

INTERNATIONAL DARK-SKY ASSOCIATION

3223 N First Ave - Tucson Arizona 85719 - 520-293-3198 - www.darksky.org

TO PRESERVE AND PROTECT THE NIGHTTIME ENVIRONMENT AND OUR HERITAGE
OF DARK SKIES THROUGH QUALITY OUTDOOR LIGHTING



**International Dark-Sky Association
Dark Sky Park Program Criteria**

May 2013

TABLE OF CONTENTS

Definition of an IDA Dark Sky Park	2
Goals for IDA Dark Sky Park Creation	2
Benefits	2
Eligibility (All must be met)	2
Minimum requirements for All parks	3
<i>Gold, Silver, and Bronze Tier Designation</i>	6
<i>Lighting Inventory</i>	7
<i>Lightscape Management Plan Guidelines</i>	7
<i>Provisional Status</i>	8
Guidelines on IDA DSP Process	9
<i>Nomination</i>	9
<i>IDA DSP Application Process</i>	9
Steps for Applicant	9
To Be Included in an IDA DSP submission	9
<i>IDA Review Process</i>	10
Reassessment of IDA DSP Designations	11

DEFINITION OF AN IDA DARK SKY PARK

An IDA Dark Sky Park (DSP) is a public land possessing an exceptional or distinguished quality of starry nights and a nocturnal environment that is specifically protected for its scientific, natural, educational, cultural heritage, and/or public enjoyment.

GOALS FOR IDA DARK SKY PARK CREATION

- To identify, restore, and protect public lands (national, state, provincial, and other parks and notable public lands) with exceptional commitment to, and success in implementing, the ideals of dark sky preservation and outstanding night skies.
- To promote ecotourism;
- To promote protection of nocturnal habitat and human health, public enjoyment of the night sky and its heritage, and/or areas ideal for professional and amateur astronomy;
- To encourage park administrators to recognize dark skies as a valuable resource in need of proactive protection;
- To provide international recognition for such parks;
- To encourage parks and similar public entities to become environmental leaders on dark sky issues by communicating the importance of dark skies to the general public and surrounding communities, and by providing an example of what is possible with proper stewardship.

BENEFITS

Achieving this designation brings recognition of the efforts a park has made towards protecting dark skies. It will raise the awareness of the park, staff, visitors, and the surrounding community. Designation as an IDA DSP (Dark Sky Park) entitles the park to display the IDA DSP logo in official park publications and promotions, and use of this logo by commercial or other groups within the community when identifying the park area itself (e.g. an organization can say “located in Cherry Springs State Park, an IDA DSP” or other words to the same effect). IDA will maintain a web page identifying and describing all IDA DSPs. The park agency may also identify IDA as a park partner and erect a public sign in the park announcing the dark sky park status.

ELIGIBILITY (ALL MUST BE MET)

- A) All protected public lands, whether managed by national, state, provincial, or local agencies, are eligible. These may include parks, refuges, forests, wilderness areas, monuments, protected rivers, or other categories of protected lands. For this document, they are generically referred to as a “park;”
- B) The park must provide the opportunity for public nighttime access, with or without supervision. Regular visitation by the public is essential to meet the goals of the IDSP program. A portion of designated land may meet this requirement, or access must be

available for a portion the night. In some cases, such as when working with areas that protect endangered wildlife, this requirement may be adjusted;

- C) The park must provide an exceptional dark sky resource, relative to the communities and cities that surround it. Core night sky quality must fit in one of the three tier qualifications Gold, Silver, or Bronze. See Sky Quality Tiers Section.

