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# nightscape

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# New Video Highlights Importance of Dark Skies

The International Dark-Sky Association (IDA), in collaboration with Loch Ness Productions, announces the availability of a new free-for-download video highlighting the issues regarding light pollution, titled “Losing the Dark.”

The 6.5-minute public service announcement is being distributed as a full dome video for digital planetarium theaters and as a high-definition flat screen video for use in traditional planetarium theaters, science centers, classrooms, and streaming from the Web.

The show illustrates problems related to light pollution, with particular emphasis on how it affects visibility of the stars and the environment. Carolyn Collins Petersen, CEO of Loch Ness Productions, points out that the domed theater is the ideal environment for the show’s message. “Planetariums champion the night sky already,” she said. “They tap into public awareness, so their audiences are a prime demographic for this message. The show gives planetarium professionals another tool to help educate the public about this critical issue. The HD version extends the message to more people through presentations by educators and dark-sky advocates.”

The simple solutions offered in the show for mitigating light pollution remind everyone that it is not too late to save the starry sky. Bob Parks, IDA Executive Director said, “Everyone who views Losing the Dark can see how easy it is to make smart choices about outdoor lighting, and that together we can work to restore the night sky while protecting the environment and saving energy.”

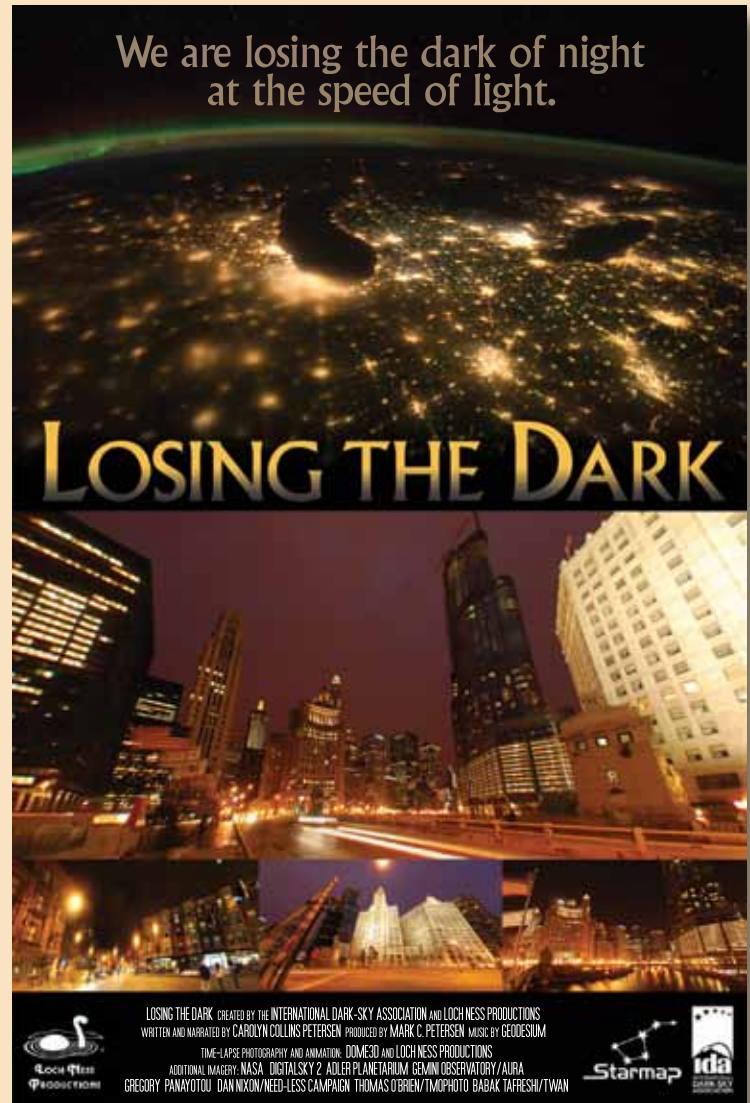
You can see Losing the Dark on IDA’s YouTube channel: <http://www.youtube.com/user/IntDarkSkyAssoc>

Or visit the IDA website at: <http://www.darksky.org>

Digital planetarium theater operators can preview and download the full dome version from the Loch Ness Productions website. Downloads of the HD flat screen version are also available at:

<http://www.lochnessproductions.com/shows/ida/ltd.html>

The show is produced in English, and translations are underway that will allow the program to reach a worldwide audience. Volunteers interested in providing translation and/or narration services can get information on how to help at the Loch Ness Productions website.



*The simple solutions offered in the show for mitigating light pollution remind everyone that it is not too late to save the starry sky.*

# From the Executive Director

## HAPPY 25TH BIRTHDAY IDA!

Dear Members,

As we enter our 25th year, I would like to take a moment to thank everyone who has supported us through thick and thin. The list is long, but I especially want to acknowledge Dave Crawford and Tim Hunter for their pioneering vision in founding the organization and giving so much of their time growing it. We also want to remember Mary Crawford for her diligence over two decades running the office, serving on the board and doing so much "behind the scenes" work to make IDA successful (see page 8).

