

This chapter is a compilation of data that was collected from the responses to questionnaires sent to Dark Sky locations around the world. The questions are posted below and the responses are listed beneath each destination. They offer insights to anybody who is coordinating with a community, local stake holders and/or seeking to gain International Dark Sky certification

1. What year did you apply for Dark Sky certification? What year was it granted?
2. What the biggest obstacle in gaining IDA certification? How did you overcome these obstacles?
3. What lighting changes were made in your community/park to gain IDA certification?
4. Who in your community and surrounding area has benefitted from your Dark Sky Certification? In what way?
5. Have you seen an increase in tourism since gaining your Dark Sky Certification? If yes do you have data that you can share?
6. Is there any economic data after gaining Dark Sky certification that can you can provide? (yes/no) Please explain.
7. Prior to moving towards Dark Sky certification what were the circumstances that began the process? (i.e. complaints from residents, a decrease/increase insect/bird/wildlife counts, pedestrian/auto accidents, astronomy club input)
8. Has there been media coverage once you gained IDA certification? (yes/no)  
Please provide links to these whether they be radio/television interviews, periodicals, magazine?
9. Did you engage the services of an outside consultant when retrofitting you community to be Dark Sky compliant? (yes/no)
10. Is your community taking steps to market your Dark Sky community to visitors? **YES**  
If so what?
11. Can you share some example of your marketing materials?
12. Please provide any additional information that you think is relevant.

Eifel National Park is a 110-sq.-km conservation area in North Rhine-Westphalia, Germany, bordering Belgium and Rur Lake reservoir.

1. 2013---April 2014 (provisional) April 2019 final
2. Approx. 2 years due to illness. → Hard work.  
Prove the tourist value. → Work together with tourism orgs and with press and media.  
Prevent blue rich light. → Hundreds of hours talking with majors, lighting providers and decision makers.
3. In the park: lighting without output <500 nm. Full cut off, curfew.  
Around the park: many communities are already committed to install FCO, <math>\leq 3000\text{K}</math> and switch off at midnight where possible.
4. The complete region of the National Park Eifel: Hotels, B&B, restaurants and all others, who earn money through tourism. More guests, more profit- Out providers of touristic offerings, because the Park is known to have a unique selling point: the starry night sky and landscapes.
5. About 5000 bookings/per year for dedicated stargazing sessions. Many standalone amateur astronomers and nightscape photographers. I am just trying to collect some numbers in regard to those kind of visitors. We do not really know, how many “standalone visitors” we have, because many will visit the Dark Sky Park without notification. But we get feedback from hotels and B&Bs that they get more and more night owl visitors.
6. We do not have such data yet. I will interview the tourism offices about it. Perhaps they can give some estimation. For me as the owner and the operator of the Observatory I do point to the approx. 5000 bookings/per year of the two-hour stargazing sessions (15, 00€ per adult / 7,50 € for kids and teens, free for child younger than 12 year)
7. Definitely my idea (*the respondent*) and my passion to bring back stargazing to people. Most regional partners needed to be convinced about the status of light pollution and dark skies. The learning curve was different. The touristic advantages are still an important leverage.
8. This collection is not complete; However we see about 300 to 500 hits per year:  
<http://www.sterne-ohne-grenzen.de/medien-echo/>  
Eifel National Park Administration collects newspaper articles and divides them into specific topics. There were numerous newspaper clippings where International Dark Sky Park Eifel National Park was mentioned:  
2018 366 articles  
2017 630 articles  
2016 87 articles  
2015 288 articles
9. Yes: I was the consultant in many cases, but also some regional lighting providers support the dark skies mission and we work together.
10. Yes. They provide observation locations and they organize local events like exhibitions and stargazing incentives. See <https://www.sternenregion-eifel.de/projekt/ausstellung/>
11. Please see this: <http://www.sterne-ohne-grenzen.de/nachhaltiger-astrotourismus/werbung-f%C3%BCr-die-sternenreiche-nacht/>  
Outreach activities like “Culture at Night” or Star Week” with different offerings like night guide tours through communities and cities, night walks, nature observations (bat, beaver) and

stargazing of course. The International Dark Sky Park and the stargazing programs are promoted by Eifel National Park, see this:

- <https://www.nationalpark-eifel.de/en/experience-national-park/dark-sky-park/>
- <https://www.nationalpark-eifel.de/de/nationalpark-erleben/veranstaltungen/>

12. We need more regulation, an EU-wide law against light pollution.

### Steinaker State Park, Utah

1. 2016 – 2017

2. The biggest obstacles were getting our lighting within the park within the parameters needed on the budget we had for the park. Also, getting the right paperwork submitted along with signatures and letters of support.