MINIMUM REQUIREMENTS FOR ALL PARKS

- A) A quality comprehensive Lightscape Management Plan (LMP) with the following minimum standards (see “Lightscape Management Plan Guidelines” section for more details):
 - i) New, current, and retrofitted lighting must meet the park’s LMP (which must meet the “Lightscape Management Plan Guidelines” included in this document). The RASC/IDA Guidelines for Outdoor Lighting (GOL) should be used while creating the park’s LMP. These guidelines may be found on IDA’s website at www.darksky.org/RASCGOL AND;
 - ii) Included policy for determining whether an area should or should not be lighted, at what times an area should or should not be lighted, and appropriate illumination levels, AND;
 - iii) Fully shielded fixtures are standard throughout the park. Any lighting fixtures above 600 lumens are required to use fully shielded fixtures emitting no light at or above the horizontal. An exception to this may be when lighting fixtures contain lamps emitting less than 600 lumens. When such unshielded fixtures are used, impacts to the lightscape must be minimized with the use of timers and/or curfews, AND;
 - iv) Methods for determining the appropriate type of lamp (color, efficiency, technology) and fixture that should be used with goals to maximize energy efficiency and minimize impact to human vision dark adaptation/recovery time, wildlife, and the nocturnal ecology. It is recommended that only lighting under 3100K correlated color temperature (CCT) be used as this will minimize the impact on most wildlife, AND;
 - v) LMP should conform to or surpass agency or departmental policy on lighting and dark sky protection as well as other applicable guidance and laws (e.g. environmental leadership programs, agency orders, wilderness act, energy management guidelines).
- B) The park’s commitment to dark skies and lightscape management, as shown by:
 - i) The park recognizes dark skies as an important natural, cultural, and/or scientific resource value as demonstrated by inclusion in approved management documents (e.g. General Management Plan, Resource Management Plan, Facility Development Plan), AND
 - ii) At least two-thirds (67%) of existing outdoor lighting fixtures within park boundaries conform to the park’s LMP at the time of IDA DSP application (or an alternative fraction approved by the IDA Dark Sky Places Committee (DSPC) AND;
 - iii) A schedule defining a five-year plan for when 90% of all outdoor lighting on park land will conform with the park’s LMP, and a written commitment that 100% of the lighting will conform in the future, AND;

- iv) A measurement program must be maintained either by the park or by another public or private organization (university, research center, IDA chapter, astronomy club, etc.) to follow the evolution of light pollution in the IDA DSP and assert that the night sky quality does not degrade. Installation of at least one permanently mounted, approved, night sky brightness meter (NSBM) and participation in the IDA Global Sky Monitor website is recommended, AND;
- v) The park has set a leadership example in the restoration of dark skies by implementing at least one of the following:
 - (1) Producing at least one “night sky friendly” lighting project that is publicly visible and interpreted, OR
 - (2) Involving at least two external partners in dark sky restoration efforts (e.g. chamber of commerce, power utility, university research, tribal nations, environmental groups, conservation groups, natural history association), OR
 - (3) Cooperation with at least two nearby municipalities that results in adoption of lighting codes that improve sky conditions in the park, OR
 - (4) Inventorying and monitoring night sky quality and using results to educate the public, OR
 - (5) A combination of the above or an alternative restoration project may be suggested.
- C) The park’s commitment to public education.
 - i) The importance of dark skies/natural darkness and the benefits of good lighting should be part of park interpretation/outreach programs. (Dark skies education refers not only to astronomy education but also education about wildlife, energy efficiency, safety, and human health.) If park typically provides interpretive programs, then dark skies must be one of the central themes communicated through on-site interpretation. If interpretive programs are not typically offered, then extensive publications, flyers, press releases, media, social media, or other outreach are appropriate substitutes, AND
 - ii) Dedicated programming must occur at least four times per year, however, more events are preferable. These events may highlight the dark night sky in any appropriate way (e.g. cultural or historic value, importance to wildlife, astronomical or stargazing events, and a portion of the event must include dark sky awareness or preservation specifically including reference to the IDA and what it means to be an IDA DSP).
- D) IDA reserves the right to request stronger or alternative requirements if deemed appropriate and deny IDA DSP status if these requirements are not met. Any requests by IDA will be made through direct contact and communication with the park.
- E) Once established, the park must erect and maintain a sign indicating the IDA Dark Sky Park designation along a roadway entrance, along a footpath entrance if no roadway exists, or a visitor contact center. Sign must include IDA DSP text and logo. With Dark Sky Places Committee (DSPC) approval, an alternative wording may be used, such as Dark Sky Wilderness, Night Sky Refuge, or similar. The park may include the awarded tier if desired. Once the sign is erected a picture documenting this sign must be taken and sent to IDA for records along with a description of its location.
- F) Designation is permanent, but is subject to regular review by IDA and possible revocation if

minimum requirements are not maintained. More details may be found in the “Reassessment of IDA DSP designation” section.