What we have accomplished is nothing short of extraordinary, but what remains to be done is considerable. Today, unlike 25 years ago, quality outdoor lighting is finally becoming accepted as mainstream. Designers, planners, and manufacturers have embraced the use of fully shielded fixtures as the keystone of environmentally responsible lighting design. The majority of commercial outdoor lighting fixtures sold today are fully shielded and the percentage of fully shielded LED fixtures being sold is even higher. Concern for energy conservation and global climate change are helping focus the world's attention on the smart use of outdoor lighting.

France has enacted a milestone law (to take effect throughout the country in July 2013) requiring businesses to turn off exterior lighting an hour after they close. They are doing this primarily to save money and energy. This tidal wave of energy conservation holds the key to changing how the world uses outdoor lighting. We must engage and collaborate with as many governments as possible to ensure that a reduction in wasted outdoor lighting is at the top of their list of policy initiatives.

Lowe's, a nationwide home improvement retailer, has created a section in every one of their stores to highlight "Good Neighbor" lighting fixtures (see page 9). It includes a good selection of reasonably priced fully shielded residential fixtures accompanied by a poster explaining why consumers should buy them. Home Depot has also started labeling their fully shielded fixtures "Dark Sky". Make no mistake; this is a watershed moment for the dark sky movement. Please visit these retailers, purchase their products and tell the store managers you appreciate their efforts. Tell your friends, too!

Speaking of raising awareness, we have just released our public service announcement designed for planetariums (see inside cover).

This year we are co-hosting an Artificial Light at Night (ALAN) science conference with Verlust der Nacht in Berlin (see page 6). The conference will bring together the best and the brightest researchers to present the most current information on the impact of ALAN on ecology, human health, and safety. We hope to make this an annual event.

Thanks to the stalwart support of our corporate partner TeleVue, we will be offering our Dark Sky Giveaway membership promotion again this year. This year, we will have two separate giveaways in which the winner will be able to choose any four TeleVue eyepieces. We will kick off the first one at the Northeast Astronomy Forum in Suffern, NY on April 20-21. Please visit us at the booth or volunteer to assist us if you can.

Finally, please make plans now to celebrate our 25th birthday with us at the IDA Annual Meeting in Tucson on November 15, which is one day before the Arizona Science and Astronomy Expo. Details will be posted on the IDA website when they are firmed up.

Thank you,



Bob Parks, Executive Director



The mission of the International Dark-Sky Association (IDA) is to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting. IDA was incorporated in 1988 as a tax-exempt 501(c)(3) nonprofit organization. (FIN 74-2493011)

### CHAPTERS

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# Night Sky Road Trip

## TRACKING LIGHT POLLUTION FOR NATIONAL GEOGRAPHIC

Text and Photographs by Jim Richardson

Most road trips are daytime affairs; vagabond days spent watching America slip by the windows; nights in off-the-beaten-track motels. For National Geographic I reversed the day/night cycle. I toured the country on an inspection tour of the night sky. It was, by turns, inspiring and alarming.

**A**lways an armchair astronomer since my farmboy days, I knew that our night sky had taken a turn for the worse, even in just the last 50 years that I had been watching it. And I knew that it wasn't just astronomers who felt the pain, but also the nocturnal creatures sharing our earth – and maybe even our own human health.

That concern was at the heart of the proposal I wrote for a National Geographic story – and the magazine went for it. I was off.

My plan was simple. I'd spend the day driving and the night photographing the skies. I figured that every night I'd either have dark skies over my head, or not. Either way I'd have something to photograph: the splendors of the night or the great wash of light pollution threatening mankind's ancient heritage of the night.

St. Louis was just such a night. I'd diverted from driving to Chicago when weather reports indicated cloud cover over the whole midwest. I was already 3,000 miles into my saga when I rolled up to the Gateway Arch that night to discover the low hanging cloud glowing a deep salmon color from the vast collection of urban lights. Better yet, the spotlights on the arch were casting sweeping shadows across the clouds in graceful patterns. No dark skies here, but a

perfect way to show how city lights transform the night. I shot till midnight. The images were powerful and would eventually be an anchor in the National Geographic story.

My night at Natural Bridges National Monument couldn't have been more different – or more delightful. This place is a treasure, not just for the graceful stone arches fashioned by eons of erosion, but also for the stunning views of the Milky Way rising in an even greater sweep of stunning creation. I knew I was in the right place, not just for the views, but because it had recently been named an International Dark Sky Park by the International Dark-Sky Association. Thanks too, to the National Park Service and the folks of the surrounding area in southern Utah.

The night was perfectly silent when we arrived at 2:00 in the morning. I knew the Milky Way would soon be rising above the horizon. I still had enough time to train my young assistant, an eager young park ranger, in the art of light painting. He hid out of sight behind a bush, and as the Milky Way rose he shone his flashlight in great sweeps on the span of the arch during my 90-second exposures. The resulting image would eventually open our story in the magazine, oddly echoing the shapes and forms of the St. Louis Arch picture, yet so starkly different. Here was the



glory of the night, which many people in the world will never see again. (After our story came out I was in Saudi Arabia giving a lecture. When I showed that picture my young guide leaned over to his friend and asked, "What's that?" He'd never, ever, seen the Milky Way.)

