

Dark

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What are the kinds of things that got discussed at the Boston IDA meeting? An opening panel “Inspiring Change in Your Community” featured speakers from Duluth, Rapid City, New York City and IDA Beijing. Among topics presented were: Duluth’s dark sky week of activities; Rapid City’s “Lights Out” program; New York City’s challenge to convince decision makers to change the way they light communities; and how IDA Beijing has teamed up with the Chinese government to link night sky protection with their green biodiversity conservation efforts.

There was a showing of *Skyglow*, a film produced by timelapse astrophotographers and authors Harun Mehmedinovic and Gavin Heffernan. The film presents an overview that begins with a historical context of the night – its relevance to indigenous populations to the first

electric streetlights – to glaring light pollution that impacts us every day, almost everywhere we go. The educational impact of such a project cannot be overstated as the film is often presented to audiences who have never seen a starry sky – so have no understanding of light pollution.

Another panel “Human Needs in the Built Environment” offered news about dark sky and four distinctly different realms – the environment, the human body, the skies and animal populations. Susan Tillotson, an award-winning outdoor lighting designer, presented her creative approaches to designing public lighting without contributing to light pollution. Steven Lockley, Harvard Medical School, presented a summary of his decades of research into circadian rhythms, light pollution, and human health. Stephen Goldsmith, Director of the Consortium for Dark Sky Studies at the University of Utah, presented on projects aimed at reclaiming night sky. James Fischer of the Zoological Lighting Institute spoke about his insights on the

impact of artificial light on animal populations.

A field trip to Salem, Massachusetts, provided a vivid IDA case study – as 30 attendees toured historic Salem to view the town’s recent retrofit of streetlights to 3,000 Kelvin LED. New Hampshire residents have Bob Gillette of Ossipee to thank for the legislative introduction of IDA issues into state law. In 2008, Gillette drafted and helped pass the 2009 NH Dark Sky Law, and crafted the “Dark Skies” chapter of the statewide handbook of the New Hampshire Office of Energy and Planning.

“This effort preceded the advent of LED street lighting – but the case for dark skies remains the same. The benefits are economic – they save energy, make tourists happy while they leave some \$4 billion behind in New Hampshire every year. The biological benefits impact reptiles, amphibians, birds and mammals while excessive lighting adversely affects all wildlife. And if none of that impresses, watch the expression on the face of a child from an urban area step

outside her cabin on her first moonless night in a rural New Hampshire campground when, for the first time, she sees the Milky Way,” explained Gillette.

As a result of Gillette’s efforts, the NHDOT – facing a budget crunch, and required to report annually to the NHOEP on the status of its compliance – set out to remove 3,000 streetlights along state highways that were not strictly necessary.

Gillette: “The main point of the bill was to require all new state lighting to be fully shielded and ‘dark sky friendly,’ and to make that the default option for utilities as they serve municipalities (which can opt out if they wish.) Now, the battle for fully shielded lights is pretty much won. New LED roadway lighting is inherently fully shielded.”

But, according to Gillette, LED roadway lights raise new issues. LED lights produce more glare and harsher illumination that is incompatible with rural character and negatively impacts wildlife. As a point of comparison, many LED roadway lights measure 5,000 Kelvin,

nearly double the Kelvin of “warmer” less efficient lighting.

Why should we care about dark sky? Just a week ago, I discovered I had just missed the biggest celestial Christmas light show of the entire year – the Geminids Meteor Showers – a spectacular show producing 100 shooting stars per hour. These light shows happen each year. The next one is the Quadrantids meteor showers on January 3, 2018. The Lyrids showers take place April 16-25; Perseid showers, July 17-Aug. 24; Orionids showers on October 20, 2018.

But even if you are not too impressed by shooting stars, what about the “starry, starry night” as a unifying force for humanity? We all look up at the same sky – perhaps that is what we need to focus on – the one thing everyone on planet earth shares. Through the wonder of the night sky, we connect globally and we sense our fundamental connectedness to the universe.

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