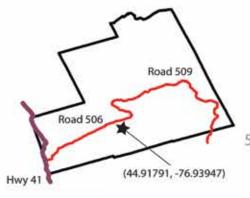




The Dark Sky Preserve — 5816 Road 506 (44.91791, -76.93947) south of Plevna, Ontario.



COME ENJOY AN EXPERIENCE THAT WON'T BE FORGOTTEN!

North Frontenac is lucky to have some of the most southerly exceptional dark skies in Canada. The darkest region in the area, known as the 'Dark Peninsula', encompasses 4 Counties; Frontenac, Lennox-Addington, Hastings and Renfrew. For millions of people in southern Canada and the north-east US, this is the best view of the night sky and the Milky Way that they will most likely experience.

The Dark Sky Preserve is a public space with ammenities, including parking, washroom, electrical service and the concrete pad, where anyone can set up their telescope and enjoy the dark skies.

North Frontenac Township Dark Sky Preserve / Stargazing Pad 5816 Road 506, Plevna Ontario, Canada "Four Seasons, More Reasons"



FROM THE EXECUTIVE DIRECTOR

THE POWER OF PARTNERSHIPS

FORGING WORLDWIDE ALLIANCES FOR DARK SKIES & STARRY, STARRY NIGHTS

Dear Members and Supporters,

As I take the helm of the International Dark-Sky Association, I am humbled and honored to work alongside so many individuals who share a common vision for our world and a love of dark skies! We are truly an international community joined by the passion to preserve and restore the night sky.

I am thankful to be working with a staff of dedicated professionals who are unrelenting in their drive for excellence. Indeed, we should all be grateful for the amazing talent and the rich experience that your team in Tucson brings to the cause. Likewise, the IDA Board of Directors with its global reach is an important partner in shaping the long-term direction and strategies to further IDA's mission even more effectively.

Most importantly, though, I am thankful for the unwavering commitment of members and supporters like you. Because of you, IDA is able to successfully effect change. Together, we can forge worldwide alliances to educate and empower individuals to advocate for light pollution controls. Rigorous science melded with our compassionate global community of advocates like you is an unstoppable recipe for success ... and celebration!

These are incredibly exciting times at IDA with much to do. Now more than ever, we must position ourselves for the future by expanding our fiscal resources and developing additional capacity so we can better work with you ... the leaders of change. In the coming months we will be hard at work:

- Updating our strategic plan to build a new and exciting long-term vision for IDA,
- Welcoming even more Dark Sky Places into our family of stellar, dark sky destinations across the globe,
- Launching a new IDA website that is elegant, informative, user-friendly, and filled with practical resources,
- Expanding and enhancing our membership program to better serve your interests and needs,
- Deepening our collaborations with like-minded organizations, including those in the environmental and conservation community,
- · Reinvesting in and strengthening our all-important chapters, and
- Putting the "I" back in IDA.

I look forward to working with you to build on the amazing history and enduring accomplishments of IDA and supporters of its mission. Working together, we can create an even more vibrant and effective organization to reclaim the night skies and revel in astonishment at our starry, starry nights.

Sincerely,

J. Scott Feierabend Executive Director

P.S. I hope you enjoy reading our 2014 Annual Report and learning why you really do make a difference.

COVER: Man and nature collide in this beautiful night sky image by Mike Taylor of Taylor Photography. An Iridium Flare from a communications satellite flashes over western Maine while light pollution looms in the distance and the Milky Way dances above. A big thanks goes out to Mike for donating the use of this photo and for championing IDA and dark skies in general. You can see more of his work at miketaylorphoto.smugmug.com.



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

Australia, Österreich/Austria, Canada (4), República de Chile/Chile, Česká Republika/Czech Republic, 中国/China(4), India, Éire/Ireland, ὑχυν/Israel, Ελλάςα/Greece, 香港/Hong Kong, Magyarország/Hungary, Italia/Italy, 日本/Japan, Repubblika ta' Malta/Malta, México/Mexico, Schweiz/Switzerland, Slovenija/Slovenia, South Korea (3), Sverige/Sweden, United States (38)

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IDA Welcomes Seasoned Nonprofit Leader J. Scott Feierabend as New Executive Director



With more than 30 years experience serving nonprofits, Feierabend is an exciting addition to the IDA team.

We're very excited to welcome J. Scott Feierabend as our new Executive Director. Scott has a strong record of proven leadership excellence and more than 30 years serving the nonprofit environmental community.

Before joining IDA, Scott was the Executive Director of Audubon Canyon Ranch, a nonprofit conservation education organization dedicated to protecting lands in northern California. During his four and a half years at ACR, Scott created long-term financial health and stability for the organization and successfully negotiated the transfer of more than 3,000 acres of wild lands, more than doubling the nonprofit's Preserve system.

Prior to his work at ACR, Scott served as the interim Executive Director and Conservation Director for California Trout, a nonprofit protecting and restoring California's wild trout and steelhead populations. While serving as CalTrout's Executive Director, Scott managed a multi-million dollar budget and was responsible for finance, strategic planning and board governance.

Scott also served as Executive Director for the Marin Conservation League, a nonprofit working to protect the natural resources of Marin County, Calif. During his time at MCL, Scott cultivated new sources of financial support and increased the organization's membership by more than 80 percent within his first 18 months.

Scott's professional conservation career began in 1980 as an intern with the National Wildlife Federation in Washington, D.C., where he held the positions of staff scientist, lobbyist, director and vice president. Following his 21-year career with the National Wildlife Federation, Scott then served as Director of Conservation Programs for the Alaska Chapter of The Nature Conservancy.

Scott is a welcome addition to IDA's community of dedicated dark sky advocates. He has joined the IDA team in our Tucson headquarters and looks forward to building an enduring, vibrant and inspirational organization.

Board Elections Retain Savvy Pros and Infuse New Blood

Two new board members bring passion and talent to the cause.

We're excited to welcome two new members to our Board of Directors for 2015 - Tim Shotbolt and Diana Umpierre. Both bring new passions, skills and talents to the board. We're grateful to have them with us fighting for dark skies.