The gulf between those two images – the St. Louis Arch and Natural Bridges – could not have been more drastic and set the tone for our whole story.

During my four-week journey I would have many similar nights. Out at Mt. Wilson I caught astronomer Dave Jurasevich opening the dome to his telescope – with the lights of Los Angeles obliterating the night in the background. While there I found that great image, shot in 1908, of the much smaller Los Angeles just beginning to turn on the lights. As best I could I found a similar vantage point up on Mt. Wilson and shot the same picture, but 100 years later. The contrast was astounding.

At Las Vegas I photographed the Luxor Hotel, beaming its light straight up into the night, perhaps the most excessive lighting display in a city that makes its living off of excess (see cover). The image was more than a little surreal.

In Utah I stopped at the Bonneville Salt Flats and spent a pleasant night far out amid the pressure ridges that snake across the salt beds. Over 100 miles away the glow of Salt Lake City filled the eastern sky.

Southern Arizona was an unexpected delight for several reasons. Along the way I spotted Saguaro cactus standing like desert soldiers on a hillside and stopped for the night. The Milky Way put on a show for me.

And further south I arrived at my destination, Arizona Sky Village, America's first dark sky housing development. There I photographed astronomer Jack Newton coming out of his house after a night spent searching for supernovae (he finds a lot them) and got him to hold still for a picture just as the dawn was bringing a bit of blue to the sky. Down the road I



TOP: Owachomo Bridge at Natural Bridges National Monument

BOTTOM: The St. Louis Arch in Missouri

photographed the street sign that said "Milky Way" with (of course) the Milky Way in the background.

Eventually, I got to Chicago. On a small plane with a skilled willing pilot I went flying over the sprawling metropolis at midnight. The scene was stunning. As the city lights receded in geometric order to the horizon a gauzy layer of clouds floated in off the lake and framed the skyscrapers of downtown. If ever a city looked overlit,

CONTINUES ON PAGE 4

***The gulf between those two images – the St. Louis Arch and Natural Bridges – could not have been more drastic and set the tone for our whole story.***



*A sea turtle returns to the beach where she was hatched to lay her eggs.*

## Road Trip

CONTINUED FROM PAGE 3

this was it. And Chicago is not any different than almost all large cities in terms of lighting, but from the air it has a certain order that speaks to mankind's night lighting spreading across the planet.

Finally, I was in Florida on Juno beach one moonlit night, waiting for giant sea turtles to come home to nest. Endangered Leatherbacks and Loggerheads tugged themselves out of the sea, up the beach, and through the beach chairs to lay their eggs at the spot where they had been hatched. All along the beach high rise condos lit up the night. When they hatched, the baby turtles would face a harsh decision; down to the sea or towards the glaring lights? Many would make the wrong decision and perish.

One turtle was new to the biologists tagging and tracking them. After

she had dug her nest and laid her eggs she turned back to the sea, and with great labor made it to the waterline and disappeared into the waves. They said I could name her and so I said "Kathy, in honor of my wife." (She wasn't quite sure what to think of having a turtle named after her.)

Twice in the years since that moonlit night Kathy has come back to Juno beach and the biologists have kindly sent me an email to alert me. Somehow it makes my day to think that after all those miles at sea she could come back again. But better yet, in the last email they told me that the owners of the condo in the background of my picture had gotten serious about lighting control, and things would be getting better for Kathy – and her young – in the future.

In a similar vein, we learned that after our story came out Chicago began a review of their lighting. We'll see.

But the message was clear. Focusing attention on the wonders of the night and the perils it faces is a worthy venture. Mine was just one voice, and rather late to battle, so many others have done so much more. But we all do what we can, and every bit helps. Publications keep coming back to me to use my pictures. Out there somewhere, someone is listening.

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*To see more of Jim Richardson's photographs visit his website at: <http://ow.ly/iTrio>*

### FACING PAGE

*A comparison of lighting at two different locations, one of which takes light pollution into consideration and one which does not.*

*TOP: An example of inefficient street lighting that produces glare, light trespass and skyglow while hindering visibility.*

*BOTTOM: A darky sky friendly community in Harmony, Florida.*





# The Loss of the Night – Interdisciplinary Research on Light Pollution

by Dr. Annette Krop-Benesch

**A**rtificial light at night can be a nuisance. Astronomers have known this for more than a hundred years. But aside from making the stars disappear, does light pollution pose a real threat for health and wildlife? Or does human society benefit from artificial light, as well as several species that use the light to their advantage? Why do we use light, what role does light play in our society? Are bright cities the modern way of life or is there a more enlightened and sustainable way to use artificial light at night?

To answer some of these questions the interdisciplinary research project “Loss of the Night” (German “Verlust der Nacht” VdN) was founded in 2009. Seven research institutes and two universities have combined forces to study the history, importance, and consequences of light at night for society, nature, and health. The coordination of the project is done at the Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin.

