

# Dark Sky Park and Reserve Certification

## by the International Dark-Sky Association

To promote the establishment of special protection areas for natural night skies and to honor exceptional commitment to preservation of darkness, the International Dark Sky Association (IDA) created a certification program in 2006 for parks and similar public lands. Parks must meet standards relating to outdoor lighting, education, and leadership. Another program to certify Dark Sky Reserves is underway that will emphasize a stronger connection with surrounding communities and incorporate a larger area.

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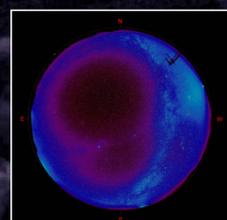
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We have an opportunity to identify landscapes that have preserved night sky quality either through dedicated effort or geographic accident. These spaces need not have pristine skies, but should at least have an inspirational quality relative to the population they serve. These areas should also demonstrate best design and management of outdoor lighting, should engage the surrounding community, and should be a leader in preservation of nocturnal habitat.

Numerous "preserves" have been self-declared by various organizations. These pioneering efforts are to be applauded, but there is now a need to provide minimum criteria for such designations and to fully exercise the benefits that such areas can provide. Additionally, designation of a sanctuary alone is often inadequate protection without actively sharing this resource with the general public and sustaining comprehensive education on the effects of artificial light.

In 2006 the International Dark-Sky Association approved a certification process for International Dark Sky Parks (IDSP). This worldwide umbrella organization is an ideal body to promote and certify these sanctuaries of darkness. In March 2007 the first park to complete the certification process was announced—Natural Bridges National Monument, located in the arid southwestern USA. In the first weeks after this announcement other US National Park Service areas were galvanized to attain this designation; and several state and local parks are also pursuing the IDSP designation.

Natural Bridges National Monument is one of the darkest parks in the US National Park Service system, having no visible light pollution, limiting magnitude 7 skies, and clear transparent air. It has retrofitted most of its outdoor lights and actively interprets night sky scenery to the 100,000 annual visitors. Image by Wally Pacholka.



Quantitative data by the USNPS Night Sky Team demonstrates that the sky is virtually pristine, with barely discernable light domes (bottom and left) detected by the CCD camera and better than 22.0 magnitudes per square arc second brightness at the zenith in V band.

### IDSP Requirements

International Dark Sky Parks are intended to shelter many aspects of the night, including astronomy, cultural significance, ecological integrity, wilderness, and scenic values. They must be publicly owned and offer at least limited public access at night. Parks over 50,000 ha may designate a portion of the park for an IDSP. Nomination is done in concert between the park administration and IDA members. Other public lands are also eligible, such as monuments, riverways, wilderness areas, forests, refuges, or historic sites.

These general requirements must be satisfied and documented in the nomination submission:

- A comprehensive outdoor lighting guideline that dictates night sky friendly fixtures, maximum illumination, and when not to light.
- Declaration of the night sky as a resource and integration into existing management documents.
- 67% of existing lights conform to guideline, and commitment to bring 100% of lights into conformance.
- An active educational or "interpretive" public program that shares the night with visitors.
- Leadership in light pollution prevention by conducting one of a number of various outreach options.

Designation does not need renewal, but may be revoked. A logo is being developed which will be prominently displayed by each IDSP. Designation is made at one of three levels (see below).

- IDSPs levels based on observed or measured sky quality:
- Gold— Near natural conditions, limiting magnitude of 6.8, and Bortle Class 3.
  - Silver— Exemplary night sky showing most of the features of a natural sky, limiting magnitude 6, and Bortle Class 4-5
  - Bronze (minimum)— Night sky quality relatively better than the population it serves. The Milky Way must be visible, limiting magnitude 5, and Bortle Class 5-6.

IDSPs are suitable in many parts of the USA, including the margins of east coast urbanization. Sky quality is differentiated by certification at the Gold, Silver, or Bronze level. Image by Cinzano et Al.



### Dark Sky Reserves

Extending this concept to larger tracts of land that are a mix of public and private ownership is the idea behind International Dark Sky Reserves (IDSRs). This is currently being formulated using the night sky protection efforts in Mont-Mégantic, Québec, Canada, and experiences in other parts of the world. It is expected to be completed in September 2007.

IDSRs will accomplish the protection and restoration of night skies through a comprehensive program of legislation, education, and partnership between several civic, commercial, and private groups. Such areas not only provide more effective protection than an isolated park would, but also provide a sense of community pride and stewardship of natural night skies.

The likely process of development of an IDSR includes the designation of a proposed area followed by the voluntary inclusion of municipalities, governments, parks, and businesses within the designated area. Once a critical threshold of participation is reached and a minimum fraction of outdoor lighting is brought within standard, an IDSR may be designated.

Like Dark Sky Parks, there is a benefit in including both dark remote areas as well as more populated areas. The core of the Reserve will have to meet a minimum standard of sky quality, but there should be ample opportunities to formulate proposed Reserves in many parts of the developed and undeveloped world.

### Concept and Introduction

Success in reconnecting humans to the aesthetic and inspirational values of the night sky will require that we set aside special places for natural darkness. These sanctuaries will prevent generational amnesia and discourage the acceptance of a night filled with artificial light and the acquiescence that light pollution is a necessary part of the modern world.

What if pristine dark skies were lost as a common human experience? If we cannot remind people what a natural night is like, how can we expect to change the tide of light pollution? Image by USNPS, Dan Duriscoe, Death Valley National Park, California, USA.



### A Broader Vision



One can envision a future where the caring, protection, and restoration of starlight is inspired by the broadcasting of these harbors of darkness. Just as the idea of a national park has focused environmental awareness and understanding one's relationship to the planet, International Dark Sky Parks and Reserves can likewise do the same for the protection and understanding of night and all that darkness in turn protects.

The established International Dark Sky Community program of the IDA, and the new IDSP and IDSR programs can work together to orchestrate the change needed to keep dark skies part of our common heritage.