

International Dark Sky Park Designation Application

written by John Mueller | April 1, 2021

Current Status of Application:

Full Endorsement of Keweenaw Dark Sky Park Certification by the
IDA, June 6, 2022

[[IDA's Page for the Keweenaw Dark Sky Park](#)]

With the remoteness of the Keweenaw, and specifically the top of the Keweenaw, along with the wilderness feel of the Keweenaw Mountain Lodge (KML) setup, it makes KML an ideal spot to enjoy the night sky and stargaze.

With that in mind, we continue to work on our lighting situation and minimize our light footprint while still providing guests with a safe and warm experience. This goes hand-in-hand with the [Stargazing](#) ([outdoor activities](#)) we are building at the Lodge. The events / activities we have and will have in the future provide patrons to the resort the ability to view and learn more about the stars, and take in the clear starry skies, meteor storms, and even the Northern Lights ([see our All-Sky Webcam and Northern Lights Webcam project](#)).

As part of our dark sky activities, we are applying to be a [designated International Dark Sky Park](#). This designation is administered by the [International Dark Sky](#)



[Association](#), which works *"to protect the night skies for present and future generations"*. There are around 100 certified dark sky parks around the world. We feel that the tip of the Keweenaw can be the next one, with the hub being at the resort.

Name: Keweenaw Dark Sky Park

Mission: To provide a “headquarters” at the top of the Keweenaw which fosters the ability of individuals to see the stars and educate the public about the benefits of dark skies in the Northwoods of Michigan.

Current Version

- [KML International Dark Sky Park Application \(v 4.1\)](#)

Keweenaw Mountain Lodge

Copper Harbor, MI



Application for Dark Sky Park Designation

Keweenaw Dark Sky Park

Application progress / schedule:

- **June 21, 2022:** Official announcement – joint press release by the International Dark-sky Association and the Keweenaw Mountain Lodge – [Keweenaw Dark Sky Park Designated as an International Dark Sky Park](#).
- **June 6, 2022:** Application accepted. [Full Endorsement of Keweenaw Dark Sky Park Certification by the IDA](#).
- **May 20, 2022:** Submitted [version 4.1 of application](#) to our IDA program manager Ashley Wilson, with “[ver 4.1 change log](#)”
- **May 19, 2022:** Received [response from Ashley Wilson](#) regarding version 4.0 application
- **April 22, 2022:** Submitted [version 4.0 of application](#) to our IDA program manager Ashley Wilson, with “[ver 4.0 change log](#)”
- **March 23, 2022:** Meeting with Ashley Wilson and Amber Harrison to discuss the ownership structure, and discuss the Lodge deed restriction that pertains to the guidelines set by the [Michigan State Historical Preservation Office](#) (SHP0) because the [Lodge is on the National Register of Historic Places](#). A clear direction to address the committee’s concerns was established for the required updates to the application
- **March 22, 2022:** Received [response from Ashley Wilson](#) regarding the ownership structure
- **February 15, 2022:** Received [feedback from Ashley Wilson](#) with initial responses from the [Dark Sky Places Committee’s](#) review of our application. There is one item that Ashley Wilson is still working to get clarity on before we start to work on the updates to the application (*guidelines for a for-profit company to manage a dark sky park*)

- **January 20, 2022:** The [Dark Sky Places Committee](#) reviewed our application, and Ashley Wilson is formulating their response
- **December 25, 2021:** Received confirmation that our application is complete and will be reviewed by the [Dark Sky Places Committee](#) at their January 20, 2022 meeting
- **December 15, 2021:** Submitted [version 3.0 of application](#) to our IDA program manager Ashley Wilson, with "[ver 3.0 change log](#)"
- **December 14, 2021:** Online Meeting with IDA program manager, Ashley Wilson, to review the latest draft of version 3.0 and answer additional questions about the updates.
- **November 29, 2021:** Online Meeting with IDA program manager, Ashley Wilson, to go through her review and discuss updates for version 3.0.
- **November 8, 2021:** Received [feedback on version 2.1 of our application](#) from our IDA program manager, Ashley Wilson
- **October 9, 2021:** Submitted [version 2.1 of application](#) to our IDA program manager Ashley Wilson, with "[ver 2.1 change log](#)"
- **October 1, 2021:** Submitted [version 2.0 of application](#) to our IDA program manager Ashley Wilson (*our program manager changed, as John Barentine has left the IDA as of August*)
- **May 29, 2021:** Received [feedback on version 1.0 of our application](#) from our IDA program manager, John Barentine
- **April 22, 2021:** Submitted [version 1.0 of application](#) on [Earth Day](#) to our IDA program manager, John Barentine