The main focus of the project is on outdoor lighting in public areas, like streetlights. In industrial societies, streetlights and illuminated buildings are a part of everyday life. But light in public areas became affordable only recently, in the 19th century. Ute Hasenöhr, researcher at the Leibniz Institute for Regional Development and Structural Planning, describes how at the beginning the nocturnal illumination of street lights was not seen as unanimously positive. Instead, people worried about safety issues caused by glare and the negative consequences for health and nature. Also, there was concern about the proliferation of immoral behaviour.

To detect the status quo in an area as large as Berlin, Christopher Kyba from Freie Universität Berlin along

with Helga Küchly and Franz Hölker from IGB set out by plane to identify areas where light is emitted vertically. (See *Nightscape*, issue 87, “Observing Light Pollution from Air and Space”) The resulting picture derived from more than 3000 photos is as aesthetic as interesting. It shows that 1/3 of the light is emitted from street lighting, but that there are also several confined bright spots, like Tegel Airport, sport arenas, and public buildings.

The major light sources for streets in Germany are high-pressure mer-

cury and high-pressure sodium lamps. Driven by the idea of energy efficient light and the reduction of CO<sub>2</sub>, LEDs are becoming more common. At first, cold-white LEDs were used, since they have the highest energy efficiency. However, complaints from citizens about their brightness increased, so warm-white LEDs became more popular.

Merle Pottharst, Josiane Meier and their colleagues at Technische Universität Berlin study how communities decide on new lighting. They try to determine the costs of artificial light, including the indirect costs due to the possible impact of light on humans and nature, as well as the costs of loosing cultural heritage like the stars and the darkness.

One reason why such costs are not considered is that they simply can't be put into numbers yet. It is known that in areas with high artificial light at night, the risk of obesity, diabetes, and

*To detect the status quo in an area as large as Berlin, Christopher Kyba from Freie Universität Berlin along with Helga Küchly and Franz Hölker from IGB set out by plane to identify areas where light is emitted vertically.*





cancer is increased. However it is not clear if the cause for this is the light itself or just lifestyle differences. Barbara Griefahn from the Leibniz Research Centre for Working Environment and Human Factors therefore studies how light influences the levels of melatonin, the hormone that controls our internal clock and prepares our body for its nocturnal rest.

The ecological consequences of light are studied by a group of ecologists from different institutions. Anja Nordt for example wants to know if the early bird really catches the worm. Blackbirds in Dresden start to sing earlier in illuminated areas, but if their food is also out and about that early or if the birds just waste sleep is not clear yet.

A bigger approach is done in the still quite dark surroundings of Berlin in Brandenburg. The project has installed a field about 100 km from Berlin with high-pressure sodium lamps for a controlled study of behaviour and abundance of bats, insects, and fish. Similar questions are asked in a street in Berlin and a small town close by, where LED street lamps have been installed. Based on a series of experiments researchers want to know which animal species are influenced by artificial lights, and whether or not there are changes in the ecosystem.



Research field of *Verlust der Nacht* PHOTO COURTESY OF THE VERLUST DER NACHT RESEARCH TEAM IN BERLIN

Using surveys and hormonal tests they also want to know how people experience the new light conditions and how their body reacts.

The results of VdN and other research projects show that it is not an easy task to choose the right light. Many factors have to be taken into account and many stakeholders are involved. City counsellors often lack the knowledge to make informed decisions. Therefore VdN puts a high emphasis on advisory services. Beginning

with public talks and visits to schools, the project is also involved in developing guidelines for municipalities, and working with light designers and producers. Its focus is not on switching lights off, but on finding a holistic method for utilising light while minimising its negative consequences for nature, health, and society.

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For more information on the project and a list of its publications, please visit <http://www.verlustdernacht.de/about-us.html>.

PHOTO BY KATHARINA GABRIEL



## IN MEMORIAM



# Mary Crawford

1940 ~ 2012



*Mary had a love for many things including travel, the ocean, fishing, hats, playing cards, and the color purple. She was a kid at heart, loved to laugh, and enjoyed life to the fullest.*

Mary Louise Crawford, RN, biofeedback therapist, activist for quality night lighting, and mother of three, passed away in Carlsbad, CA on November 6, 2012. Born in Akron, OH Mary spent most of her adult life in Tucson, AZ where she first worked as a cardiac nurse at University Medical Center. Afterwards, she ran her own biofeedback therapist practice and more recently served as volunteer, treasurer, and board member for the International Dark-Sky Association. She was also active in the Illuminating Engineering Society of North America and the CIE lighting organization.

