



Headlands International Dark Sky Park 2016 Annual Report, prepared by Mary Stewart Adams
Site address: 15675 Headlands Road
Mackinaw City, MI 49701

Administrative offices:
c/o Emmet County
200 Division St
Petoskey, MI 49770

Contact: Mary Stewart Adams, Program Director

darksky@emmetcounty.org

231-348-1713 (o)

231-838-8181 (c)

www.midarkskypark.org

<https://www.facebook.com/headlandsdarkskypark/>

@headlandsstars Twitter

@headlandsstars instagram

General

Emmet County's Headlands property was designated as an International Dark Sky Park in May, 2011 at "high silver" tier. Our goal is to achieve gold tier status and at present we are dealing with local issues regarding Enbridge Line 5 pipeline under the Straits of Mackinac directly to the north. There is a great deal of contention around the pipeline, which has led to updates and improvements being made, as well as increased "security lighting" which is now creating a light dome in an area of the sky where heretofore there had been none. We have submitted photographs of the lights and offered alternatives to the site managers.

Site visits to Headlands in 2015 estimated at 40,000

Site visits summer 2016 estimated at 20,000

Program participation remains high at Headlands. We host programs year 'round and never cancel for weather. Since August of 2015 we have been under construction on a Waterfront Event Center and Observatory in what is our main viewing area, which meant limited access to parking and proximity to viewing area. Nonetheless, thousands of visitors came to the park and enjoyed the one-mile walk through the woods to the ¼ mile stretch of Lake Michigan shoreline where we hosted programs and viewing all year-long (photos attached).



Clockwise from top left ~ construction site February 2016; drone's-eye view, September 2016; looking west toward Headlands Waterfront Event Center and Observatory where green roof is being prepped, September 2016

Lighting

The lighting on the new facility will be in total compliance with our IDA designation, especially as this facility is being built several years after our very successful designation. There have been no other lights installed at Headlands, but what challenges us is educating the public about not using white light in the viewing area. Our parking staff spends most of the evening explaining why there is no white light allowed in the park and distributing red cellophane. We are excited to have stirred the imagination and enthusiasm of thousands of visitors, but are also tasked with now educating

the same on how to sustain the dark while experiencing it in contemporary culture. We do not staff the viewing area every night, and because the park is continuously open allowing for public access 24/7, we use every possible point of contact to inform guests about how to use light in a dark sky protected area (signage, social media, website, etc).

Sky Quality

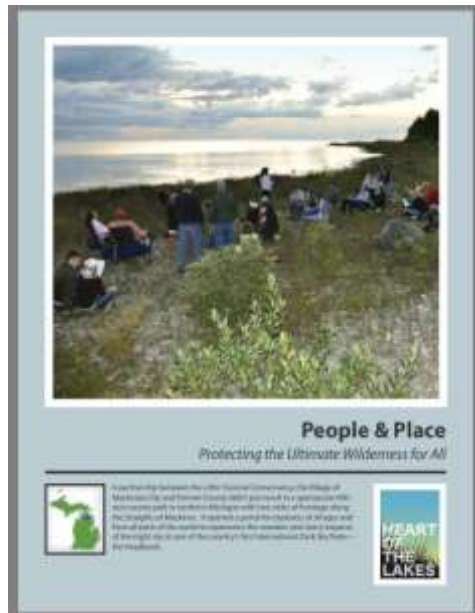
We intend to mount a permanent sky quality meter at our new facility when it opens Spring 2017. Each summer we host our very popular Lights Out across the Straits and Lights Out Across the Bay, to raise awareness about protecting natural darkness for its own sake, and then also for better views of the celestial phenomena. We time this event to the Perseid Meteor Shower and have the cooperation and partnership of the Mackinac Bridge Authority (the Mackinac Bridge being an iconic symbol of Michigan) as well as the Michigan Department of Transportation. Unfortunately the peak of the Perseids was rained out for us this year (2016), though the Sunday evening following the peak, skies cleared and we had over 300 visitors to the Headlands dark sky viewing area.