Taken on the KML golf course, Hole 9, April 4, 2021, at 1am, by KML staff member, Nick Niffin

Letters of Support

The following organizations and individuals have shown their support for our Dark Sky Park application. We appreciate their support during the application process, and we look forward to fostering the appreciation of seeing the stars in the wilderness going forward together. [Listed in the order by date]

- [Keweenaw Convention & Visitors Bureau](#), Brad Barnett [[ltr](#)]
- [Keweenaw Economic Development Alliance](#), Jeff Ratcliffe [[ltr](#)]

- [Keweenaw Adventure Company](#), Sam Raymond [[ltr](#)]
- [Copper Harbor Trails Club](#), Nathan Miller [[ltr](#)]
- [Mariner North](#), Don and Peg Kauppi [[ltr](#)]
- [Fort Wilkins State Park](#), Bob Wild [[ltr](#)]
- [Grant Township](#), Scott Wendt [[ltr](#)]
- [Michigan Nature Association](#), Julie Stoneman [[ltr](#)]
- [Keweenaw Community Forest Company \(dba, KORC\)](#), Gina Nicholas [[ltr](#)]
- [Keweenaw Traveler](#), Charles Eshbach [[ltr](#)]
- [Keweenaw County](#), Don Piche [[ltr](#)]
- [Kall Morris Inc](#), Troy Morris [[ltr](#)]
- [Pure Michigan](#), Dave Lorenz [[ltr](#)]
- [Mt. Bohemia](#), Lonie Glieberman [[ltr](#)]
- [Eagle Harbor Township](#), Rich Probst [[ltr](#)]
- [Roger B. Chaffee Planetarium](#), David L. DeBruyn [[ltr](#)]

If you would like to show your support for the Keweenaw Dark Sky Park application, or get involved in future activities associated with stargazing, you can email [John Mueller](#).

Sky Quality Measurements



As part of our IDA application, we regularly take sky quality measurements. We use a [Unihedron SQM light meter](#) to take these measurements.

As of November 4, 2021, we have taken 368 readings in 2021 (February – November 2021), with an average reading of **21.50** using all the data points, and **21.60** when removing the outliers.

Below is a link to the spreadsheet where we store the data for

our sky quality measurements (*updated as new readings are taken, containing more than 500 readings*).

- [KML – Sky Quality Measurements Spreadsheet](#)

Part of determining the sky quality is to understand if there are any light dome effects in the vicinity. This requires taking horizon photos. Below is a horizon image which was taken from hole 4 on the property on December 12, 2021 between 2:25am and 4:05am ET (*taken by KML team member, [Tom Oliver](#)*). This image is a spherical panorama merge of 24 photos.



Click on the image to view and download a [high quality version of this image](#) (~86mb).

On the night these photos were taken the temperature was 28°F, with a relative humidity of 81%. Winds were SSW 15 knots, gusting to 30 knots. Moonset was at 01:40 EST moonrise was 14:09 EST. Astronomical twilight began at 6:38 and ended at 18:52. The camera used to take the images was a Canon 7D Mark II, with Canon EFS 17-55mm lens [@17mm (w/ sensor 1.6x crop factor = 27.2mm)]. The camera details and settings are as follows:

- Camera: Canon 7d Mark ii
- Lens: Canon EFS 17-55mm [@17mm (w/ sensor 1.6x crop factor = 27.2mm)]
- Aperture: f2.8
- ISO: 3200
- Shutter: 15 sec

- White Balance: Daylight (5500K)
- Color Profile: sRGB
- Post-processing: Lightroom Classic:
 - Lens Correction to remove vignetting
 - Spherical Panorama Merge of 24 images

If you would like to know how dark your skies are, goto globeatnight.org to find out how dark your skies are.

Lighting Guidelines

The International Dark-Sky Association has [specific guidelines for lighting](#) in order to foster dark skies. We follow those guidelines at the Lodge and as part of our goal of establishing the Keweenaw Dark Sky Park as an International Dark Sky Park.