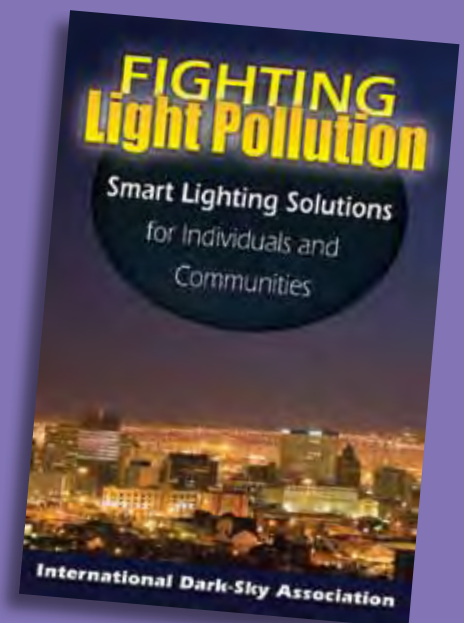
Mary had a love for many things including travel, the ocean, fishing, hats, playing cards, and the color purple. She was a kid at heart, loved to laugh, and enjoyed life to the fullest. All who knew and loved her will miss this compassionate, caring woman. Mary is survived by husband of 50 years: David Crawford, three daughters: Christine Glanz, Deborah Crawford, Lisa Bruhn, and seven grandchildren. In lieu of flowers the family requests that donations be made in her honor to The Elizabeth Hospice: <https://donate.elizabethhospice.org/form>.

**Learn how to effectively fight light pollution in your community with the first practical guide to alleviating an increasingly prevalent environmental concern!**

**This authoritative source is geared to home owners and renters, stargazers, nature-lovers, business owners, community leaders, and public officials – anyone with an interest in efficient and effective lighting.**

***You will automatically support IDA and its mission to preserve the night sky by making your purchase through this link:***

**<http://www.darksky.org/shop>**





# Dark Sky Lighting at Lowe's in the USA

**D**ark Sky Lighting is appearing in Lowe's Home Improvement stores across the United States. This is a great step forward as we're seeing a response to the desire for lighting that is neighbor friendly as well as dark sky friendly.

In some stores you will find that dark sky lighting is introduced with a pleasant "Be a Good Neighbor" display. It points out the IDA-approved lighting Fixture Seal of Approval and gives a bit of information about what our seal guarantees.

- Reduce light pollution and enhance dark sky
- Lessen impact of artificial light on ecosystems
- Reduce glare & intruding light in neighbor's home
- Minimize energy use and operating cost
- Improve visibility, safety, and security

At other stores there is dark sky lighting stocked, but no display to point them out. Be on the lookout for the IDA-approved Fixture Seal of Approval or the Lowe's Good Neighbor logo and you'll know that what you're buying is dark sky approved and will reduce light pollution coming from your home.

There are a few things you can do to encourage the continuation of these products or the increase of these products at your local stores.

First, be sure to make an effort to purchase these items in preference to other, not dark sky friendly lighting. Second, tell your store's manager that you appreciate the inclusion of these products on shelves and that you hope to see more and a wider variety in the future.

If your store hosts a lighting display, thank the manager for the information that it shares and explain how easy it was to find the lighting

*Dark sky lighting is appearing on the shelves of Lowe's across the USA.*

***Be on the lookout for the IDA-approved Fixture Seal of Approval and you'll know that what you're buying is dark sky approved and will reduce light pollution coming from your home.***

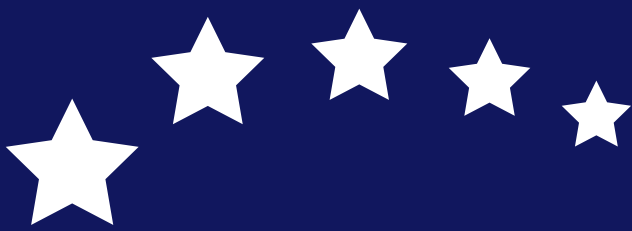
with the sign. If your store does not host a lighting display, let the manager know that you've heard of them at other stores and would appreciate the installation of one at your store.

We celebrate this success and hope to see many other local companies across the USA and the world begin to carry dark sky friendly lighting. With your support and attention to these products stores are sure to see how desirable the products are to consumers.

You can make a difference, purchase and install dark sky lighting, and be proud of it too.



PHOTO BY BRYAN BODIE



# The Year in Review

*It has been a busy time, full of exciting new developments and continued initiatives at IDA. Here's a review of some of the year's many events, goals, and successes. We thank our IDA members and donors for their generous and continued support of dark skies awareness and for helping us to improve the world one light bulb at a time.*

**I**n education, IDA staff spread the word about light pollution and the Model Lighting Ordinance (MLO) around the United States this year by traveling and speaking with many organizations. IDA Director Jim Benya talked about the MLO in San Diego, CA and former IDA Director Nancy Clanton hosted a popular webinar on it as well. IDA staff spoke about light pollution, the MLO, and lighting ordinances in Arizona, California, Colorado, Iowa, and New York. The MLO gained traction when the City of Las Cruces, NM adopted it and when Walmart officially adopted the MLO as its guide for new outdoor lighting. IDA Québec translated the MLO into French making it more available.

International presentations were made at the Third International Starlight Conference in New Zealand, Noche Zero in Chile, the European Symposium for the Protection of the Night Sky in Poland, International Astronomical Union in Beijing, and many more.