Conservation and Research

Each year in the Spring the Straits Area Audubon Society hosts an owl banding program into which we have incorporated a stargazing component (on-going as “Owl Banding and Stargazing” since Spring 2009). The goals of the Audubon have developed into the Mackinac Straits Area Raptor Watch that now hosts a raptor count and birding festival each Spring, and allows us to raise awareness about the role of natural darkness and habitat protection in bird migration, particularly for the owls, hawks, and eagles that migrate through our region. We are located in an essential spot with regard to bird migration because the birds seek the shortest landfall across the Straits of Mackinac on their migratory routes, which is in the Headlands area.





The Heart of the Lakes Conservation Association chose dark skies as their theme for their annual general meeting and were given grant monies to do a case study of Headlands International Dark Sky Park ~ further raising awareness about the role of protecting natural darkness in land conservation efforts.

Funding

The building construction at Headlands is funded by bonds issued by Emmet County and is part of a long-held vision that the County has been developing since purchasing the property from the McCormick Family in the mid-1990s. The McCormick Family donated \$140,00 toward the telescope that will be housed in our new observatory and to our on-going program; the local Biardi Family Foundation has also donated \$40,00 toward telescope and programming; and several memorial donations have also been made to our efforts. Further, the prestigious Cranbrook Institute of Science in Bloomfield Hills, Michigan donated to us their used Ash Dome for our new facility, though it will now be used elsewhere on the site.



The Ash Dome at Headlands observatory will house a 20" PlaneWave telescope, and was installed late August 2016. We hosted a popular "live video" from our Facebook page during the installation.

This level of activity and the interest in sustaining and furthering the vision for Headlands in the long-term led to the establishment in 2014 of a non-profit friends group, the Dark Sky Coast Association, which hosted its first public event at Headlands, July 2016. The Dark Sky Coast Association, in an operating agreement with Emmet County, provides partial funding for the program director's contract and serves as a center point in the statewide dark sky movement, having drafted the legislation that was then passed by the state to protect what now amounts to

35,000 acres of state-owned land, though the standard by which the state acknowledges its dark skies does not abide by the rigors of IDA designation.

DARK SKY
COAST
ASSOCIATION

P.O. Box 493, Harbor Springs, MI 49740
www.darkskycoast.org



Clockwise from top left: Dark Sky Coast Association, a 501 (c) 3 friends organization, logo; the festival tent for the DSCA inaugural event "Fairy Tales in the Musical Moonlight"; flyer promoting the event, with image taken of Milky Way and meteors at Headlands in background

Arts and Culture

Headlands Program Director Mary Stewart Adams is a Star Lore Historian who takes a humanities-based approach to the night sky, so that all programming comes from a human-centric perspective, which is to say that whether it's the arts inspired by the cosmos, or the latest research and technology being used in astronomy, it is always approached in relation to what it brings to humanity and to the human being in their own process of self discovery. This is essential to the foundation of healthy community life, where we can affirm the central role of human beings in the things we create and discover, rather than placing us on the random outside edge of the sometimes mighty forces of evolution. At Headlands we recognize that throughout history, astronomy has been fundamental to community development, agricultural practice, civic organization, religious observance, inspiration in poetry, art, literature...

Outreach

Further, it used to be that community life was centered around the observance of celestial phenomena, with the consequence that the sites from which this observing took place would naturally be the place for celebrating life's most significant moments. In a certain respect, this continues to be true at Headlands, where many couples were engaged under the stars this year, ceremonies to lost loved ones took place at the shore, and many a marriage vow was taken and celebrated, so even though Headlands is tucked away in a remote corner of Emmet County, it has proven to be central to the activity and interest of thousands of visitors. The number of requests for information we receive for when is the best time to see the Milky Way, when will the aurora appear, and how to understand the phenomena in layman's terms further demonstrates the appreciation our community and audience has for Program Director Mary Stewart Adams' philosophy of a human-based, or human-centric astronomy.