Diana Umpierre is a certified planner and a GIS professional, with a degree in Geology from Cornell University. She's a member of the American Planning Association, the Florida Association of Environmental Professionals and the Urban and Regional Information Systems Association. Committed to environmental issues, she's a member of several nonprofit advocacy groups including the Sierra Club and the National Audubon Society. Diana joins the board as an active member of the IDA South Florida chapter. In 2013 she received the IDA Dark Sky Defender Volunteer of the Year Award for her tireless work advocating for dark skies. Diana was elected to the board last fall.

Tim Shotbolt is a light pollution researcher in Australia and recently became head of the IDA Asia Pacific Office. His 1989 Master's thesis, "Obtrusive Light and Outdoor Floodlight Installations," was the first to coin the term "Obtrusive Light." He's published a number of papers on the environmental impacts of light at night. Tim's a Life Fellow of the Illuminating Engineering Society of Australia and New Zealand and has been an IDA member since 2006. He was appointed to the board in December.

Diana and Tim join Kelly Beatty and Connie Walker who were re-elected to the board last fall. Tim Hunter, IDA co-founder and longtime board member, has stepped down for now. We are grateful for all he's done over the years to further IDA's mission. We look forward to continuing our work with him in new ways.



New Board Member Diana Umpierre is an active and committed member of IDA South Florida.



Tim Shotbolt, new to the IDA board, is a light pollution expert from Down Under.



Q&A with Diana

IDA: Why did you get involved with IDA?

Diana: The seriousness of growing light pollution and deteriorating natural night sky in South Florida.

IDA: What excites you most about becoming an IDA board member?

Diana: The opportunity of expanding IDA's outreach within the environmental, geography and planning circles of influence and strengthening our messaging, advocacy and policy efforts. I also look forward to helping grow our efforts in Latin America.

IDA: If you could tell our members and supporters only one thing, what would it be?

Diana: Lose fear and remain hopeful. The past few years have taught me that one person can make a difference. We all have circles of influence where our voices can be heard. One of my conservation heroes, Dr. Sylvia Earle, once said: "Ask yourself what are you capable of doing,

and what you really care about. Then, take the initiative – don't wait for someone else to ask you to act."

Q&A with Tim

IDA: Why did you get involved with IDA?

Tim: IDA's diversification to a broader environmental and cross-disciplinary approach to the unwanted effects of artificial light.

IDA: What excites you most about becoming an IDA board member?

Tim: A greater opportunity to make a difference to the status quo.

IDA: If you could tell our members and supporters only one thing, what would it be?

Tim: One people, one planet, both finite and precious. Enjoy the sheer beauty of each moment because it's constantly changing. However, remain focused on our long-term goal to eliminate the unwanted effects of artificial light at night.

IDA Recognizes Exceptional Efforts

We're grateful to honor these amazing individuals for their contributions to the night sky.



We're grateful for all the incredible work of our dedicated supporters and volunteers. Every year we look forward to publicly honoring some of the more exceptional efforts. Like most years, the winners of IDA's 2014 annual awards are pretty amazing.

Tim Hunter, IDA co-founder and past IDA board president, received the Dr. David L. Crawford Lifetime Achievement Award for his long-standing commitment to IDA and fighting light pollution.

Tim has been working tirelessly to protect the night skies since before IDA's founding in 1988. Bob Gent, a dedicated member and past board president, was on hand to present the award and co-founder Dave Crawford, who inspired the award, sent a video message congratulating his "co-conspirator" and old friend.

Nancy Clanton was given the Hoag-Robinson Award for her outstanding work educating governmental organizations, businesses, and the public about the merits

of outdoor lighting control ordinances. The award is named in honor of two pioneers in outdoor lighting reform, Dr. Arthur Hoag and Mr. William Robinson.

Nancy, an international leader in quality outdoor lighting design, is the founder and president of Clanton & Associates, a lighting design firm specializing in sustainable design. Her award-winning projects set the standard for how best to light while conserving energy, reducing glare, and protecting the nighttime environment. Nancy also served on the IDA board for nearly 20 years.

Dark Sky Defender awards were given to several dedicated organizations and people who were instrumental in creating new International Dark Sky Places. These include Dr. Andreas Hänel (Rhön Biosphere Reserve), Gordon Gower (Hovenweep National Monument), Julie Ormonde (Kerry International Dark Sky Reserve), Allan and Rosemary Bell (Beverly Shores International Dark Sky Community),

Alan and Rosemary Bell (fourth and fifth from the left) received a Dark Sky Defender Award for their tireless efforts to obtain the International Dark Sky Community designation for Beverly Shores, Ind. Photo by Bill Taylor.

Eathan McInyre (Grand Canyon-Parashant National Monument), Oracle Dark Skies Committee (Oracle State Park) and Keep Sedona Beautiful (Sedona International Dark Sky Community).

Four other committed individuals received Dark Sky Defender awards for their distinguished efforts to the cause. Amy Juan and John Kanemoto worked with IDA board member Connie Walker on a summer project to test a wide variety of night sky brightness measurement tools and techniques, possibly the first such effort of its kind.

Learn about Cindy Luongo and Alejandro Sanchez, the two other award winners, in the Q & A below.



Q&A with Cindy

IDA Texas Chapter Leader Cindy Luongo Cassidy is a force of nature in the already very active Texas dark sky movement. She was an essential player in the City of Dripping Springs International Dark Sky Community application and an organizer of the light pollution conference hosted there last summer. Cindy nominated Copper Breaks State Park for its Dark Sky Park status and also provided technical assistance and advice for Enchanted Rock State Park in their successful Dark Sky Park bid.

IDA: What inspired you to get involved with these projects?

Cindy: Glare has always been a problem for me. I also love stargazing. So, when I was able to set aside some time to take on a challenge, I reflected on the issues that were not only meaningful to me, but also where I might be able to make a difference, and the reduction of light pollution seemed to fit me quite well.

IDA: Why do you think protecting the night sky is so important?

Cindy: Life on earth depends on natural darkness. Almost every living thing on this planet needs the cycle of daylight and darkness to trigger life processes. When we protect the night sky, we're also saving energy costs, reducing glare, increasing safety, reducing light trespass, and creating a more aesthetically pleasing nocturnal environment.

For the icing on the cake, when we protect the night sky, we get to bask in its splendor. It's so sad that the experience of being under a pristine night sky has been

taken from so many people. The loss of our common human connection to the universe takes a heavy toll that we can't even quantify.