- G) The Park will submit an annual report to IDA by October 1st detailing activities and progress towards fulfilling IDA DSP goals during the previous year. The Park should include dates and brief descriptions of interpretive events, lighting retrofit projects, community outreach, etc. Samples of printed materials and press articles should also be included. The annual report should not require a lot of time to produce, as it should be a compilation of information generated during the previous year. A form will be provided to aid in the compilation of these details. Electronic submission of these documents is required in MS Word or PDF format. If the annual report is not sent in a timely fashion, IDA may suspend the IDA DSP’s status until the annual reporting requirements have been met.
- H) Sky Quality Tiers
 - i) Once the minimum requirements have been met, an IDA DSP is designated by IDA at one of three levels – Gold, Silver, or Bronze indicating the estimated sky quality of the site.
 - ii) Gold corresponds to natural, non-polluted or near-natural night.
 - iii) Silver corresponds to nighttime environments that have minor impacts from light pollution and other artificial light disturbance, yet still display good quality night skies and has exemplary nighttime lightscapes.
 - iv) Bronze corresponds to areas not meeting the requirements of Silver, yet still offering people, plants, and animals a respite from a degraded nocturnal environment.
 - v) The determination of whether the minimum sky quality standard has been met and what tier will be awarded will be decided by IDA based on submitted information.
 - vi) For a breakdown of requirements for each tier designation, see the table on the next page:

GOLD, SILVER, AND BRONZE TIER DESIGNATION

Indicator	Gold	Silver	Bronze
Philosophy	Nighttime environments that have negligible to minor impacts from light pollution and other artificial light disturbance, yet still display outstanding quality night skies and have superior nighttime lightscapes.	Nighttime environments that have minor impacts from light pollution and other artificial light disturbance, yet still display good quality night skies and have exemplary nighttime lightscapes.	Areas not meeting the requirements of <i>Silver</i> , yet still offering people, plants, and animals a respite from a degraded nocturnal environment and suitable for communicating the issue of light pollution and connecting people with the many aspects of the night sky.
Artificial Light and Skyglow	Typical observer is not distracted by glaring light sources. Light domes are only dim and restricted to sky close to horizon.	Point light sources and glaring lights do not dominate nighttime scene. Light domes present around horizon but do not stretch to zenith.	Areas with greater artificial light and skyglow than <i>Silver</i> , but where aspects of the natural sky are still visible.
Observable Sky Phenomena	The full array of visible sky phenomena can be viewed—e.g. aurora, airglow, Milky Way, zodiacal light, and faint meteors.	Brighter sky phenomena can be regularly viewed, with fainter ones sometimes visible. Milky Way is visible in summer and winter.	Many sky phenomena cannot be seen. Milky Way is seen when pointed out to the average person, as is the Andromeda Galaxy.
Nocturnal Environment	Area is devoid of obvious lights that can cause wildlife disorientation. Artificial light levels are thought to be below the threshold for plant and animal impact. Ecological processes related to nocturnality are unaltered. No lighting atop towers or buildings within park boundary.	Areas that have minor to moderate ground illumination from artificial skyglow. Lights that may cause disorientation to wildlife are distant. Disruption of ecological processes is minor with no impairment to plants or wildlife.	Areas with greater nocturnal impact than <i>Silver</i> , but where ecosystems are still functional.
Visual Limiting Magnitude	Equal or greater than 6.8 under clear skies and good seeing conditions	6.0 to 6.7 under clear skies and good conditions	5.0 to 5.9 under clear skies and good seeing conditions
Bortle Sky Class	1-3	3-5	5-6
Unihedron Sky Quality Meter	> 21.75	21.74-21.00	20.99-20.00

LIGHTING INVENTORY

- A) When there are numerous outdoor lights it is acceptable to group lights by facility or area. Whether the fixtures are fully-shielded, are special purpose fixtures under 600 lumens, and what the lighting application is should be noted for each fixture or group of fixtures.
- B) Lighting Inventory should also include a plan or stated commitment to bring all outdoor lights into compliance with the Lightscape Management Plan (LMP).
- C) Daytime photographs or manufacturer diagrams of each fixture type may also accompany the inventory.