- [Lighting Management Plan](#)

Learn more about the light changes we have been working on: [Watch a recording of the Dark Sky Light Management Workshop with Mike Miller on Nov 3rd, 2021.](#)

As well, you can read the resolution that the Lodge put in place on December 6, 2021 confirming the organization's commitment to fostering the dark skies at the top of the Keweenaw:

- [KML – Dark Sky Park Resolution](#) *(December 6, 2021)*

Corporate Resolution

We have drafted a corporate resolution supporting the Dark Sky Park. This has further solidified the dark sky initiatives that the Keweenaw Mountain Lodge's dark sky initiatives and intent for fostering stargazing activities at the top of the Keweenaw. The resolution is officially recorded with the company's official documents, being a signed corporate resolution by its sole member – approved and adopted on December 6th, 2021.

- [KML – Resolution No 2021-001 – Dark Sky Park 20211206](#)

Media Coverage

Below are articles that media outlets in Michigan have published related to this application for the dark sky park designation and the dark sky park in general.

- [5 spots in the U.P. for seeing the Northern Lights in 2024](#) (MLive | Emily Bingham, December 29, 2023)
- [Glow and Behold: 7 Stellar Spots to Witness the Northern Lights](#) (Observer | Paul Jebara, December 15, 2023)
- [Keweenaw Mountain Lodge to receive state grant for Dark Sky Park lighting improvements](#) (TV6 / WLUC | Colin Jackson, December 6, 2023)
- [4 Places to See the Northern Lights in the U.S.](#) (AARP | Gigi Ragland, December 5, 2023)
- [Grants for Three Mobility Pilot Programs to Advance the Health and Wellness of Michiganders](#) (MEDC, November 14, 2023)
- [Lake Superior Podcast S4 E7: John Mueller, Owner of the Keweenaw Mountain Lodge](#) (Lake Superior Podcast | Walt Lindala and Frida Waara, October 6, 2023)
- [‘Dark sky parks’ making Michigan a stargazing destination](#) (Iron Mountain Daily News | Kelsey Lester, September 18, 2023)
- [13 Luxury Outdoor Hotels With Otherworldly Stargazing Experiences](#) (Matador Network | Katie Scott Aiton, September 11, 2023)
- [Finding Michigan’s wild side: a journey through the Upper Peninsula – National Geographic](#) (National Geographic | Michael George, August 3, 2023)
- [Where To See The Perseid Meteor Shower At Its Best: Eight Dark Places To Book Now](#) (Forbes | Jamie Carter, July 16, 2023)

- [Starry, starry nights: Keweenaw Dark Sky Park fully endorsed](#) (Daily Mining Gazette | Madeleine Smith, June 10, 2023)
- [Learn to photograph stars, Northern Lights at U.P. dark sky park workshops](#) (MLive | Emily Bingham, May 20, 2023)
- [U.P. festival celebrates International Dark Sky Week](#) (WoodTV-8 (Grand Rapids), April 20, 2023)
- [A Celestial Celebration: Michigan's UP Dark Sky Festival](#) (DRIFT, April 20, 2023)
- [Lights out: Dark sky enthusiasts gather for first UP festival](#) (Spartan News | Morgan Womack, April 14, 2023)
- [Keweenaw Mountain Lodge hosting Upper Peninsula Dark Sky Festival in April](#) (TV6 | Tia Trudgeon, March 31, 2023)
- [First-ever Upper Peninsula Dark Sky Festival coming to Copper Harbor in April](#) (MLive | Emily Bingham, March 14, 2023)
- [For a Stellar Experience, Look UP](#) (Lakeland Boat Magazine | Kath Usitalo, February 1, 2023)
- [Where to find dark sky parks in Michigan in 2023](#) (MLive | Emily Bingham, January 18, 2023)
- [The best hotels in the US for stargazing](#) (Timeout | Erika Mailman, December 8, 2022)
- [Northern Michigan resort promotes dark skies](#) (Great Lakes Echo | Mackenzie DeRaad, November 18, 2022)
- [Stargaze at the only International Dark Sky Park in the Upper Peninsula](#) | Upper Peninsula Travel and Recreation Association, November 9, 2022)
- [Starstruck Year-Round](#) (Michigan Blue Magazine | Ellen Creager, October 6, 2022)
- [Our Community Tour Copper Harbor: Keweenaw Dark Sky Park](#) (WJMN Local 3 | Brianna MacLean, September 14, 2022)
- [The Sky's the Limit for Keweenaw Mountain Lodge](#) (Second Wave Media | Dianna Stampfler, September 29, 2022)
- [Our Community Tour Copper Harbor: Keweenaw Dark Sky Park](#)

