

HEADLANDS

International Dark Sky Park



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The Headlands is located on two and one half miles of Lake Michigan shoreline in Michigan's lower peninsula, and marks the head land where the great waters from Lake Michigan flow from the west through the Straits of Mackinac, to meet the great Lake Huron from the east. This drone's eye view shows the park from across Cecil Bay, looking northeast toward Headlands with the Straits of Mackinac beyond.

The Year 2017 at the Headlands International Dark Sky Park ~ An Overview

Though many will remember 2017 as the year of the Great American Total Solar Eclipse, here in northwest lower Michigan, it will be fondly remembered as the year we opened Waterfront Event Center and Observatory, just after we won the prestigious Governor's State Tourism Campaign Pure Michigan Award for innovative and exemplary best practices in natural, cultural and heritage stewardship in our daily operations.



Grand Opening of the Waterfront Event Center and Observatory at the Headlands International Dark Sky Park, June 2017. Photo by Steve Vorpapel. Over 300 community members joined us!



Left: Headlands Program Director Mary Stewart Adams poses with the Michigan Travel Commission's Pure Award during the Governor's Conference on Tourism, along the Detroit River. The award was hand-crafted for Headlands by artisan glass blowers at Greenfield Village in Dearborn Michigan and is meant to represent both the North Star and the Milky Way, by swirled silver leaf (see attached pdf); Center, Adams with Michigan Lt. Governor Brian Calley and the Pure Award; Right, the dark sky team at Headlands was joined on site by Brand USA tourism rep, following the Pure Award.

The Governor's Pure Michigan Campaign is funded at \$34M annually, to support tourism in the state, Michigan's third largest industry.

Construction of the Waterfront Event Center at Headlands was underway for two years, from 2015 to 2017, though the visioning began as soon as the property was purchased in the 1990s. That vision was stewarded by a leadership that understood the role of patience in planning, waiting to see what would emerge as the best use for this protected and unparalleled 600-acre swath of Lake Michigan woods and shore. When the International Dark Sky Association designated Headlands as an International Dark Sky Park in 2011, the vision regarding what to do and what to build became much more concrete, driven by the exponential growth in visitors to the park ~ and their interest in the stars above.

The construction of the Waterfront Event Center and Observatory was funded through a bond sale by Emmet County. The construction site manager was Spence Brothers of Traverse City, with AECOM as the engineering firm and John Kirsch as lead architect.¹

Cranbrook Institute of Science in Bloomfield Hills, MI donated an 18' Ash Dome to Emmet County for the project, and though this donation definitely influenced observatory design, Emmet County realized it was more cost effective to purchase a new dome than to refurbish the gift.

There are three telescopes housed in the Observatory, funded through donation by the McCormick Family Foundation, the Baiardi Family Foundation, and memorial/friends donations. They include the Roger McCormick 20" Planewave deep space imaging telescope, a Lunt Solar Telescope, and a 6" Takahashi. *Shown right, the Roger McCormick 20" Planewave deep space imaging telescope, with the Lunt Solar and the 6" Takahashi Telescopes mounted on either side.*



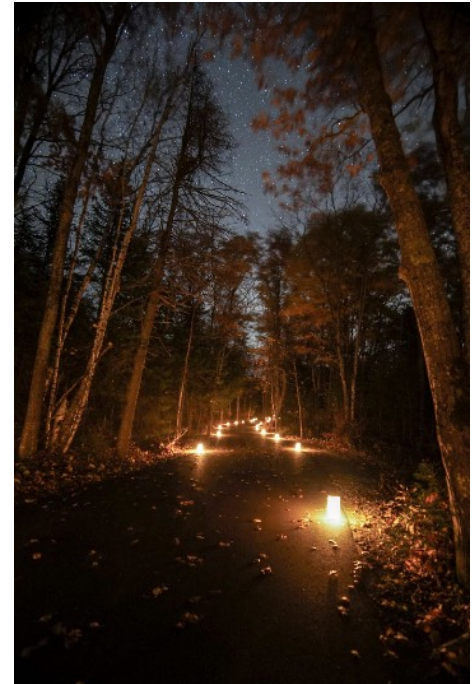
¹ Local reporting on the bond issue from 2014: https://www.petoskeynews.com/news/local/emmet-county-wants-to-use-bonds-for-million-headland-park/article_ef399a79-594d-54c5-b558-ca79350a576b.html

Solar Eclipse viewers at Headlands, August 21, 2017. In northern Michigan, the Sun appeared to be 75-80% eclipsed.



The Waterfront Event Center and Observatory occupy the same site on the property where Roger McCormick had built his pool house in the 1960s, and is complimented to the west by an amphitheater-style seating area that slopes down toward the presentation stage and shoreline, providing a dramatic backdrop and sweeping views of the world's fifth largest body of fresh water ~ and the sky above it.

