



## *Excerpts From The Sky Calendar Column by Dr Jim & Grace Rickard*

### **Summer 2011 - Borrego Dark Sky Award – what does it mean?**

This summer marks the second anniversary of Borrego Springs being declared a Dark Sky Community. This award is given by the International Dark Sky Association, known as IDA ([www.darksky.org](http://www.darksky.org)), a nonprofit membership organization headquartered in Tucson, Arizona, run by a committee including lighting engineers, astronomers and others. The Dark Sky designation is reviewed annually by IDA to assure that “when the stars are up, lights are down.”

It took more than two years of work on the application by the Borrego Springs Dark Sky Coalition, an all volunteer group of half a dozen locals. Where does that award stand in the greater scheme of things? It’s huge! Getting the award was a significant achievement which honors the entire community for efforts to keep night lighting to an appropriate low level. There are only two other Dark Sky Communities – the first was Flagstaff, Arizona in 2001, which has been an important astronomical center since Percival Lowell set up a telescope there in 1894. And this year, the British island of Sark has achieved Dark Sky status. Never heard of Sark? Neither had we. It is 24 miles from France, and 80 miles from its mother country, England, is three miles long and half as wide, home to less than 700 residents, has no airstrip, no cars, no paved roads. You take a horse and buggy or bike or walk. Furthermore, electricity, including lighting, is very expensive since it is provided by a diesel electric generator. A slam-dunk dark sky situation, but they still had to write a pages-long application, get lots of letters of support, and come up with a professional Sark Island Dark Sky Management Plan. Clearly the Sark islanders heard about Borrego Springs.

There are also eight Dark Sky Parks, five of which are in the USA, and one Dark Sky Reserve, located in Canada. You can expect to see more Dark Sky designations, as others jump on the bandwagon, because not only is it good for a community itself, it is also a huge tourist draw.

A Dark Sky Community is defined by the IDA as “a town, city, municipality, or other legally organized community that has shown exceptional dedication to the preservation of the night sky through the implementation and enforcement of quality lighting codes, dark sky education, and citizen support of dark skies”. The Borrego Springs Dark Sky Coalition is now operating as an IDA Chapter and plans to keep education and implementation as their goals.

Borrego Springs is the closest dark sky site to the greater Los Angeles and San Diego megapolises. There is growing awareness of the beauty of the night sky. The attraction is not just for amateur astronomers with their telescopes. Most visitors are just entranced by the stars that they never see in the big cities. With more and more planets being discovered around other stars, people are curious about the possibilities of celestial neighbors!

## February - March 2013 - Outdoor Lights and the Dark Sky

For many years Borregans have had an awareness of our beautiful night sky. Urban visitors are stunned by seeing the stars and constellations invisible at their urban homes. Much of human history has been influenced by mysterious events in the night sky. Amateur astronomers and photographers come to Borrego to take advantage of a community with few annoying street lights and advertising signs. Borrego's dark sky is a natural beauty worth preserving.

A good working definition for a dark sky is being able to see the Milky Way on a moonless night. Another simple test is to find the North Star Polaris and to see the other six stars that make up the Little Dipper (Ursa Minor). But the sky is never pitch black. There are both natural lights and human-caused lighting that can ruin the dark sky.

The largest natural light that ruins the dark sky is the moon! The full moon is very bright at 1/10 to 1/5 lumens per square meter - that's equivalent to a 60 watt light bulb on a pole 300 feet high. You can read a newspaper with that much light. So the dark sky is really with us only the two weeks each month between Last Quarter and First Quarter moon phases.

The other sources of natural illumination are sky-glow from starlight and air-glow caused by oxygen molecules in the atmosphere excited by the solar wind. These two sources amount to only 1% of full moon light and do not prevent us from enjoying the Milky Way. This diffuse glow drops off as you go up in altitude, which is why astronomers place their observatories on high mountains.

Human caused outdoor lighting ruins our dark sky. This lighting is referred to as light pollution when it is excessive or badly installed. But it is a class of lighting we have some control over. Outdoor security lighting is Borrego's main challenge. This is found mainly at only a few locations in the village center.

Over the past few decades we have noted the increasing light pollution in the coastal region and Palm Springs area, but fortunately it is largely shielded by the mountain ranges. Now we note the growth of lighting beyond our control from communities around the Salton Sea and in Imperial County.

Finally vehicle headlights are unavoidable contributors to light pollution. We can be thankful that after 9 pm, Borrego midnight, there are very few cars on the road! I wonder if we could convince the Highway Patrol to let us have only one headlight (just kidding). If you live in Borrego Springs, please keep your outdoor lighting to a minimum. Thank you!

## December 2013 - January 2014 - Dark Sky Friendly Business Awards

Jim and Grace Rickard are both proud to be members of the Borrego Springs Dark Sky Coalition, the organization that was responsible for our village being awarded the first Dark Sky Community in California by the International Dark Sky Association in 2009.

In March 2013 the organization mailed a leaflet to all those with postal addresses in the Borrego Valley explaining the dark sky policy and encouraging suitable exterior household lighting.

But it was apparent from the start that, as in most communities, most of the poorly designed or oriented fixtures were in the central business area lighting up shops, restaurants and parking lots.

The Coalition has recently launched a **Dark Sky Friendly Business** program which recognizes businesses that have appropriate outdoor lighting. Borrego businesses and organizations can apply or ask for advice from the Coalition. There is no monetary reward, but this recognition shows support for Borrego's dark sky efforts. Forms are available in The Nature Center and online at [www.borregodarkskies.org](http://www.borregodarkskies.org).