IDA: What's the most important thing you'd like people to know about protecting the night sky?

Cindy: Every single light makes a difference. Don't throw up your hands because you can't change all the excessive lighting everywhere. Take as a victory each light that is shielded, has reduced lumens, is as low in blue-rich content as possible, and is turned off when not needed.

IDA: What gives you hope about the progress being made in night sky protection?

Cindy: The number of people and agencies, not just in Texas where I hope I have some influence, but all over the world, who are working tirelessly to educate people about the importance of good outdoor lighting.

IDA: Do you remember the first time you saw a truly starry sky? What was it like?

I do remember as a child of about 4 or 5 going to nearby fields to look at the entire sky instead of the patches we saw from home. It was magnificent. It made me want to stay out there all night wrapped up in a blanket looking up from our cozy spot on the ground. I still have a wave of peacefulness come over me when I'm under a starry sky. Everyone should have that experience.

Alejandro Sanchez received a Dark Sky Defender Award for Cities at Night, a citizen science project mapping NASA satellite images such as this one of Madrid, Spain.



Q&A with Alejandro Sanchez

Alejandro Sanchez, a PhD student and research assistant at Universidad Complutense de Madrid, was instrumental in the successful Cities at Night project (citiesatnight.org). The project is a citizen science program that invites the public to help analyze nighttime images of city lights taken from the International Space Station. This valuable information helps researchers better assess light pollution across of the globe. Prior to the project, only a small fraction of those photos had been properly identified and mapped. Now, all of the older images are completed. But, don't worry; you can still help. New images are coming in all the time.

IDA: What inspired you to get involved with this project?

Alejandro: I was inspired by the Galaxy Zoo and Clickworker citizen science programs, but also the astronauts who use Twitter. I thought, "If just 1 percent of the people who see these pictures help us to classify them, we will classify all of them in just a few days." And that's what happened!

IDA: Why do you think protecting the night sky is so important?

Alejandro: For me it's fundamental because the sky has inspired humanity for ages, and without a clear sky our young kids won't be as inspired as those in the past. But also because the destruction

of the starry sky is an example of an irresponsible and unscientific society. We shouldn't waste the resources and taxes on useless illumination that doesn't create real security and destroys ecosystems.

IDA: What's the most important thing you'd like people to know about protecting the night sky?

Alejandro: People should know that it's not a cost to them, quite the opposite. It's an efficient and effective use of their money.

IDA: What gives you hope about the progress being made in night sky protection?

Alejandro: New technologies could make constant illumination no longer needed. We turn off the lights on our houses when they're not used; now we can do the same with streetlights without sacrificing security. Moreover, it will give us more resources for real security tools.

When the population becomes aware of that, we will start to have 100 percent efficient illumination on our streets and monuments.

IDA: Do you remember the first time you saw a truly starry sky? What was it like?

Alejandro: I've seen starry skies since I was little (6 years old maybe). But, I think the only sky I've seen without any light pollution was 5 years ago when I went to Easter Island for the solar eclipse.

Most people cannot imagine the great difference between a dark place where you can see the Milky Way and a really dark place where you can see the perfect starry sky.

I felt as if I was on a starship. The ground was dark; everything was dark except the stars.

You can feel how small you are in the universe. And that was the first time that I realized why humanity fears the dark – because people haven't experienced real darkness.

I feel that a large reason why we fear the dark is learned behavior, not because of real experiences. That was the first time that I understood why this fear of the dark exists.

International Dark Sky Places Program Has Record-Breaking Year

Learn about our newest additions to our flagship program.

Our International Dark Sky Places program had an amazing year. Thanks to our generous supporters, we were able to certify 13 Dark Sky Places in 2014, more than any other year. We now have more than 3 dozen places across the globe with protected night skies. The following are Dark Sky Places that were added since our last issue of *Nightscape*.

TOWN OF BEVERLY SHORES, IND., USA

Nights along the south shore of Lake Michigan are a little darker thanks to the dedicated residents of Beverly Shores. The town is fortunate to be surrounded in three directions by the Indiana Dunes National Lakeshore with Lake Michigan to its north, which is why locals refer to the town as "The Island."

Town residents worked for several years to improve nighttime lighting, including transforming the town-owned street lighting to dark sky friendly fixtures. Local residents raised \$8,000 toward the total project cost of \$9,350.

Beverly Shores' improved lighting helps protect many species living in the Dunes. The National Lakeshore hosts some of the greatest biodiversity in the Midwest among its beaches, sand dunes, black oak forests and savannas, wetlands, open prairies and shrub swamps.

Garry M. Traynham, the acting superintendent of Indiana Dunes National Lakeshore, said the National Park Service applauds the town's progressive steps to limit light pollution in the area and pledges to support the town's continuing efforts.

COPPER BREAKS STATE PARK & ENCHANTED ROCK STATE NATURAL AREA, TEXAS, USA

In August, IDA did a "Texas two-step," naming two Dark Sky Parks in the Lone Star State on the same day. Copper Breaks State Park in the Panhandle Plains and Enchanted Rock State Natural Area in the Hill Country are the first Texas state parks to receive the IDA designation.

Copper Breaks has hosted monthly "Star Walks" for nearly 20 years and recently replaced many of its outdoor lights with efficient, fully shielded fixtures. Enchanted Rock, named for its giant pink granite dome, began holding star parties in 2011 and has worked diligently to comply with IDA's strict outdoor lighting requirements for Dark Sky Parks.



Enchanted Rock State Natural Area is one of two Texas state parks receiving the IDA designation in 2014. Photo by Rob Greebon (RobGreebonPhotography.com).

The designations galvanized the Texas Parks & Wildlife Department to promote dark skies across all 95 Texas state parks in an effort to protect wildlife and enhance tourism. The department is developing policies and lighting management plans and partnering with the McDonald Observatory and the Texas IDA chapter to audit the parks' night skies and implement the lighting plan recommendations.

The buzz created by the dark sky designations has inspired several other Texas parks and communities to express interest in applying for the designation.

CITY OF SEDONA, ARIZ., USA

Sedona was the second Dark Sky Community named in 2014. A community of more than 10,000 people, Sedona is a prime tourist destination featuring a variety of outdoor activities set against the backdrop of its iconic Red Rocks. The city hopes to underscore its commitment to dark skies preservation as a more visible draw for new residents and businesses.