Access to the site is along a narrow paved road that winds one mile from the Headlands entrance to the facility parking lot through dense forest to the main viewing areas. From here, winding walkways lead to the universally accessible 24-hour restrooms, outdoor seating, patio staging area and walkways to the east of the building. Visitors can also access the undeveloped Lake Michigan shoreline from this same parking area. *Pictured right, the Headlands drive by candlelight, photographed by Adam Smith of Syncedoché Design for our annual Headlands Challenge Walk, held every year in October. Below left, the view of the lake across the patio; and below right, purple cone flower adorns the green roof, chosen because of Headlands' location along important bird migratory routes, looking west toward the Ash Dome on the Observatory Tower. Photos by Mary Stewart Adams.*



Lighting

- With the opening of our new Waterfront Event Center and Observatory at the Headlands, we experienced a series of lighting challenges and successes, some deriving from miscommunication, and some from missed opportunities that turned into great teaching moments!

Our walkways are now lined with red-filter bollards (*shown here at eve of Harvest Moon, October 4, 2017, looking west*), and the outdoor patio lights are dimmable white LEDs. Indoors, every window, skylight and solar tube is fitted with an automatic shade or can be closed, so that no light can escape up and out of the building when it is in use at night. See the link below for the October 2017 Construction Association of Michigan Magazine for a fantastic Special Feature about Headlands design.²



- We are currently facing the need to develop another pathway to the shoreline viewing area for visitors that must use our overflow parking, once the main parking lot near the facility is full. At present, we are discussing the best ways to make the path easily accessible and whether we need to light it at night, as it will wind through some sloping terrain in the woods. No decision has yet been made.
- The grounds and viewing areas at Headlands are always open to the public. The Waterfront Event Center is open to the public during regularly scheduled programs only, and is available for private rental. Fixing the closing time for private rental is done with the dark sky designation in mind, though this has proven challenging for the facilities management staff, because sunset times shift throughout the seasons, and therefore, so should closing time.
- Public viewing in the Observatory that is independent of our program schedule is anticipated, but not yet in place due to the need for staff training.
- Parking remains an issue, both because of the number of visitors to the park, and the absence of planned landscaping to shield viewing areas from incoming headlights. This is being addressed, and signs throughout the park inform visitors about best “dark sky etiquette”.

² Industry magazine featuring Headlands: <http://viewer.zmags.com/publication/10196023#/10196023/1>

Communities:

- The Headlands team has been instrumental in stewarding natural darkness throughout Michigan, and was particularly involved in the State Legislation that protected 35,000 acres of state land in 2012 and 2016.³ In 2017, we continued to provide programming and community support, especially on the east side of the state at Negwegon State Park, and through the initiative of the Astronomy Department at the University of Michigan, to affect positive change in decision-making about outdoor lighting in Ann Arbor, MI. You can hear the Eastern Michigan University public radio “Green Room” report about our joint efforts with Ann Arbor at the link below.⁴

Sky Quality

- For 2018 we will have a sky quality meter permanently mounted at the Observatory

Funding

- The Headlands park is owned and operated by Emmet County through its Parks & Recreation Department. Staff includes an on-site facilities/grounds/park manager and crew; dark sky team, with Program Director’s independent contract funded by joint agreement between the County and its friends group, the Dark Sky Coast Association ; and additional Parks and Recreation staff as needed.
- The Waterfront Event Center and Observatory outdoor seating area with stage and sidewalks was funded through grants from the Michigan Department of Natural Resources, Office of the Great Lakes.
- The Dark Sky Coast Association non-profit friends group contributes \$30,000 annually to dark sky programs at Headlands, funded in part by the Baiardi Family Foundation
- The Dark Sky Coast Association also sponsored the Headlands Program Director for travel to the Duluth, MN IDA Chapter Dark Sky Seminar, September 2017
- In December, 2016, Headlands received a \$30,000 donation for general operating from the Chauncey and Marion D. McCormick Family Foundation, after a successful grant request issued through the Dark Sky Coast Association. Emmet County purchased the Headlands property from the McCormick Family in 1996, and their ongoing support is a tremendous affirmation of our activity. For a history of the property and the McCormick Family’s involvement, see below.⁵

³ Information about Michigan State Parks that have undertaken to protect and promote their dark skies: <http://www.freep.com/story/news/local/michigan/2017/03/05/where-to-go-stargazing-in-michigan/98774764/>

⁴ Starlight, streetlight, what can I see tonight? Public Radio lighting feature: <http://wemu.org/post/green-room-starlight-streetlight-what-can-i-see-tonight-preventing-light-pollution#stream/0>

⁵ Essence of Emmet History Magazine, issue 4, starting on page 65: <http://www.emmetcount-yarchive.org/>