IDA participated in many important meetings and events this year providing booths, speakers, and more. Some notable events included the National Geographic BioBlitz at Rocky Mountain National Park; the Northeast Astronomy Forum; the Pacific Astronomy and Telescope Show; and the Colorado Plateau Dark Sky Cooperative Meetings held in Flagstaff, AZ and Grand Junction, CO. IDA staff were part of several light pollution presentations and workshops at the Astronomical Society of the Pacific's annual conference. Some of the meetings IDA attended include, American Society of Landscape Architects in Phoenix, LightFair in Las Vegas, and Light+Building in Germany. New relationships with dark sky advocates developed during these events and previous relationships were strengthened, giving IDA the connections needed to make the largest impact possible on light pollution across the globe.

The International Dark Sky Places (IDSPlaces) program welcomed a new dark sky park and two new reserves this year. The Aoraki Mackenzie Dark Sky Reserve in New Zealand was

announced at the third International Starlight Conference in June. The first International Dark Sky Reserve in Africa was designated at the NamibRand Nature Reserve, combining the pristine skies with the experience of a true safari. Big Bend National Park in Texas became an International Dark Sky Park in February. Many more locations are currently developing applications for the IDSPlaces program and are expected to submit in 2013 and coming years.

The IDA National Park Service cooperative agreement wrapped up, with IDA delivering and installing lighting retrofits for nine parks across the United States. These parks include Canyon de Chelly National Monument, Chiricahua National Monument, Craters of the Moon National Monument & Preserve, Homestead National Monument, Mojave Preserve, Redwood National Park, Tallgrass Prairie National Preserve, Morristown National Historic Park, and Cedar Breaks National Monument. IDA's Parks and Protected Areas program was created to carry on this important work and has allowed for additional lighting retrofits to be installed at Bryce Canyon National Park. Success with these parks was supported by generous donations of IDA members, in fact, this fundraiser was larger than any single appeal in IDA history. Now that these parks have the right lighting they are well on their way to achieving IDSPlace designations. Many of the parks have already begun the application process and are expected to submit in the coming years.

This year IDA added two new Dark Sky Ambassadors to spread the word about light pollution and what can be done to prevent it. Kevin Poe, a National Park Service ranger, and the first 'Dark Sky Ranger', regularly creates videos on light pollution for YouTube (<http://www.youtube.com/user/iamthedarkranger>) as well as overseeing the Dark Sky Rangers program in Bryce Canyon National Park. Bill Nye, "The Science Guy", and CEO of the Planetary Society has also become a Dark Sky Ambassador and will be using his influence as a major science figure to raise awareness. Learn more at [www.planetary.org](http://www.planetary.org).





Another success has been the IDA Education Committee's *Losing the Dark* planetarium public service announcement (PSA). The committee, chaired by IDA Board Member Connie Walker, has been working on the PSA for over a year. Loch Ness Productions is producing the show, which IDA is distributing free of charge to planetariums and other venues around the world. IDA has successfully raised the necessary funds to create, produce, and distribute this PSA thanks to generous IDA donors, StarMap planetarium app ([www.star-map.fr](http://www.star-map.fr)), and the Fred Maytag Family Foundation. The show is being distributed in both full-dome and flat screen versions to be used by advocates and educators to raise awareness.

The start of a new partnership between IDA and Astronomers Without Borders (AWB) began this year. IDA is contributing to their Dark Skies Awareness Blog (<http://ow.ly/iKRJU>), published at the beginning of the new year. Also, be on the lookout for the IDA and AWB to roll out a new astronomy and dark skies awareness outreach program called the Save Our Stars in 2013.

Southern Stars, the company that makes the SkySafari planetarium app, held a promotional campaign for IDA that raised over \$4,000. Please show your support by visiting their website when looking for a new app for your smartphone or tablet at [www.southernstars.com](http://www.southernstars.com).

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## 2012 IDA Annual General Meeting

IDA's 2012 Annual General Meeting (AGM) was held in conjunction with the Arizona Science and Astronomy Expo on November 10-11 in Tucson, AZ. The program welcomed experts in light pollution and dark sky awareness from across the globe.

The meeting hosted a number of specialists in light pollution giving talks on a variety of topics. IDA Executive Director Bob Parks held a workshop, "Fighting Light Pollution", to discuss being an effective dark sky advocate. IDA Board Member Martin Morgan-Taylor discussed legal methods for regulating light pollution. Dr. Connie Walker challenged attendees to empower the public through educational dark sky awareness programs. William Wren, from the McDonald Observatory in Texas, delved into the topic of protecting dark places, particularly those in west Texas. Steve Bosbach, also from Texas, revealed the goal

of turning a number of that state's parks into International Dark Sky Parks. Mike Simmons stood in for new IDA Beijing Chapter Leader Xiahua Wang to present an update on new efforts in China to protect the night sky. National Park Service's Kevin Poe, "The Dark Ranger", discussed the importance of conservation of natural nighttime environments. A reception was held afterward to allow discussion of the day's many topics. To cap the event, a preview of the new *Losing the Dark* planetarium show was screened.

Awards were also distributed at the meeting. These included awards for exceptional lighting design, dark sky education and awareness, student dark sky advocates, and a number of other categories. All awards and recipients may be found in more detail on IDA's website: <http://ow.ly/h48nu>.