The protection of Sedona's landscape and natural resources is nothing new, beginning with the founding of the nonprofit Keep Sedona Beautiful in 1972. In recent years, the nonprofit's members began considering light pollution as an environmental issue. The organization was instrumental in helping improve Sedona's outdoor lighting code and recruiting community support leading to the IDA designation.

HOVENWEEP NATIONAL MONUMENT, COLO. & UTAH, USA

The first Dark Sky Park to span two states, Hovenweep is located in the "Four Corners" region of the American Southwest. Noted for its undeveloped, natural character, the Monument takes its name from a Paiute/Ute word that means "deserted valley." Ruins of six prehistoric villages in the Monument, built between A.D. 1200 and 1300, testify to the ingenuity of their builders who flourished in a harsh, desolate landscape.

Little has changed in the intervening centuries. Where the people of the Ancestral Puebloan culture once led hardscrabble lives in an unforgiving high-desert terrain, modern tourists to the Colorado Plateau now marvel at the art and architecture they left behind. They may also experience something quite close to the primordial nighttime darkness that existed everywhere before the advent of electricity and artificial light at night. Hovenweep's seclusion has largely preserved its dark night skies in a condition similar to that of its 13th century heyday.

According to Superintendent Jim Dougan, the Monument has adopted energy conservation and efficient lighting as cornerstones to their public messaging about stewardship of resources in general, and the night sky in particular.

RHÖN, GERMANY

Far from major cities, the truly dark skies of Germany's Rhön Biosphere Reserve offer visitors a respite from the frenzied rhythms of 21st century urban life. The Reserve consists of 1720 square kilometers (664 square miles) of protected lands at the junction of three German federal states. In August, it received Dark Sky Reserve status – only the ninth such Reserve in the world.

The designation was five years in the making. In 2009, a student group at the nearby University of Applied Sciences in Fulda led by Sabine Frank took on the project and brought the idea to the Biosphere Reserve management, despite their initial skepticism. "I was quite persistent, and soon the topic of light pollution and the establishment of a Dark Sky Reserve within the Rhön took off like a rocket," Frank explained.

In addition to inventorying 5,000 individual light fixtures in 81 communities within the Reserve, Frank and her colleagues helped develop a robust program of stargazing events, museum exhibits and public presentations.

ORACLE STATE PARK, ARIZ., USA

Rounding out the year, in November IDA named the newest International Dark Sky Park right in our backyard. Oracle State Park makes up about 1,600 hectares (4,000 acres) of land in Pinal County, Ariz., about an hour's drive from Tucson. The Park is part of the former Kannally Ranch, originally purchased in 1903 by five siblings of an Illinois family. Upon the death of the last sister, the land was dedicated to wildlife preservation and became a state park in 2001.

Oracle's designation is the culmination of a dedicated group of local citizens. The Oracle Dark Skies Committee formed last year to improve lighting in and around the neighboring town of Oracle.

Arizona State Parks plans to give high priority to dark skies at its 30 state parks and natural areas, applying lessons learned in the Oracle application toward the goal of achieving many more IDA designations in Arizona.

The Milky Way rises over Ancestral Puebloan masonry ruins of the Square Tower Group at Hovenweep National Monument, one of 13 Dark Sky Places designated last year. Photo by Jacob W. Frank/NPS.



Dispatches from our International Dark Sky Places

Last year was an exciting one for our Dark Sky Places complete with inspiring change, growth and innovation.

Our International Dark Sky Places had a banner year in 2014, with new efforts in outreach, conservation and research. We're really proud that our Dark Sky Communities, Parks and Reserves continue to set examples worldwide for excellence in night sky stewardship and public education.

Many of our Dark Sky Parks saw significant increases in visitation related to their night skies programming. At **Cherry Springs State Park** (Pa., USA) nighttime attendance in 2014 increased 34 percent over the year before, and nearly 80 percent of park visitors learn about the park's dark skies, including those who only visit during the day.

Death Valley National Park (Calif., USA) welcomed 5,300 visitors to their nighttime programs in 2014, and even remote **Natural Bridges National Monument** (Utah, USA) served 650 visitors, an increase of about 5 percent from 2013.

At Aoraki Mackenzie Dark Sky Reserve (New Zealand), tourism attracts over 35,000 people a year, due to the Reserve's dark sky designation. To meet the international demand, concessionaire Earth and Sky, Ltd., now offers programs in nine different languages. The increased visitation has led to a noticeable uptick in local economic activity. "Formal and anecdotal reports have been received that indicate improved overnight accommodation figures in the region," the Reserve managers note in their annual report to IDA. "Visitors are now staying for one or two nights when previously they drove through on their way to more well known destinations."

Community engagement is an important aspect of successful Dark Sky Places, and for Dark Sky Communities that means gaining support from various local stakeholders. The **Dark Sky Community of Borrego Springs** (Calif., USA) leads the way with its new "Night Sky Friendly Business" program. The Borrego Springs Dark Sky Coalition has started recognizing local businesses with dark sky friendly lighting. Businesses apply and if recognized, they receive a window sticker announcing their participation. Presentation of the first ten certificates was made at the end of February. Other aspiring Dark Sky Communities are studying the Borrego Springs model as they plan to start similar programs.



The Headlands recently won an Innovative Programming Award for its creative public outreach activities, like the star party pictured above. Photo by Robert de Jonge for Emmet County.

Through government funding, businesses near the combined areas of **Northumberland National Park and Kielder Water Forest Park** (Northumberland, England), a Dark Sky Park, were offered training workshops to help businesses take advantage of the surge in interest about dark skies. The sessions were part of the "Animating Dark Skies Partnership," funded by the UK Dept. of Environment, Food, and Rural Affairs through the Northern Lands Programme, to help develop the stargazing tourism sector.

A sure path to success for aspiring Dark Sky Places is to seek the counsel of those who have already navigated the process. Their experience is invaluable, and the relationships forged often last beyond the certification effort. **Brecon Beacons Dark Sky Reserve** (Wales) reports being "very keen to support others and encourage where possible," making many new contacts with aspiring locations in Wales and elsewhere in the United Kingdom during the past year, including the Peak District, Snowdonia National Park, Anglesea, Elan Valley, New Forest, South Downs Area of Outstanding Natural Beauty and Cranborne Chase. Their vision is "to ensure Wales becomes a Dark Sky Friendly nation."

