9	10	11	12	13
Waning crescent 1.8% 28 days	New Moon 2:23 P.M. 0 days	Waxing crescent 1.2% 1 day	Waxing crescent 5.2% 2 days	Waxing crescent 11.5% 3 days	Waxing crescent 19.6% 4 days	Waxing crescent 28.8% 5 days
14	15	16	17	18	19	20
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Waxing crescent 38.6% 6-days	First Quarter 3:14 P.M. 7 days	Waxing gibbous 58.4% 8 days	Waxing gibbous 67.6% 9 days	Waxing gibbous 76.2% 10 days	Waxing gibbous 83.7% 11 days	Waxing gibbous 90.1% 12 days
21	22	23	24	25	26	27
S			**			
Waxing gibbous 95.0% 13 days	Waxing gibbous 98.4% 14 days	Euli Pink Moon 7:51 P.M. 15 days	Waning gibbous 99.6% 16 days	Waning gibbous 97.2% 17 days	Waning gibbous 92.9% 18 days	Waning gibbous 86.8% 19 days
28	29	30				
Waning gibbous 78.9% 20 days	Waning gibbous 69.5% 21 days	Waning globous 59.1% 22 days				



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Moon Calendar for May 2024

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Night Sky Photography

Photo shooting the night sky and the northern lights can be a technically difficult shot to take. So when you are able to capture the beauty of the dark sky, it becomes an accomplishment. We have several team members on staff that have this skill, which lead several night-sky photo workshops throughout the year. View our <u>calendar of events</u> to find an upcoming workshop.



Night Sky Photo Workshop instructor Tom Oliver photos the Milky Way

Stargazing Apps



Night Sky App [<u>iPhone</u>]



Skyview Lite App [<u>Android</u> | <u>iPhone</u>]



Stellarium [Android | iPhone]



Aurora [<u>Android</u> | <u>iPhone</u>]

Stargazing in Michigan

Here are articles about locations in the state of Michigan which offer vantage points to see the stars, along with various tips to see the dark skies:

- <u>10 Tips For Enjoying Michigan's Dark Skies</u> (Pure Michigan)
- <u>The Most Stellar Places for Stargazing in Michigan</u> (Pure Michigan)
- <u>Magical Destinations to Chase the Northern Lights in Pure</u> <u>Michigan</u> (Pure Michigan)
- Inside Secrets for Viewing the Northern Lights in Michigan (Pure Michigan)
- <u>5 Best Places to See the Northern Lights in Michigan</u> (MTNScoop)
- <u>Stargazing in the Midwest doesn't get any better than in</u> <u>Michigan's Upper Peninsula</u> (Chicago Tribune)

 <u>5 Expert Tips for the Most Spectacular Summer Stargazing</u> (Thrillist)

Supporting the Dark Skies

Stargazing is made possible in the Keweenaw by having dark skies, and we continue to foster dark skies with our activities (e.g. educational workshops, <u>lighting management</u>) and being a part of the <u>International Dark-Sky Association</u>.

Each year, in April, the world celebrates <u>International Dark Sky</u> <u>Week</u> in April. This year, it was April 15-22, 2023. The State of Michigan also issued a proclamation this year stating it was International Dark Sky Week in the state. [<u>Read the 2023 State</u> of <u>Michigan Proclamation</u>] <u>Read the 2022 State of Michigan</u> <u>Proclamation</u>]

The benefits of dark skies are:

- Improve one's circadian clock (or rhythm) sleep patterns, hormone release, eating habits and digestion, and body temperature; for good health, we need sunshine as well as darkness [i.e. better circadian clock means a better sleep, which contributes to better overall health]
- Improving ecological integrity many plants, wildlife, and insects rely on darkness to forage, breed and navigate, thus dark skies help them survive. [e.g. many birds migrate at night, and the top of the Keweenaw is one of their byways]
- Ensuring the full enjoyment of a wilderness experience

To learn more about our Lighting Management Plan, see:

Lighting Management Plan

Visit Keweenaw's Video about the Keweenaw Dark Sky Park