Participants of the First Dark Sky Session at the IAU conference in Beijing  
PHOTO BY SZE-LEUNG CHEUNG

## Annual Report

CONTINUED FROM PAGE 11

Ian Cheney's light pollution documentary *The City Dark* continued to have a big impact this year with its national television debut on PBS and showings across the globe at conferences, universities, astronomy clubs, and more. IDA held its own showings of the informative and entertaining documentary in Arizona and elsewhere. Learn how you can host a screening of the film at [www.thecitydark.com](http://www.thecitydark.com) or get a DVD copy from Amazon at [www.ow.ly/hrS8O](http://www.ow.ly/hrS8O).

The Fixture Seal of Approval (FSA) program encourages lighting manufacturers to submit their fully shielded fixtures for certification by IDA. This year IDA welcomed many new companies. If the lighting meets IDA's dark sky requirements it is designated Dark Sky Friendly and given the IDA FSA badge. This badge may be found in stores nationwide (see page 9). New manufacturers include Visionaire, Wadco, BEGA Lighting, Construlita, Luxim, and many more totaling 34 new companies this year.

Despite difficult financial times at IDA, 2012 was another productive year. IDA continued to raise awareness about light pollution and promote ecologically responsible solutions. This effort would not be possible without the generous support of our donors and members. In 2013, IDA's 25th anniversary year, we still have much to do. However, thanks to you, we have been able to accomplish so much.

*Attendees from around the globe at the 11th Annual European Symposium*



**The International Dark-Sky Association extends its appreciation and thanks to all who generously support our mission.**

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# ALAN 2013

## First International Conference on Artificial Light at Night



The research network Verlust der Nacht and the International Dark-Sky Association are pleased to announce the First Interdisciplinary Conference on Artificial Light at Night (ALAN 2013), held in Berlin from October 28-30, 2013.

Light is often perceived as symbol for security, wealth and modernity. Thus, humans tend to illuminate their environment intensively. Although artificial light provides countless advantages to humans, there is also a dark side of light. Research shows that there might be considerable impact on nature, health and society.

We invite you to the First International Conference on Artificial Light at Night to discuss the role and impact of artificial light. This conference is intended to provide a discussion platform for researchers, designers, city planners, industry, advocates and everybody who is interested in artificial light and its influences. We therefore aim for a broad array of talks from different disciplines and perspectives, consisting of 12 plenary talks, contributed talks in parallel sessions, and a poster session.

### **CONFERENCE FEE**

**Regular: 200 €**

**(participation in sessions, conference materials, coffee breaks and lunches)**

### **FURTHER INFORMATION**

**Please visit <http://www.verlustdernacht.de/alan2013-en.html> or contact us at [alan2013@wew.fu-berlin.de](mailto:alan2013@wew.fu-berlin.de)**

# IDSPlaces Update

## BORREGO SPRINGS, CA – IDSC

Betsy Knaak, of the Dark Sky Coalition, announced that the International Dark Sky Community of Borrego Springs, CA has had recent exciting events including visits from documentary makers, dark sky events for the community, and successful participation in a competition for desert and dark sky education. Director Young Soo Kim made a stop in Borrego Springs to film “For Those Who Have Been Deprived of Night Sky” for the South Korean PBS TV. Among many educational events the nearby Anza-Borrego Desert Natural History Association took 2nd place in the 2012 EcoAmbassadors competition for San Diego County and was awarded \$10,000. Learn more on their website [www.abdnha.org](http://www.abdnha.org)

## MONT-MÉGANTIC IDSR

On December 11, 2012 staff of the Mont-Mégantic International Dark Sky Reserve, in collaboration with the IDA Québec chapter, hosted the

Symposium on problems and solutions of white LED lighting (*Problématiques et solutions relatives à l'éclairage aux DEL blanches*). To begin, the existing astronomical installations in Mont-Mégantic were showcased. Next, many researchers presented important work on the topic of human health including Professor Johanne Roby of the Sherbrooke College (Cégep de Sherbrooke) who presented “The impact of the artificial lighting on the human health, on the wildlife and on the flora”. Professor Martin Aubé from the Cégep de Sherbrooke, member of IDA Québec proposed a new way to define luminaries in relation to their effects on the production of melatonin (MSI), on the photosynthesis (IPI), and on the dark-sky (SLI). The second part of the symposium was dedicated to technical and regulation solutions. Experts presented LED luminaires adapted to the demands of the Dark-Sky reserve as well as regulatory models. All presentations are available on the ASTROLab’s site (in French only) [ow.ly/hkVft](http://ow.ly/hkVft).

The Royal Astronomical Society of Canada also recently published a Special Report titled, “Environmental Impact of Light Pollution and its Abatement.” Read the report at [ow.ly/hjn9S](http://ow.ly/hjn9S).

## NAMIBRAND IDSR

In its first year as a Dark Reserve, the Namibrand has focused on developing public awareness of the importance of dark skies and threats to them. The reserve has worked with print journalists in South Africa and Germany on articles about light pollution and the IDA’s role in preserving dark skies. It has also been in discussion with a television producer in South Africa about the possibility of filming a documentary on the Dark Sky Reserve. An informational brochure is in development and will be distributed.