Many of our Dark Sky Places are planning or have completed new upgrades to their lighting and facilities, some of which are expected to bring more visitors.

The Headlands International Dark Sky Park (Mich., USA) recently received \$7 million from Emmet County, Mich., due to its dark sky status and the park's success promoting it. The money will be used to build a visitor center and a 12,000 square-foot observatory. The park was also awarded the Innovative Programming Award from the Michigan Recreation and Parks Association.

In November 2014, the **Northumberland National Park and Kielder Water Forest** Park (England) unveiled its £8.5m plans to build the biggest public observatory in the world. Called the Kielder Observatory Astronomy Village, it will contain a 60seat planetarium, a specially built £500,000 telescope with a one meter wide aperture. The village will be accessible to wheelchair users, and provide accommodations for visiting astronomers.

With funding provided by Friends of Chaco, Chaco Culture National Historical Park (N.M., USA) completed much-needed improvements to its Visitor Center lighting. The park added shields and motion sensors, eliminated unnecessary lighting, and established a new park-wide color temperature standard of 2700 Kelvins.

The recent designation of the Kerry International Dark Sky Reserve (Ireland) has been a boon for the area. Rapidly becoming known for astro-tourism, the reserve recently got the go-ahead to build a small observatory. It's also been gaining international notoriety. Last summer, a Japanese film crew shot a documentary there as part of a "First in the World, Best in the World" series. A Chinese film crew is also planning a visit.

The Dark Sky Community of Homer Glen (Ill., USA) decided to extend its effort to upgrade village-owned lighting that began in 2010. It replaced 139 semicutoff streetlights, each drawing over 100 Watts of power, with new 70-Watt, full-cutoff fixtures. Local residences are happy with the changes. In fact, one individual commented that his bedroom is now dark at night.

Zselic Dark Sky Park (Hungary) saw the dedication of a new \$3.3 million facility featuring a 40-cm (16-inch) Meade telescope, an 8-meter (26-foot) digital planetarium, an exhibition room, an auditorium and an educational footpath.

A brand-new visitor center opened in 2014 at Exmoor National Park (England). Its design included dark sky friendly lighting, and park managers hope visitors will appreciate the example it sets for good lighting.

Some Dark Sky Places are actively working to recruit their neighbors to adopt good lighting practices. At NamibRand Dark Sky Reserve (Namibia), park managers have worked with the Namibian Ministry of Environment and Tourism on its NAM-PLACE Greater-Sossusvlei Namib Landscape initiative, an effort to coordinate planning of conservation efforts among regional landowners. The results speak for themselves. One of their neighbors, Neuhof Reserve, is now in the process of installing dark sky friendly external light fixtures on all their buildings.

Finally, creative fundraising remains an important part of Dark Sky Places. Geauga Observatory Park (Ohio, USA) partnered with local brewery Chardon BrewWorks on "Dark Sky Stout." Every pint of the beer sold raised \$1 toward the restoration of the Nassau Observing Station at Observatory Park. We'll drink to that!





The results of the 2014 lighting upgrade at the visitor center of Chaco Culture National Historic Park attest to the importance of shielding. The photo on the top was taken before the upgrade and the one on the bottom illustrates the retrofit's striking outcome. Photos by Stan Honda (stanhonda.com).

Our Parks & Protected Areas Program is Taking Off

Last year we distributed more than 200 specialized, eco-friendly lamps to parks and national monuments.

We're excited to let you know that our Parks and Protected Areas program is taking off ... and it's because of you. The program ramped up last year thanks to generous gifts from supporters like you.

The program is working to improve the nighttime setting in ecologically sensitive areas and create and sustain a market for specialized dark sky friendly lighting products. Through PPA, we help managers of public lands and protected sites by giving guidance and recommendations for park lighting, and connecting parks with manufacturers who can supply needed products.

The largest obstacles facing parks wishing to install dark sky friendly lighting, which is required for obtaining a Dark Sky Places designation, are cost and availability. Ecologically sensitive

lighting is necessary to protect parks' wildlife after dark, but this type of lighting is highly specialized and must be ordered directly from the manufacturer. Parks often only need a small number of lamps, but bulk orders are the only way to make the lamps affordable.

To address this issue, we recently partnered with Zenaro Lighting. We are able to bulk order eco-friendly amber LED lamps at a 35 percent discount. We then provide the lamps to parks on a sliding scale, depending on need, and in some cases, for free. The small margin we net from the lamps is put back into the program to help make the program self-sustaining. One of the main goals of the program is to help establish and grow a viable market for these specialized products, eventually making our bulk orders unnecessary.



Parashant International Night Sky Province, a recent addition to the Dark Sky Places program, received eco-friendly lighting through our Parks & Protected Areas program. Graphic by Tyler Nordgren.

Last year we provided 225 eco-friendly lamps to parks and national monuments in Arizona, California and Utah. Many other protected areas have expressed interest in the program, and we expect that it will continue to grow.

IDA Issues New Standards on Blue Light at Night

New rules strengthen IDA's Fixture Seal of Approval program.

For nearly a decade our Fixture Seal of Approval program has been encouraging lighting manufacturers to design responsible outdoor lighting. For most of the program's history, full shielding was the only requirement that manufacturers had to meet. We now know that shielding alone isn't enough to protect the night and that controlling the color of light is just as important.

The advent of new lighting technologies, particularly light-emitting diodes (LEDs), has raised concerns about the potential negative effects of blue-rich white light, even from fixtures with proper shielding. That's why we adopted new FSA standards in 2014.

Exposure to blue light at night has proven negative effects on ecology and a growing body of evidence links exposure to blue light to certain kinds of chronic disease in humans. Blue light can also increase glare, which compromises human vision, and contributes more to light pollution than conventional outdoor lighting.

The FSA program's new standards address these concerns by limiting the amount of blue-rich light in the nighttime environment. Receiving FSA approval now requires products to be fully shielded *and* to have a correlated color temperature no higher than of 3000 Kelvins.

Previously approved products will have one year to comply with the new standard. As new research emerges, IDA will continue to reassess FSA standards and expects to further strengthen the program guidelines in the future.