Headlands Milky Way love photographed by Joe Garza in our shoreline viewing area, August 2016

Community and Media Relations

We are continually featured in local, statewide, and regional media, and have a very active presence on social media, with over 11,700 engaged followers on our Facebook page regularly reaching over 20,000 people per week, according to Facebook analytics. By far our most popular topic, and the one that profits by internet acceleration, is the northern lights. One photo of the Northern Lights over the Mackinac Bridge from Labor Day weekend, September 2016, was shared from our site more than 3000 times and reached over 300,000 views.



Clockwise from top left: Headlands is regularly featured in the Traverse City weekly newspaper Northern Express, and appeared on the cover of the Labor Day Week issue, 2016; Jason Gillman's photo of Northern Lights over the Mackinac Bridge (two miles west of Headlands) was shared over 3K times from Headlands Facebook page, reaching over 300,000 viewers; Jason shared that he was joined by some night sky enthusiasts headed home to their hotel from Headlands, and because the 7-year-old was fascinated with equipment he was teaching her how to use his remote, and he thinks she actually snapped this Bridge photo!

The Headlands website www.midarkskypark.org, hosted by Emmet County, typically generates the most visits to the Emmet County suite of microsites, holding the record at 33,000 unique visits per month in 2016.

Mary Stewart Adams' weekly radio program "The Storyteller's Night Sky" consistently ranks as one of the top searches for the host station Interlochen Public Radio, and, as was recently posted by one of our followers who was making inquiry about precession and "zodiacal shift" relative to the tropical v sidereal perspective: [Eric Grandstaff](#) To my friends: Mary Stewart Adams is one of the penultimate experts in this area. Not only is she the Director of the Emmet County Headlands International Dark Sky Park (with a brand new visitors and education center and telescope observatory opening Spring of 2017), but she is a regular contributor/commentator to Interlochen Public Radio. And, when events concerning the celestial heavens and astronomical phenomena make the headlines, you can often hear her being interviewed on Michigan Public Radio and other networks. Thanks, Mary!



Interlochen Public Radio

“Since being posted last Tuesday, Sept. 6 the Storyteller’s Night Sky aurora segment has seen 573 pageviews (518 unique pageviews - *so different people and not just the same person viewing the story multiple times*). Of that traffic 457 pageviews (414 unique pageviews) are attributed with coming from Facebook. Comparing this to other Storyteller’s Night Sky stories over the past year, this is the top visited story. Last month’s story about the best stargazing time also did quite well with 528 pageviews (497 unique pageviews). To help put the success of these segments into context, the third best only had 164 pageviews and only a handful of others have broken 100. “ ~

We’ll let the pictures and info that follows tell the rest of the story!



The State of Michigan spends nearly \$30M annually on its Pure Michigan tourism campaign, and this year began marketing in the UK. The following inquiry was forwarded to us by the Vice President of the Campaign in July 2016:

We have had a media request come in for information on stargazing and Dark Sky Parks, which I believe Headlands would be perfect for. Do you have any information on the park you could send me or a contact there I could get in touch with please?

We would just be looking for an over view of the reserve, if there are camping areas nearby that would also be very useful and any hi res images please, This is for Discover Touring, Circulation: 20,400 in addition the content will also be available on their app which has 18,000 downloads to date.

*Kind regards
Georgina Evans-Phillips
PR & Marketing Manager
Cellet Marketing & Public Relations
Bloxham Mill Business Centre
Office 45, Barford Road
Bloxham, Oxfordshire*



L-R: Headlands participated in the MSU inaugural Statewide Astronomy Night (SWAN) April, 2016; we partnered with the Aldo Leopold Society in Les Cheneaux islands for dedication of the North County Birding Trail, providing information on the role of protecting natural darkness in bird migrations; every other year we gather with organizations and agencies dedicated to the health of Lake Michigan, providing information about effective use of outdoor lighting on the Lake Michigan shoreline and in the 60 communities that dot its shores