(WJMN Local 3 | Brianna MacLean, September 14, 2022)

- [Feature: Keweenaw Dark Sky Park](#) (Marquette Monthly | Joyce Wiswell, September 1, 2022)
- [How a remote U.P. lodge became an official dark sky park](#) (Detroit Free Press | Neal Rubin, July 3, 2022)
- [9 Fantastic Dark Sky Parks In Michigan Perfect For Stargazing](#) (Travel Awaits / Amy Piper, August 26, 2022)
- [Watching the night sky: A guide of where to look and what you can see](#) (Cheboygan Daily Tribune | Kortny Hahn, July 22, 2022)
- [How a remote U.P. lodge became an official dark sky park](#) (Detroit Free Press | Neal Rubin, July 3, 2022)
- [Looking for more stars? Here are the five international dark sky places closest to Wisconsin](#) (Milwaukee Journal Sentinel / Madeline Heim, June 28, 2022)
- [Michigan's Upper Peninsula is home to world's newest dark sky park: What to know](#) (Detroit Free Press | Layla McMurtrie, June 21, 2022)
- [This U.P. area has been named 3rd 'dark sky park' in Michigan](#) (Detroit News, June 21, 2022)
- [Historic Keweenaw lodge named Michigan's newest International Dark Sky Park](#) (MLive | Emily Bingham, June 21, 2022)
- [Keweenaw Dark Sky Park Designated as an International Dark Sky Park](#) (Keweenaw Mountain Lodge – Joint Press Release with the International Dark-Sky Association, June 21, 2022)
- [8 cool spots to find dark sky parks in Michigan](#) (MLive | Emily Bingham, May 3, 2022)
- [Keweenaw Mountain Lodge applies to become International Dark Sky Park](#) (WJMN Local 3 / Brianna MacLean, November 22, 2021)
- [November is prime time for stars, Northern Lights in Michigan's Keweenaw; where to watch](#) (MLive, November 17,

2021)

- [Keweenaw Mountain Lodge Applied to IDA in April, Hopes for Certification](#) Soon (*Keweenaw Report*, November 17, 2021)
- [Historic U.P. resort applying to be 3rd International Dark Sky Park in Michigan](#) (*Detroit Free Press*, April 23, 2021)
- [Historic Keweenaw lodge applying to become Upper Peninsula's first international dark sky park](#) (*MLive*, April 21, 2021)
- [Keweenaw Mountain Lodge applies to be Dark Sky Park](#) (*TV6 / WLUC*, April 20, 2021)

Notes

- We have registered the domain, keweenawdarksky.com, to be used for the Keweenaw Dark Sky Park activities. As we develop this further, we plan to build out the dark sky park activities on that website / domain. At this time, the domain redirects to our Outdoor Activities -> [Stargazing page](#).
- Currently there are two other locations in the state of Michigan that are certified international dark sky parks: [Headlands International Dark Sky Park](#) and [Dr. T. K. Lawless International Dark Sky Park](#). In addition to our initiative to be a designated dark sky park, there are three (3) other areas in Michigan that are applying to be a dark sky park are: [Beaver Island](#), [Belle Isle Park](#), and [Lutz Park](#).
- And a list of Michigan State Parks that have a focus on dark skies and stargazing, and that are designed dark sky preserves, can be found here: . [note: [DNR Dark Sky Preserves](#). Note: There is currently legislation in the State of Michigan that doesn't allow state parks in the U.P. to be designated as an International Dark-Sky Park.]
- Keweenaw Convention and Visitors Bureau [Dark Sky Page](#)
- Pure Michigan's [Dark Sky Page](#)

Versions of the Application

- [KML International Dark Sky Park Application \(v 4.1\)](#)
- [KML International Dark Sky Park Application \(v 4.0\)](#)
- [KML International Dark Sky Park Application \(v 3.0\)](#)
- [KML International Dark Sky Park Application \(v 2.1\)](#)
- [KML International Dark Sky Park Application \(v 2.0\)](#)
- [KML International Dark Sky Park Application \(v 1.0\)](#)

Annual Reports

- 2023 Keweenaw Dark Sky Park Annual Report (*to be posted January 2024*)

Footnotes:

Changed name from “Keweenaw Dark Sky Wilderness” to “Keweenaw Dark Sky Park” per the request of the Dark Sky Places review committee (February 15, 2022)