Since the program's inception, the market for FSA-approved public and industrial lighting



has grown exponentially. Builders, architects, and city planners can choose from a variety of dark sky friendly products, including LEDs, induction lighting, and high-pressure sodium fixtures. Major hardware retailers are stepping up their game, too, making it easier for residential customers to purchase FSA-approved lighting.

IDA is also actively involved in developing lighting recommendations for sensitive coastal areas where significant populations of endangered sea turtles nest. In 2015 IDA will launch a new Sea Turtle Friendly product certification to complement the new FSA requirements. Stay tuned.

IDA Sea Turtle Project Continues

IDA is helping Florida protect its endangered sea turtles.



IDA continues its work protecting endangered sea turtles in the Florida panhandle. In 2013 we entered into an agreement with Florida state agencies to evaluate artificial lighting that could impact loggerhead sea turtle nesting in 25 conservation lands along Florida's sandy shores. This work is part of a coordinated, four-year wildlife recovery and management program.

Starting in 2013, we surveyed fixtures and night sky brightness on about 100 miles of Florida coastline. This past year we created survey reports with recommendations. All in all, the 25 survey reports include nearly 3,700 photographs and amassed about 16.5 gigabytes of data. Each report included a Google Earth file that allows conservation land managers to interactively see the data.

IDA is working with Florida agencies to help protect endangered sea turtles on the shores of the Florida Panhandle. Photo by Deeje via Flickr.

The Florida Fish & Wildlife Conservation Commission is currently working with the state parks and seven counties in the survey area to implement our recommended lighting retrofits.

IDA will soon hit the beaches again. Once the coastal lighting retrofits are installed, we'll return to conduct follow-up lighting surveys that document improvements and ensure the retrofits were properly implemented.

IDA Partners with the National Park Service to Create a Lighting Survey Method

The new system will help parks achieve dark sky status.

Last fall IDA worked with officials at Grand Canyon National Park on methods for implementing lighting surveys. Photo by Tsaiproject via Flickr.

Doing a survey of your home's outdoor lighting is relatively easy, but what if your "home" is 1.2 million acres of some of the most unforgiving terrain in the United States? That's the challenge facing the U.S. National Park Service and why we're helping them design an efficient "off the shelf" method for doing lighting surveys. A workable system will promote widespread use of environmentally friendly lighting and lead to more Dark Sky Places designations.

The Park Service is a system of 405 "units," including national parks, national monuments, and other protected public lands. Most NPS lands are far from major urban centers, making for very dark skies over some of America's national treasures. Already, six properties managed or co-managed by the Park Service have an IDA Dark Sky Park designation. Many more would qualify but struggle with the daunting task of inventorying light fixtures across vast tracts of wild lands.

To make it easier for more NPS sites to achieve a dark sky designation, we entered into a cooperative agreement last year with the Park Service to find easier ways to carry out lighting surveys. Last fall IDA worked with officials at Grand Canyon

National Park to suggest some improvements to its current field survey methods and has since started developing an inventory method that can be used by all NPS sites.

The new approach will allow field surveyors to use mobile devices to track light fixture locations on "georeferenced" maps of park buildings, roads and trails. Visual field notes record basic information about the fixture including whether it meets IDA standards for Dark Sky Park eligibility.

Using the new system, park officials will more easily be able to develop action plans to address lighting needs. This approach is an important improvement over older, time-consuming, pen-and-paper methods. The ease of generating reports lightens the burden on facilities personnel, improving parks' chances of gaining dark sky status.

IDA and the National Park Service hope for an easy-to-use finished product ready to deploy system-wide in 2016. By making it easier for NPS properties to become IDA Dark Sky Parks, we foresee protected dark skies over more of these special areas, benefiting future generations.



contrasted the IDA/IES Model Lighting Ordinance with another outdoor lighting ordinance. The report was presented to the the city to adopt it in 2015. When completed, the new law will be the template for a "lite" version of the more complicated MLO.

IDA Files "Friend of the Court" Brief in Billboard Lawsuit

Scenic America is seeking to overturn a federal ruling allowing digital signs.

Scenic America, a nonprofit working to keep America's highways and byways scenic, recently filed a federal lawsuit asserting that digital billboards violate the 1965 federal Highway Beautification Act. IDA, along with the American Planning Association, the Garden Club of America, and the Sierra Club, filed a "Friends of the Court" (amici curiae) brief in support of the lawsuit.

Scenic America seeks to overturn a 2007 Federal Highway Administration ruling that allowed commercial digital billboards to proliferate along federal highways across the nation. The lawsuit contends that the Highway Administration ruling violates the lighting standards of the Highway Beautification Act.

Digital billboards – brightly-lit signs with commercial ads that change intermittently – started appearing along federal

highways around 2005. State transportation officials, who are in charge of controlling outdoor advertising and must follow federal standards, turned to the Highway Administration for guidance.

Under immense pressure from a powerful billboard lobby to approve electronic billboards, the Highway Administration reversed its long-held position that the signs were prohibited. As of this writing, the federal appeals court had yet to schedule an oral argument.

Scenic America was successful in a similar suit in Arizona. The Arizona Court of Appeals ruled that digital billboards along Arizona's state and federal highways are illegal because they violate the state's ban on intermittent light.

New Database Helps Members and Supporters Speak Out

IDA members heeded our call to actions and made a difference!

Last fall IDA upgraded our member database to a system that opens up exciting new possibilities. The new system saves money, staff time, and most importantly gives us a new window of communication. We now have the ability to empower and engage our community of members and supporters to take action in their own backyards. And take action you have!

IDA members help halt approval of electronic billboards in Tucson

In November IDA members in Tucson, Ariz., answered our call to action and helped put the brakes on a Tucson Sign Code variance request, stalling the approval of the first electronic billboards in the city's downtown.

Through phone calls and letters – roughly half of all comments received – our Tucson members expressed their concerns in a run-up to a public meeting on the topic. IDA staff and area members then attended the meeting to further declare their opposition.

We're happy to report success! Thanks to IDA members, the variance request and threat to Southern Arizona's night sky was withdrawn.

New York members help persuade governor to sign Dark Sky bill

Thanks in part to New York members who heeded our call to action, New York Governor Cuomo signed into law the "Healthy, Safe and Energy Efficient Outdoor Lighting Act."