ART * HISTORY * SCIENCE
BESSER MUSEUM
 FOR NORTHEAST MICHIGAN



Following the success of the Headlands designation as an international dark sky park, the state of Michigan passed legislation to protect state-owned park lands for their night sky value, which in 2016 was amended to bring the total to 35,000 acres of protected land. The "ribbon-cutting" was held at Besser Museum in Alpena (east side of the lower peninsula); key players in the process are pictures here, including the late Peter Petalia, state representative from Presque who sponsored the amendment (3rd from right)



Cultural and historical interpretation of the night sky is popular in our region, given the strong and on-going presence of indigenous tribes in the upper Lake Michigan area (Little Traverse Bay Bands of Odawa). Program Director Mary Stewart Adams is pictured here, July 2016, with tribal members on the shores of Lake Michigan with president of the King House Association in Good Hart, MI, the last remaining frame house that was first built for the tribal members in this area when their lifestyle was dramatically shifting from living off the land to settling in houses like the first Europeans to make contact in this region in the 1600s.



Mackinac Island, at the east end of the Straits of Mackinac (Headlands is five miles away at the west end of the Straits) was established as the second National Park in the US, after Yellowstone, but was then turned over to Michigan State Historic Parks within a few years. The island does not allow motorized vehicles and is Michigan's most popular tourist destination, with visitors arriving by ferry boat service throughout the season. Headlands partners with Shepler's Ferry Service to provide evening cruises with night sky narration, part the Island, under the Mackinac Bridge and west toward the shores of Headlands. In this photo by Jay Fisher, guests huddled under clouds just prior to the midnight meteor shower cruise planned for the Perseids, August 2016. The cruise, narrated by Headlands Program Director Mary Stewart Adams, sold out so quickly that Shepler's had to offer a second boat, non-narrated, which also sold out immediately.



In addition to being all about dark skies (!), Michigan is all about water. The Traverse City Tall Ship Company hosts its four-day astronomy cruise in September with Headlands Program Director Mary Stewart Adams, and for 2016 it was the only sold out cruise they offered all season. Here the 140' schooner Manitou is shown anchored in Cathead Bay, where blue skies gave way to brilliant views of the Milky Way, falling stars, and northern lights, September 2016



Fridays throughout the summer we host StarLight Trivia in our shoreline viewing area, to get folks acclimated to the environment, and to share the history of our efforts while also providing a fun and informative way to learn about what's overhead! (Crescent Moon photo by MariPopi)



The professional association of dive instructors hosted International Women Dive Day in July 2016, which inspired one team of women divers to dive wrecks in all five great lakes, including one off the shores of Headlands, where they are pictured underwater as crescent moon sets into the lake.



The BlissFest Music festival, now in its 37th season, hosts Headlands for storytelling of the stars both on the children's stage and the main stage each year



Examples of community outreach include, from the top, left to right: Students from Lake Superior State University who traveled from Sault St Marie, Michigan to spend welcome week under the starry skies of Headlands; Headlands programming highlights presented at the monthly meeting of Northern Michigan Astronomy Club Wildwood Observatory in Boyne, Michigan; programming special to the Chaffee Planetarium, Grand Rapids, Michigan (Mary Stewart Adams pictured with planetarium director Dave DeBruyn); Emmet County team at the Novi boat show promoting parks and dark skies; the Patterson Piano Duo from Bay View Music Association with soprano Elise Deschamp and Mary Stewart Adams~Casio instruments donated two hybrid pianos for the Pattersons to use during our event; Mike Francis as Galileo from his science theater, posing near our planetary discovery trail during his on-site visit March 2016



Milky Way bathers looking south along Headlands shoreline viewing area August 2016, photo by Mike Meyers; Milky Way over Headlands old growth forest photographed September 2016 by Joe Garza; Mercury Transit of the Sun by cell phone through our solar telescope during our Mercury Transit event May, 2016



Looking east toward the Headlands Waterfront Event Center and Observatory, along the shores of Lake Michigan where the Straits of Mackinac sweep past Cecil Bay