3. We removed a few light poles, which were not really serving a purpose. We changed out our needed lighting with fully shielded fixtures that were the right temperature to be compliant. We met with other entities within the community to promote dark sky friendly lighting as well.

4. Our dark sky certification has not really benefited us financial. The local businesses and companies are not as “on board” with the concept as we are. We continue to work with them to help them see the need but are being met with a bit of resistance to change.

5. We have not seen an increase in tourism. Most of our event patrons are coming from our campers who were camping and found out about the programs.

6. No, we have not been able to verify any economic changes within our community.

7. Our State Parks Naturalist has been very influential in getting parks to gain the certification. Utah State Parks has been hoping to be the state with the most state parks certified as Dark Sky Park in the nation. Our specific region in northeastern Utah is fairly rural and we enjoy dark skies nightly. However, we see a need to keep the community informed so they do not lose this ability to connect with the night sky and impact wildlife.

8. I believe there were some news releases from our Salt Lake office and some in the local newspapers. I do not have the links to these.

9. No

10. No, not at this time. This is a conversation I will have with our county tourism specialist in the near future.

11. N/A

12. We have found in our rural area we do not get too many locals interested in the Dark Sky movement due to the vast amount of public land and the ability they have to see dark skies anytime they want by simply driving 20-30 minutes up the canyons. Along with this, the community does not see the impact lighting can have on themselves or wildlife. We will be working on communicating this to them through outreach programs in the future.

## Parashant National Monument, AZ

1. 2014--2014

2. Our designated area included multiple land managers (BLM, NPS, AZ State, private) Getting BLM and private land owners to sign-on required assurances that exterior lighting could be managed smartly, and not prohibitively.

3. We modified all existing government facilities light fixtures (24 total), included several on Private lands.

4. Our overnight "visitor experience" has benefited with our night skies. Also our interpretive outreach with events and school presentations, has helped to make dark skies a more common concept with the local community.

5. Our tourism has increased, not sure if it's due to certification, but likely due to the increase of active seniors using UTV's to recreate in the area. Our recreation specialist has annual numbers he can share....

6. NO, we don't track economic data specifically to Dark sky certification. Our economic data stems from number of hunting permits, and special recreation permits.

7. We were motivated to pursue certification with the NPS "Starry Starry Night" mandate.

8. The IDA has done some coverage on our behalf, along with numerous BLM highlight media efforts.

9. Unanswered

10. We do star parties, local school outreach, info/exhibit at our visitor center. Signage at our Monument entrances.

11. Unanswered

12. It's still a struggle to get other land management agencies in Dept of Interior besides NPS, to get onboard and pursue certifications. We need more efforts coming from BLM, forestry, and USFWS wildlife refuges.

## Goblin Valley, UT

1. 2015 -- 2016

2. The biggest obstacle we faced was the requirement to update our park management plan. To do this legally requires years of planning, and it very nearly ended our application. The

workaround proved to be a blanket Utah State Parks policy for all of its dark sky parks, stating a commitment to protecting the night sky.

3. We had to dismantle unused floodlights at the visitor center and park residences. The porch lights on the residences also had to be changed from 13-watt fluorescent to 9-watt, shielded incandescent

4. We don't have any official numbers to give, but the uptick in nighttime visitors (even in the off-season) means that they have to be staying somewhere. The local communities of Green River and Hanksville have no doubt benefitted from our international dark sky status.

5. 191,000 people visited Goblin Valley in Fiscal Year 2016 (July 2015-June 2016). In FY2019, this number had risen to 301,000. There is no way to know how much of this was due to the dark sky designation, though there has certainly been an uptick of people stating that they are here to see the Milky Way.

6. As one would expect, the increased visitation has resulted in an increase in park revenue. It's not possible to know how much of this was due to the dark sky designation, however.

7. It was simpler than any of that. We knew that our skies were just as dark as nearby Natural Bridges, and we set out on a mission to prove that to the world.

8. There was a flurry of initial media coverage from all of the Utah news networks, though most of those links are now dead. One story that remains can be viewed here:

<https://www.youtube.com/watch?v=621E1brOOSc&list=UUtMXQDKxkYuQSZ0F0MUFfQ>

9. No. There was no need for this in such a small park.

10. Yes. We are a part of the larger Colorado Plateau Dark Sky Cooperative. You may want to reach out to their leadership for more information.