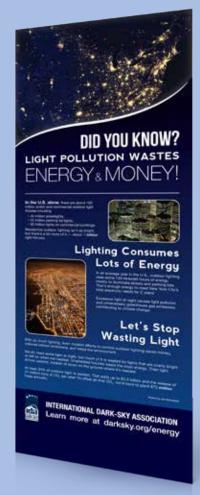
Without the governor's signature, the bill, passed by the New York Assembly in June, would have expired in December. The new law requires state agencies to use fully shielded lighting for all new parking lot and roadway fixtures. It also limits the level of lighting for particular applications.

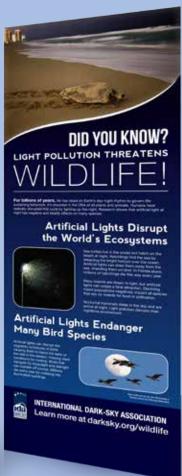
IDA has a small staff and we're really excited that we can now better engage our members and supporters. You are our eyes and ears on the ground. Let us know what's happening in your area and look for more calls to action as new threats and opportunities arise.

New IDA Traveling Displays Available

Easy to use, these striking displays come in six different themes.

IDA has six new easy-to-assemble "pop-up" displays for staff and public use. Designed to be "mixed and matched," the displays are themed "Heritage of our Night Sky," "Light Pollution and Wildlife," "Artificial Light at Night and Human Health," "Lighting and Energy Waste," "Lighting and Safety," and "Solutions." The educational displays are the result of a fruitful collaboration between IDA staff and members of the education committee of the IDA board of directors. To check out one or all of the displays, contact Susan Ciarniello (susan@darksky.org). Use of the displays is free, but recipients are responsible for shipping charges to send them back to IDA.





Good News from South Korea

IDA staff meets with Korean officials about plans for Asia's first International Dark Sky Park.

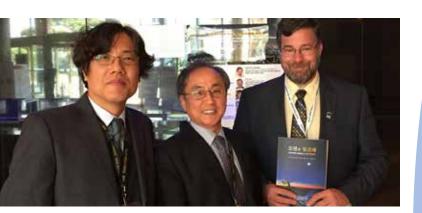


There's a lot of excitement brewing in South Korea about dark skies. So much in fact that IDA staff members John Barentine and Scott Kardel were flown to the country to discuss creating Asia's first International Dark Sky Place.

The champion of this effort is Dr. Won-kil Jeong, a professor at Daegu Haany University and leader of the IDA Daegu and GyeongBuk chapter in Korea. While in the country, the IDA team toured the aspiring Dark Sky Park, met with local officials, and took part in a public tourism forum devoted to bringing the IDA designation to the region. Over 100 people attended the event. The IDA team was graciously welcomed throughout their trip and treated like foreign dignitaries.

The aspiring Dark Sky Park is a nature preserve in Yeongyang with special protections for fireflies and has some of the darkest skies in South Korea. Public outreach is already at the forefront. The preserve boasts an astronomical observatory and planetarium, and three interpretive centers devoted to fireflies and wildlife conservation.

In a follow up to the October meetings, a delegation that included government officials, land managers, IDA chapter leader Wonkil Jeong, and Yeongyang Governor Kwon-Yeong Taek, traveled to Tucson in January to visit IDA headquarters and tour IDA's newest Dark Sky Park in Oracle, Ariz. The visit gave the Korean delegation a first-hand look at one of our International Dark Sky Parks and the opportunity to discuss the designation process with IDA staff and the Oracle Dark Skies Committee.



L to R: Gon Kim and IDA Korea chapter leader Jeong Tai Kim present Scott Kardel with a new Korean language book on light pollution at last November's conference on sustainable lighting and light pollution in Seoul.

IDA staff advises members of the dark sky team working to create the first Dark Sky Park in Asia. From left to right: Oh-Seung Kwon, Scott Kardel, Won-Kil Jeong and John Barentine.



New IDA Brochure

Are you holding an event or just want to let people know about IDA and the importance of dark skies? Use our newly updated general brochure. Just give us a call (520-293-3198) or send an email (susan@darksky.org) and we'll send you some brochures to help you spread the word. Stay tuned. We're in the process of updating all of our brochures.

IDA Chapter News

After leading the IDA Australia/Asia-Pacific Regional Office since its founding in 2003, Reginald Wilson is stepping down from the post and Tim Shotbolt, longtime advocate and new IDA board member, is stepping in to fill Reg's very large shoes.

Reg wants to thank IDA members in Australia and New Zealand for their membership and for taking "active roles in the promotion of anti-light-pollution" efforts. Although stepping down from his IDA role, Reg is not giving up the fight. "I will continue with the general preservation of our night sky" by continuing to work with the Siding Spring Dark Sky Committee, the Australian Astronomical Observatory and with Standards Australia on Street and Public Area Lighting.

Reg first began working on light pollution issues in the early 1970s. He's been an IDA member since 1996 and served on the Board for 12 years. Thank you to Reg for his invaluable service and dedication to the cause!

Thanks to dedicated volunteers, several IDA documents are now translated into Chinese. We are very grateful to the translators, organized by Xioahua Wang of IDA Beijing, who recently completed the translations of several important documents, including Dark Sky Places application guidelines, the Model Lighting Ordinance and a description of the Bortle Scale, among others.

The documents are now available on IDA's website. It was a big undertaking and we hope the results encourage others in China to help protect night skies. Thank you to all the translators for a job well done!

In November, South Korea hosted the International Conference on Sustainable Lighting and Light Pollution in Seoul. IDA Korea's Jeong Tai Kim was one of the co-organizers. The event featured invited keynote speakers from eight other nations, including IDA's Scott Kardel, who spoke about the Dark Sky Places Program, and IDA Board Member Martin Morgan-Taylor, who presented on light pollution legislation.

A public hearing on lighting zones in Seoul coincided with the conference. The hearing was the result of Korea's Light Pollution Prevention Act, which took effect in 2013.

Last year also saw the publication of the Korean language book "Sustainable Lighting and Light Pollution" and a Korean translation of Paul Bogard's book "The End of Night: Searching for Natural Darkness in an Age of Artificial Light."