Arts and Culture

- As established by its Program Director, the programs hosted at Headlands take a human-centric approach to understanding our celestial environment, accessing the science, literature, and art of ages to build context for an informed and engaged experience of the night, whether visitors come for direct encounter with our protected wilderness environment, or whether they wish to peek deeply into space through one of our telescopes.
- We continue to work regularly with local tribal members of the Little Traverse Bay Odawa Band, the Straits Area Raptor Watch and Audubon Society, the Little Traverse Conservancy, Mackinaw Heritage Village, Emmet County Historical Society, and others.
- Our 2017 season of programs included music and poetry of the mystic poets Hafiz and Rumi; several night sky photography workshops; virtual interviews with Dr. Tyler Nordgren about the Total Solar Eclipse and comet discoverer Don Maccholz about the Delta Aquarid Meteor Shower; our annual Lights Out Challenge in coincidence with the Perseid Meteor Shower; and programs specific to the celestial calendar events: Equinox, Harvest Moon, Solstice, meteor showers, eclipses

Outreach

- In addition to regular monthly programs rooted in the celestial phenomena themselves, Headlands participates each year in April with Michigan State University for Statewide Astronomy Night, which coincides with their ScienceFest. This year we welcomed 200+ visitors for a sneak peek at the Observatory during the event, two months prior to the public opening of our facility.
- We hosted special guest Dr. Tyler Nordgren in May 2017, for a talk about the Great American Total Solar Eclipse. This event was held at the Mackinaw Public High School, due to our not having building occupancy yet.
- The number one factor that drives visitors to the park besides regularly-scheduled programs, is the alluring promise of seeing the northern lights, which was coupled this year with tremendous interest in our new facility. On Sunday night, July 16, 2017, we counted over 960 visitors to the park. This is a great challenge for us, since we have onsite parking for 80 cars, and an overflow lot that is a one mile walk from our viewing areas and restrooms. Throughout the summer months, we regularly have upwards of 150-200 people on-site each night, beautifully dispersed throughout the park, along the wilderness shore, in the seating area, on the east side of the building for best views north.
- In addition, Headlands Program Director Mary Stewart Adams narrates evening sky cruises along the Straits of Mackinac throughout the summer months, and for several days around Lake Michigan in September on the Tall Ship Manitou, Traverse City. All of these events and activities provide a strong and accessible foundation for the public to access the night sky and to learn about why protecting it is so vital.

Community and Media Relations

- Headlands Program Director Mary Stewart Adams hosts a weekly public radio segment “The Storytellers Night Sky”, broadcast throughout northern Michigan on Interlochen Public Radio and available online at the link below.⁶



- Headlands was featured in metro-Detroit’s “Detroit News” immediately following the grand opening of our Waterfront Event Center and Observatory, in July 2017⁷, and in September 2017, on Under the Radar, Michigan, a popular PBS Special series.⁸

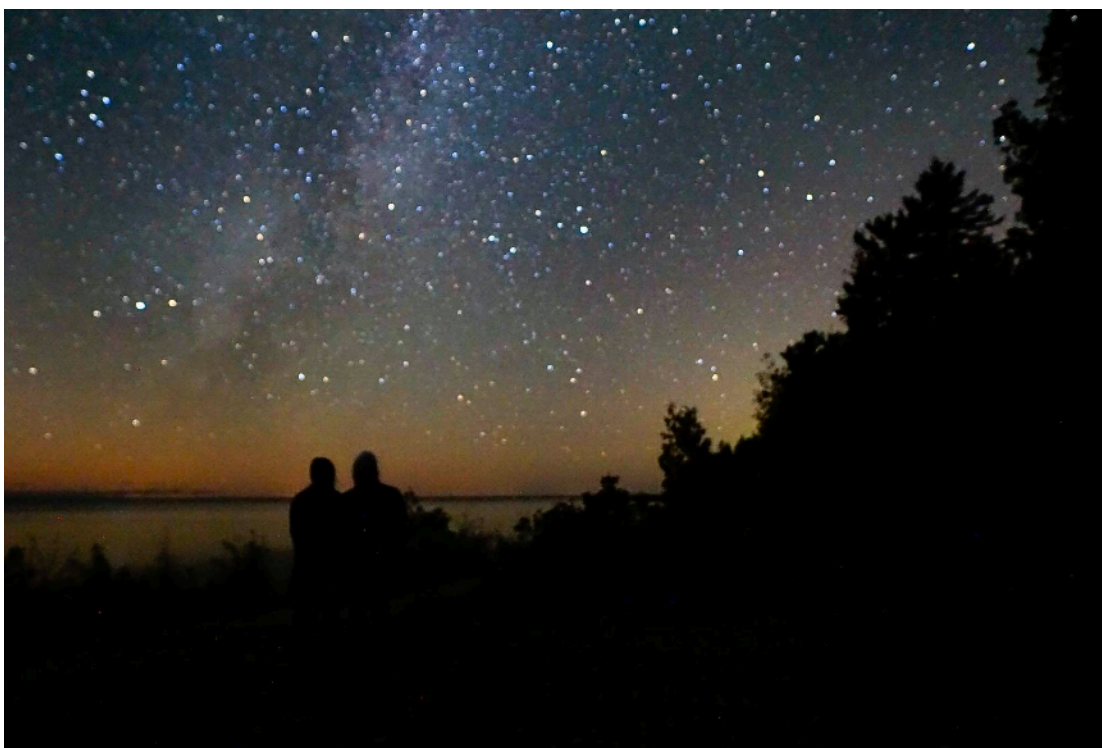
- In addition to opening our Waterfront Event Center and Observatory in 2017, the dramatic change in Emmet County leadership during the November 2016 election has added to new challenges and opportunities. With formal program attendance ranging from 100 to 600 visitors, and a combined daytime and night time estimate of visits to the park soaring well past 40,000 in season (Memorial Day to Labor Day), we are at work establishing best practice, policy, and researching ways to off-set building expense and labor costs. This will result in more paid programming in the coming years.