11. Again, the cooperative would be the best place for this. Locally, we have only our website: <https://stateparks.utah.gov/parks/goblin-valley/night-skies/>

Goblin Valley is such a popular attraction to begin with, that we put very little effort into marketing.

12. Because it is public record and available on the IDA website, I will also attach our application for International Dark Sky Status. The only thing it is missing is the Utah State Parks policy mentioned in question 2.

## Craters of the Moon Idaho

### 1. 2016-- 2017

2. No big obstacle, we just needed someone to write and submit the application  
How did you overcome these obstacles? We assigned an intern to write the application

3. Our lighting footprint is very small. There were only a few lights that needed to be altered at the park headquarters/visitor center building.

4. Overall visitation has been increasing for several years but we are unsure exactly what the cause is.

5. After the massive influx of visitors for the eclipse in 2017 (285,227) visitation actually decreased slightly in 2018 (263,506). In 2019 it did rise again slightly (272,225).

6. In 2018, 264 thousand park visitors spent an estimated \$9.2 million in local gateway regions while visiting Craters of The Moon National Monument & Preserve. These expenditures supported a total of 131 jobs, \$3.3 million in labor income, \$5.5 million in value added, and \$10.5 million in economic output in local gateway economies surrounding Craters of The Moon National Monument & Preserve. This was down slightly from the estimated 9.7 million which again was directly attributable to the total eclipse event. You can read more about visitor spending at the following link:

<https://www.nps.gov/subjects/socialscience/vse.htm>

7. The primary motivation for us was an invitation from the IDA to participate in the lead up to the 2017 total solar eclipse event.

8. Before, during and after the eclipse event in 2017 and some after when the nearby Sawtooth Dark Sky Reserve was designated.

## Fountain Hills, AZ

### 1. 2017-2018

2. Receiving Town Council approval for a more restrictive (IDA compliant) outdoor lighting ordinance. Planning and Zoning Commission voted against, 7 to zero. Did lots of work education council members prior to council meeting and at podium during meeting. Council voted in favor, 7 to zero, a huge turnaround from the P&Z recommendation. This does not often happen.

3. Almost all municipal lighting was changed to LEDs at the right color temperature. The energy savings in two years paid for the transition. Several projects with local businesses to have them change current or planned lighting were also completed.

4. Beneficiaries are residents who appreciate views of celestial objects, and nocturnal wildlife. An immediately adjacent 23,000-acre desert regional park is considering applying for some level of dark sky certification, in which case a regional dark sky corridor would be established.

5. A local Marriott-affiliated hotel uses our town's dark sky status as a part of their astrotourism branding strategy, and the FHDSA collaborates with the hotel to offer star parties at the hotel for that purpose. We have not been informed on how this may have affected its business. The town government has not kept statistics that specifically relate to its Dark Sky Community status. However, we know anecdotally from realtors that a number of people bought homes in our community specifically because we're a Dark Sky Community.

6. No, but electricity consumption and cost for public lighting have no doubt gone down.

7. There was a recognition by a few locals that our town was uniquely positioned in the Phoenix, AZ metro area, behind a range of high hills on the west edge of town that block most of the glare and light pollution emanating from the metro area. Additionally, to the immediate south, east and north are thousands of acres of protected desert landscape with very little development. Further, the town's developers had never installed streetlights in residential areas. All of these factors combined to make Fountain Hills an obvious candidate for Dark Sky Community certification.

8. We received national and international publicity. Here are some links: (This list has been edited by the author focusing on news stories that are from out-of-state)

Associated Press

<https://www.apnews.com/search/Fountain%20Hills%20dark%20sky>

Houston Chronicle

<http://www.houstonchronicle.com/news/article/Phoenix-suburb-Fountain-Hills-becomes-Dark-Sky-12498228.php>

San Francisco Chronicle

<http://www.sfchronicle.com/news/article/Phoenix-suburb-Fountain-Hills-becomes-Dark-Sky-12498228.php>

Seattle Times

<https://www.seattletimes.com/nation-world/phoenix-suburb-fountain-hills-becomes-dark-sky-community/>

US News and World Report

<https://www.usnews.com/news/best-states/arizona/articles/2018-01-15/phoenix-suburb-fountain-hills-becomes-dark-sky-community>