## NATURAL BRIDGES IDSP

Natural Bridges, the first International Dark Sky Park, is still going strong according to Sky Ranger Gordon Gower. Night sky programs were held from May to mid-October and an estimated 700 guests attended. Ranger talks, tours of the sky and stars, and telescope tours were given regularly. The Natural Bridges bookstore and the Canyonlands Natural History Association donated a Starmaster 16.5” Newtonian telescope for use in their programs.



*The observatory in Mont-Mégantic International Dark Sky Reserve*  
PHOTO FROM THE OBSERVATOIRE  
DU MON-MÉGANTIC WEBSITE AT  
[HTTP://OMM.CRAQ-ASTRO.CA/INDEX.PHP](http://omm.craq-astro.ca/index.php)





*Milky Way above the Avenue, Sark* PHOTO: SUE DALY LRPS

### **AORAKI MACKENZIE IDSR**

Steve Butler, from the RASNZ Dark Skies Group, said that already in less than a year the rewards for protecting the night sky are apparent. Astro-tourism company Earth and Sky's operations manager Margaret Munro reported on tourism. "The largest increase has been a 20-30 percent increase in visitors from Japan and China, following Tourism New Zealand's support of the Aoraki Mackenzie International Dark Sky Reserve."

Local residents are planning for the first of an annual Starlight Festival of astronomy, culture, entertainment and education to take place in October 2013. Steps towards establishing a Charitable Trust are being undertaken to ensure the future of the reserve.

### **ISLE OF SARK – IDSC**

Annie Dachinger reports that Sark Astronomy Society recently held a stargazing session where 10 members gathered with telescopes and binoculars for a filming session with Channel Television (Jersey). After a wet and cloudy day, there was fortunately an hour of absolute clarity that was used to talk about the lovely dark sky

and what it means to the habitants of the island. Sark is now seeing an increase in visitors during the winter, probably due to the fabulous winter constellations and the long dark hours full of wonder. A Starfest Celebration, dedicated to the memory of Sir Patrick Moore and Neil Armstrong, is being planned for April.

*Astro-tours at Lake Tekapo allow visitors to experience the night sky in groups accompanied by experienced astronomy guides.*

PHOTO BY FRASER GUNN  
WWW.FRASERGUNN.CO.NZ



# IDA Chapter News

## IDA NORTHEAST REGION

Chapter leaders in Massachusetts have introduced a pair of outdoor lighting bills based on a new state law model template that was developed in collaboration with IALD, IDA, IES, and NEMA. IDA Board Secretary Kelly Beatty reported that S.1573 and H.2941 were introduced simultaneously by Sen. Creem and Rep. Garballey, respectively, and collectively have 33 legislative co-sponsors. The bills have been referred to the Telecommunications, Utilities and Energy Committee.

This new template is designed to help advocates introduce a state bill with broad support. When used without modification, IALD, IES and NEMA have agreed to not oppose the bill. Advocates can still introduce a bill that includes stronger standards, but in these cases the bill is likely to be actively opposed by NEMA.

IDA will support legislation developed by local advocates, but the model template represents an compromise that may be garner broad support.

Local zoning ordinances continue to be the best way to implement comprehensive outdoor lighting standards. However, the state model template can help enact legislation requiring fully shielded roadway lighting, which is often exempt from local ordinances.

Please review the template and give us your feedback: <http://tinyurl.com/a5cb54o>

## IDA PENNSYLVANIA

IDA Chapter Leader Stan Stubbe of the Pennsylvania Outdoor Lighting Council (POLC) was interviewed for an article on outdoor lighting that appeared in the Dec. 2012 issue of *Pennsylvania Township News* magazine. The article (available at: [www.ow.ly/hrSLQ](http://www.ow.ly/hrSLQ)) covers most issues related to outdoor lighting and is a good read for anyone interested in light pollution.

Stan also maintains an informative website for the POLC ([www.polcouncil.org](http://www.polcouncil.org)) and puts out a free electronic newsletter called "Light Tracker".

## IDA QUÉBEC

IDA Québec has translated the IDA-IES Model Lighting Ordinance into French. It is available on IDA's MLO page ([www.darksky.org/mlo](http://www.darksky.org/mlo)) and from their website [www.idaquebec.org](http://www.idaquebec.org).

IDA Québec members were also active at the symposium hosted at Mont-Mégantic International Dark-Sky Reserve. See the IDSR's update on page 14 for more details.

## NEW CHAPTERS

Please join us in welcoming two new IDA chapters representing Tokyo, Japan and Central Florida. Nobuaki Ochi is heading up IDA Tokyo, our first chapter in Japan while William Fife is leading the Central Florida Chapter, which is based in Harmony, Florida. Harmony was recognized by IDA with a Development of Distinction award in 2009 and runs an annual dark sky festival. Central Florida IDA will soon take over running the event. More information on the festival can be found at [www.darkskyfestival.com](http://www.darkskyfestival.com).

## Be a Shining Star

Planned giving to IDA will help save the night sky for future generations

For more information:

call 520-293-3198

email [susan@darksky.org](mailto:susan@darksky.org)

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PHOTO BY BEN CANALES

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