IDA Quebec maintains a vast online library of news stories, videos, pictures and much more. It's a great resource for advocates. The library, like most of their website, is available in English and French. You can check it out at idaaquebec.org/en/library.

Paul Davis of the IDA South Florida chapter did a great job representing IDA at the Southeast Florida Climate Leadership Summit in October. Several people signed up to get involved, including representatives from two Florida cities and regional government entities that coordinate smart growth initiatives. The chapter's presence at the conference also generated several speaking invites. Keep up the great work, South Florida!

Last August IDA Texas worked with the City of Dripping Springs, an IDA International Dark Sky Community, to put together a one-day conference, "Better Lights for Better Nights." Over 100 people attended the event, which included presentations on the impact of lighting on plants, animals and human health, vision and glare, lighting ordinances and code enforcement, and dark sky tourism. The event concluded with a nighttime lighting tour of Dripping Springs. Many of the presentations can be found online at: bit.ly/1JHwwjK.

For next year, the chapter is planning the Texas Night Sky Festival. Mark your calendars - Saturday, Feb. 13, 2016 at Dripping Springs Ranch Park.

Earlier this year, Nobuaki Ochi of IDA Tokyo wrote a column on light pollution, "International Year of Light - Let's also think about the 'bad side' of light," for the Asahi Shimbun, Japan's most respected daily newspaper and second largest paper in the world with 8 million subscribers. Nice job, Nobuaki!

We give a warm welcome to IDA Victoria Australia. The IDA Board of Directors approved their application to form a new chapter at its December 2014 meeting. The new chapter brings together a diverse group of people representing local government councils, professional observatories, amateur astronomical societies, IES members, media outlets and more. We look forward to hearing good things from them in the near future.



Thank you to Reg Wilson of the IDA Asia Pacific Office (left) and Xiaohua Wang of IDA Beijing (right) for all their hard work. Reg is stepping down from his role at Asia Pacific Office. We'll miss him!

IDA Financial Summary January through December 2014

IDA thanks our members, donors, corporate sponsors, and foundations for their generous support in 2014. We couldn't protect the night skies without you!

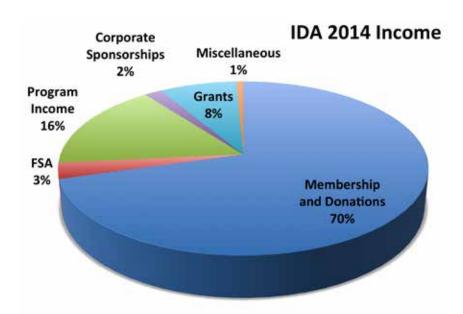
Explanation of IDA 2014 Income

A quick look at our income chart reveals how incredibly important our members and donors are in sustaining the organization. Fully 70 percent of our income came from supporters like you. We're so thankful that our members and donors are such a large part of our mission to bring better nights to the world.

IDA has been building on the contributions of our supporters by diversifying our income. Our "Program Income" category represents consulting work IDA is doing for various organizations. This includes a cooperative agreement with the U.S. National Park Service to develop outdoor lighting survey techniques. Our ongoing sea turtle lighting survey project for the Florida Fish and Wildlife Conservation Commission provides valuable income to IDA while helping to protect endangered species. We're also working with the City of Malibu, Calif., to help them develop an outdoor lighting ordinance to better protect the night skies. These partnerships are valuable to our mission and will continue into 2015.

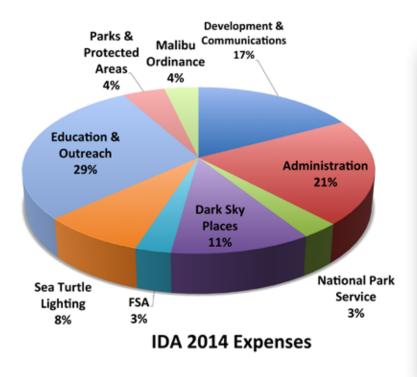
IDA is thankful for the generous grant support we received in 2014 from the Craigslist Charitable Foundation and the Maytag Family Foundation. Not reflected in the 2014 pie chart – but reflected in our gratitude – is a grant from Metabolic Studio that provided funding to IDA in 2013, but for programs that extended into 2014.

IDA's Fixture Seal of Approval was a small, but important, part of our income as we continue to work with lighting manufacturers in recognizing dark sky friendly products. We're also grateful for the support of our corporate sponsors.



Fully 70 percent of our income came from supporters like you. We're so thankful that our members and donors are such a large part of our mission to bring better nights to the world.

2014 INCOME		
Membership and Donations	\$356,204	
FSA	\$14,775	
Program Income	\$81,630	
Corporate Sponsorships	\$8,915	
Grants	\$40,000	
Miscellaneous	\$3,374	
TOTAL	\$504,898	



IDA 2014 EXPENSES	
Membership & Development	\$99,401
Administration	\$119,285
National Park Service	\$17,449
Dark Sky Places	\$64,538
FSA	\$16,381
Sea Turtle Lighting	\$47,628
Education & Outreach	\$165,074
Parks & Protected Areas	\$25,917
Malibu Ordinance	\$20,797
TOTAL	\$576,469

Explanation of IDA 2014 Expenses

Sixty-two percent of IDA's 2014 expenses were spent on our programs to preserve the night skies – International Dark Sky Places, Education and Public Outreach, our sea turtle project and many others. Our 21 percent administrative costs were higher than normal, due largely to costs associated with our transition in executive leadership.

Our "Development & Communications" expenses are also higher than average because we upgraded our member management

system. Our previous system was antiquated and limiting, making it very difficult to effectively communicate with our members and donors. Our new system saves money, staff time, and more importantly, opens up numerous possibilities to better empower and engage supporters, like you, to protect the night skies.

The "Development & Communications" numbers also include costs associated with re-building the IDA website. Look for the roll out of our new, streamlined, user-friendly website later in 2015.

THANK YOU from all of us at IDA headquarters!

IDA's entire staff. Bottom from left to right: Scott Feierabend, Scott Kardel and Ginger Cross. Top left to right: John Barentine, Matt Root, Susan Ciarniello and Cheryl Ann Bishop. Quick fact: All but one of us is left-handed!



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Join us in our fight to stop light pollution.