Washington Times

<https://www.washingtontimes.com/news/2018/jan/15/phoenix-suburb-fountain-hills-becomes-dark-sky-com/>

WRAL – NBC affiliate, Raleigh, NC

<http://www.wral.com/phoenix-suburb-fountain-hills-becomes-dark-sky-community/17258147/>

The Times Union – Albany, NY

<http://www.timesunion.com/news/article/Phoenix-suburb-Fountain-Hills-becomes-Dark-Sky-12498228.php>

Clay Center, Kansas

[http://www.ccenterdispatch.com/news/state/article\\_35c8fc07-d50d-5172-ac27-6e6dffa00e90.html](http://www.ccenterdispatch.com/news/state/article_35c8fc07-d50d-5172-ac27-6e6dffa00e90.html)

9. No.

10. If so what? See above entry to Question 5. Our town's official website dedicates a special page to discussing the benefits of our Dark Sky Community certification.  
<https://www.experiencefountainhills.org/p/arts-culture/darksky>

The town has also installed prominent signs at primary entry points that announce the town's status as an International Dark Sky Community. Our local Dark Sky Association conducts an annual Dark Sky Festival and several smaller events to celebrate being an International Dark Sky Community and educate the public on the benefits of that status.



11. Town website page: <https://www.experiencefountainhills.org/p/arts-culture/darksky>  
Fountain Hills Dark Sky Association website: <http://fhdarksky.com>

12. An offshoot of the Fountain Hills Dark Sky Association is a related, but separate non-profit project called the International Dark Sky Discovery Center (IDSDC). The IDSDC is currently raising funds for the construction of an eponymous facility that will house a telescope observatory, a planetarium, an interactive exhibit area and an auditorium. The facility will be unique to the United States and is expected to become one of Arizona's top educational tourism destinations once it is in operation.

## HORTOBAGY NATIONAL PARK - HUNGARY

1. 2010--2011



2. The lighting fixtures did not fit in the all area to IDA regulations. Because this we designated a smaller area within the national park as a dark-sky park.

3. There were changes after the certification, replacing old fixtures to new ones in Hortobágy Village. Now the whole lighting will be improved in this and other surrounding Villages too.

4. The Hortobágy National Park, some local enterprises and amateur astronomers benefited.  
-NP: new attraction, growing number of tourists, other good reason to protect natural values  
-enterprises: new attraction, more guests  
-astronomers: possibility to stargazing under dark skies

5. Yes, we have. We know the number of tourists who came here for dark skies, it is estimated to 15 000 in the last 9 years.

6. No

7. Astronomy club input.

8. Yes. There are many. Some examples:

<https://haon.hu/kozelet/helyi-kozelet/vilagszinvonalu-ragyogas-a-hortobagyi-egbolton-3474067/>

<https://turizmus.com/desztinaciok/asztro-gasztro-tura-es-ejszaka-a-szalmaagyban-1158058>

[https://mandiner.hu/cikk/20110201\\_sotet\\_hely\\_a\\_hortobagy\\_kituntettek\\_erte](https://mandiner.hu/cikk/20110201_sotet_hely_a_hortobagy_kituntettek_erte)

<https://ng.hu/fold/2016/07/12/ahol-az-egbolt-is-elmeny/>

<https://hungarytoday.hu/hortobagy-national-park-among-cnns-most-beautiful-places-in-europe/>

<https://edition.cnn.com/travel/article/dark-sky-parks-and-reserves/index.html>

9. No

10. Hajdú-Bihar county (where the park is situated) took part in the Night Light Interreg Project. Within the framework of the project an action plan was created and a local stakeholder group was set up. <https://www.interregeurope.eu/nightlight/>

11. <http://hortobagy.csillagpark.hu/download/335/>

12. We took part in the V4 Astro-tourism project:

<http://ronaorzo.csillagpark.hu/wp-content/uploads/sites/2/2016/05/v4workshop1-150x150.jpg>

<http://ronaorzo.csillagpark.hu/wp-content/uploads/sites/2/2016/05/v4workshop2.jpg>

In the spatial plan of Hajdú-Bihar county a special dark-sky park zone was created

There is a new order of the environmental ministry: a buffer zone is created around the park where lighting regulation is required. Our park became part of Astronomy and world heritage:

<https://www3.astronomicalheritage.net/index.php/show-entity?identity=95&idsubentity=1>