A sample table from portion of a Lighting Inventory:

Location	Fixture	Fully-Shielded	Special Purpose <600 lumens	Application	Conformity with LMP
Visitor Center	12 fixtures on 14' pole, 70 W HPS	YES	NO	Parking lot, timer off at 10pm	YES
	2 door lights, 100 W MH	YES	NO	Building egress	YES
	6 bollard (post) lights, 32 W CFL	NO	NO	Walkway	NO – see plan
Historic Cabin	2 carriage style lights at doorways, 40 W incandescent	NO	YES	Historic Preservation, egress	YES
Maintenance Yard	6 wall packs, 250 W MH	NO	NO	Occasional night operations	NO – see plan
	8 Glarebusters, 11 W CFL	YES	NO	Egress, security	YES

Lamps of 600 lumens output and less include: 40 watt incandescent and less; 35 watt tungsten (quartz) halogen and less; 8 watt linear fluorescent and less; 11 watt compact fluorescent and less.

LIGHTSCAPE MANAGEMENT PLAN GUIDELINES

The LMP should embody good lighting ethics such as:

- A) Meet or exceed agency or departmental policies regarding outdoor lighting
- B) Only use light when it is needed, where it is needed, and in the appropriate amount.
- C) Outdoor lighting fixtures should be fully-shielded and have appropriate use of timers and motion sensors.

- i) Lighting of less than 600 lumens may be unshielded lights for special purposes, such as historical preservation. The approved special uses should be stated in the LMP. IDA will scrutinize these uses to ensure that park lighting is a suitable example of good lighting for the public and protects the nighttime environment to the maximum practical extent. IDA may request additional descriptions, photographs, or drawings of these lights. These lights are not exempt from the lighting guidelines, and must still be designed to minimize impact to the lightscape.

- D) IDA has collaborated with the Royal Astronomical Society of Canada to develop the RASC/IDA Guidelines for Outdoor Lighting (GOL) www.darksky.org/RASCGOL. These guidelines should be adopted as part of the LMP for the park. If there are provisions of the GOL that are not appropriate for the park, the GOL may be amended or substituted with more suitable guidelines. IDA will review the modifications or substitution and determine on a case-by-case basis if the changes are acceptable for the individual park.

PROVISIONAL STATUS

- In some cases, a park interested in being designated may lack the resources to do so. If minimum sky quality criteria and appropriate outreach requirements have been met, a park may apply for and be granted Provisional status. Provisional status recognizes the park's ongoing work to become an IDA DSP and is intended to be used as a leverage point to enable the necessary lighting upgrades or retrofits and policy changes.
- Provisional status expires after three years. At any time before the end of its provisional status, a park may reapply for full status. Material submitted for the removal of provisional status may be an addendum to the initial application as long as the material includes a current assessment of night sky quality, goals, outreach, and programs listed in the original application.
- To be considered for a provisional status, send a nomination package to support the following needed information:
 - Initial sky quality measurements;
 - The minimum quality night sky described under "Eligibility" must be met in order to attain Bronze IDA DSP designation.
 - Documented intent to create and support an IDA DSP;
 - An action plan describing how the aspiring Park will meet minimum requirements;

GUIDELINES ON IDA DSP PROCESS

NOMINATION

The nomination may be initiated by an IDA qualified nominator who has personally reviewed a park's outdoor lighting and commitment to natural lightscapes, or by a member of the park staff who maintains an IDA membership. To become an IDA qualified nominator you must be an IDA member and be approved by the IDA Dark Sky Places manager. The nomination may be a joint effort between park administration and the qualified nominator. Nominators are encouraged to correspond with IDA staff and the park throughout this process—from first consideration of an IDA DSP through the final submission package.

IDA DSP APPLICATION PROCESS

STEPS FOR APPLICANT

- A) Initial contact with IDA by phone or email to discuss the process and make recommendations followed by regular contact to consult with IDA staff and to review progress;
- B) A formal point of contact (POC) person is designated and their phone, address and email information is forwarded to IDA staff. Before and after designation, any changes to this POC, or their information, must be communicated to IDA in order to ensure accurate communication at all times;
- C) Upon completion, the park sends the application to IDA staff for review of the document. IDA staff confirms that the application is complete and ready for submission;
- D) Completed application packet in .pdf and/or MS Word .doc format sent electronically to DSPC by IDA staff for review.
- E) Submit in plenty of time for IDA staff to review and prepare your application to make the bi-monthly deadline that you prefer, as found on www.darksky.org/idsp Requests to rush applications will NOT be accepted; meaning that planning ahead is essential if the park is planning to meet a deadline.