The Milky Way over Johnson’s Point at The Headlands, as photographed by Patrick Horrigan, Summer 2017

⁶ Link to Mary Stewart Adams’ weekly public radio segment: <http://interlochenpublicradio.org/topic/storytellers-night-sky>

⁷From the Detroit News, July 2017: <http://www.detroitnews.com/story/news/local/michigan/2017/06/29/beautiful-dark-northern-michigan-park/103275330/>

⁸ Headlands is featured in episode 713 of UTRMichigan: <http://utrmichigan.com/>



Day is done!
Taking in the star shine along the shores at Headlands
photographed by Lindsey Burke, Portage, MI, September, 2017

SOM

Headlands International Dark Sky Park receives Pure Michigan award for stewardship of the night sky

Contact: **Maia Turek** (DNR), 989-225-8573 and **Sarah Nicholls** (MSU), 517 432 0319
Agency: Natural Resources

March 28, 2017



In recognition of its stewardship of an often unheralded natural resource in Michigan – Michigan’s night sky – the Headlands International Dark Sky Park in Mackinaw City was awarded the second annual Pure Award at the 2017 Pure Michigan Governor's Conference on Tourism last week in Detroit.

The Pure Award recognizes Michigan tourism entities that have pioneered innovative and exemplary best practices in natural, cultural and/or heritage stewardship into their daily operations and is a product of the Resources and Environment implementation committee of the **2012-2017 Michigan Tourism Strategic Plan**.

Located in the northwestern Lower Peninsula, the Headlands in 2011 became one of the first 10 International Dark Sky Parks in the world. This prestigious designation was bestowed by the International Dark Sky Association after a rigorous application and review process. As a result, the Headlands will stay dark and protected, forever.

"The Headlands was selected as this year's winner based on the importance the park has put on the night sky as a vast and vanishing natural resource," said Maia Turek, co-chair of the Resources and Environment implementation committee. "Efforts like these are essential to today's global conversation about habitat protection, energy resource management and tourism."

The park is home to approximately 550 acres of pristine woodlands, more than 2 miles of undeveloped Lake Michigan shoreline and many species of rare and endangered plant life.

Turek added: "Our committee's goal is to put Michigan on an international stage by highlighting the efforts of our tourism industry to be stewards of our natural, cultural and heritage resources – making sure these tourism experiences stay pure for future generations."

The award itself varies each year to reflect the award winner. Created by glassblowers at The Henry Ford, this year's award is a stylized version of the Headlands Dark Sky logo. The award incorporates the North Star, with black representing the dark sky and the silver leaf embellishment representing the stars in the galaxy.

Headlands International Dark Sky Park is located at 15675 Headlands Road in Mackinaw City. Admission is free and the park is open 24 hours a day, 365 days of the year. **[Learn more about this dark sky park at www.midarkskypark.org](http://www.midarkskypark.org)**.

In addition to the Headlands, Michigan is home to six other Dark Sky Preserves and a number of dark sky events. **[Learn more about these dark sky opportunities at www.michigan.gov/darksky](http://www.michigan.gov/darksky)**.

For more information about the 2012-2017 Michigan Tourism Strategic Plan, contact MSU faculty member Sarah Nicholls at nicho210@msu.edu.

The Michigan Department of Natural Resources is committed to the conservation, protection, management, use and enjoyment of the state's natural and cultural resources for current and future generations. For more information, go to www.michigan.gov/dnr.

An accompanying photo is available below for download. A suggested caption follows.

The Headlands International Dark Sky Park was awarded the second annual Pure Award at the 2017 Pure Michigan Governor's Conference on Tourism last week in Detroit. The award (pictured) was created by glassblowers at The Henry Ford and is reminiscent of the park's logo.