TO BE INCLUDED IN AN IDA DSP SUBMISSION

- A) Map(s) of area to be designated. (For larger parks, with a minimum total size of 1,000-km², a smaller portion of the park may be designated with special permission. A description explaining why this subset of the larger park was chosen must be approved in advance by IDA's Dark Sky Places program manager.)
- B) Letter of nomination support from appropriate park administrator.
- C) Any management documents supporting dark skies and/or natural lightscapes as a valued resource.
- D) If it exists, agency or departmental policy on outdoor lighting and dark sky protection.

- E) Documentation of sky quality, light pollution measures, satellite pictures, maps, photographs, or other evidence that demonstrates the noteworthiness of the resource. Measurements of night sky brightness using an approved night sky brightness meter (NSBM), such as the Unihedron Sky Quality Meter or the IDA Night Sky Brightness Monitor, showing at least 12 locations within the park. Measurements should document the approximate darkest and brightest areas of the park. Data included in the application must contain an updated survey of the park completed no more than two years before the application's submission along with any other relevant surveys. Learn more about creating a night sky quality survey on IDA's website www.darksky.org/nightssurvey
- F) Lightscape Management Plan.
- G) Documentation signed by park administrator showing a Lighting Inventory of the Park and plan to bring 90% of outdoor lighting into compliance with the IDA-DSP-GOL within five years.
- H) Description of restoration project (e.g. lighting project, community outreach, etc.).
- I) Description of interpretive program or interpretive products related to dark skies/natural darkness. Any related examples of successful education (photos, documentation of student projects, etc.)
- J) Future plans
- K) Proposed alternative wording for IDA DSP (e.g. Dark Sky Wilderness, Dark Sky Refuge, etc.), if desired.
- L) An outline of an application is available and may be used upon request.

IDA REVIEW PROCESS

- A) Applications are sent to the committee on a bi-monthly basis.
- B) Before the park's final application is submitted it is highly recommended that the park be in regular conversation with IDA staff to perfect the application before the deadline. Applications not ready for submission by the current deadline for committee consideration will be considered at the next committee meeting.
- C) IDA staff forwards application to Dark Sky Places committee for review at the deadline.
- D) Approval of application by DSPC is by a 2/3-majority vote, or denial with reasons and recommendations. The DSPC committee may consider the application for up to two months before releasing a decision;
- E) Determination of sky quality tier - Gold, Silver, or Bronze;
- F) If approved the location will be notified and the program manager will organize a press release with the location during a 10-day waiting period during which the Board of Directors will have the formal right to veto should they perceive a problem with the application. The park has the right to choose when the press release is made public but must organize the announcement to be made at the same time as IDA's release unless otherwise discussed and decided upon by both parties;

- G) If approved, the park is awarded the IDA DSP designation and listed along with their application on the IDA website. By submitting the application the park agrees to have their application posted to IDA's website unless otherwise stated;
- H) If denied, a letter is sent to applicant outlining elements of the application that need improvement and specific recommendations for ways to remedy them. Applications can be resubmitted for future consideration after remediation is complete.
- I) Periodic checks, through the submission of the annual report, will be performed to ensure that minimum standards and objectives of the program are being upheld and adequate progress is being made.

REASSESSMENT OF IDA DSP DESIGNATIONS

To ensure that parks continue to be exemplary in their protection and restoration of natural lightscapes, IDA will periodically reevaluate DSPs. Annual reports are due October 1st. This is done to confirm that parks continue to meet the minimum requirements, are sustaining partnership and interpretation efforts, and are making adequate progress toward 90% compliance with Lightscape Management Plans. If the annual report is not sent in a timely fashion or questions or concerns cannot be resolved after the review, it may be necessary for IDA to suspend/revoke the IDA DSP's status until resolution can be achieved. A form for the annual report may be found on IDA's website at www.darksky.org/parks