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NightVisions 2022
Cultural Interpretations of the Night Sky



"Cosmic Impact" by Arline Martins

This international juried art exhibition at the Coconino Center for the Arts seeks to explore and celebrate our deep connections to the night. In its eighth iteration, NightVisions will honor the legacy of Flagstaff astronomer Carolyn Shoemaker and her collaborations with husband and geologist Eugene Shoemaker, with the inclusion of archival astronomical elements alongside the work of contemporary artists. Astronomer David Levy, who with Carolyn discovered and tracked the Shoemaker-Levy 9 Comet that crashed into Jupiter, is participating as a consultant and presenter. The exhibition is a collaboration between Creative Flagstaff and the Flagstaff Dark Skies Coalition. The NightVisions Opening Reception is scheduled for Saturday, May 21. The exhibit runs through August. For more information visit <https://www.ccaflagstaff.org/current-exhibit>



FDSC Board Members

Christian B. Luginbuhl –
President

Donald R. Davis Ph.D. –
Vice President

Drew A. Carhart –
Secretary

Danielle Adams Ph.D.

Robert G. Breunig Ph.D.

William “Billy” C. Cordasco

Matthew Kent

Flagstaff Dark Skies Coalition Board of Directors - Meeting Summary

January 18, 2022

The second meeting of the FDSC Board of Directors was held on 18 January 2022 as a virtual meeting. There was not a quorum of Directors present consequently no official business could be conducted. Acting Treasurer Carhart reported that FDSC bookkeeping had been successfully transferred to QuickBooks thus enabling a variety of financial reports to be readily generated.

The next item was a presentation by Trace Ward, the Director of Discover Flagstaff, of the offer to set up a fundraiser where NFTs (non-fungible tokens) would be created and marketed in the name of FDSC. Discover Flagstaff would facilitate the minting of a series of NFTs with a dark-sky theme and FDSC would benefit from any funds raised by their sale.

CL noted that the agreement with E.D. Stevens for 2022, while the Executive Committee had recommended its approval, its formal acceptance would need to await until a quorum was present. Our E.D. shared her outline of FDSC Goals, Events & Projects for 2022 and provided details on each of the planned events.

The agreement with the event planner for the management of the 2022 Flagstaff Star Party had already been signed, as that was a continuation of the work the planner had done in previous years.

Future 2022 Board Meetings were tentatively set for 12 April, 12 July, and 11 October.

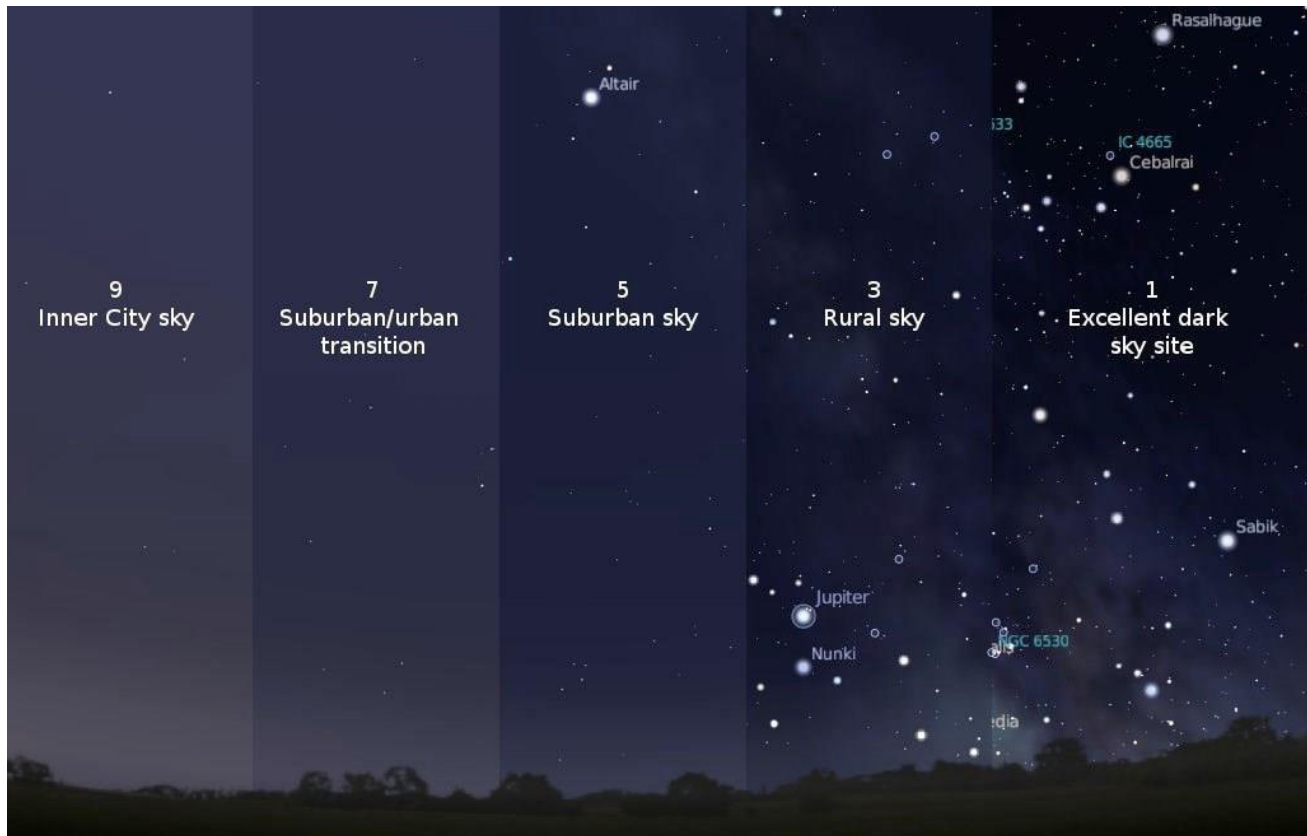
Offering ‘A Night in Flagstaff’ with Non-Fungible Tokens

Beginning Thursday, April 21, on the first night of the Lyrid meteor shower, the Flagstaff Dark Skies Coalition in collaboration with Discover Flagstaff is entering the non-fungible token (NFT) market for the first time. “A Night in Flagstaff” will feature 70 images for \$700 each from 7,000 feet. Proceeds from the NFT sales will support the Northern Arizona EONS

(Eyes on Night Skies) research program, an effort to measure and monitor sky brightness. A non-fungible token is a unique unit of data stored on a blockchain, a form of digital ledger, that can be sold and traded. Types of NFT data units may be associated with digital files such as photos, videos and audio. More information will be available soon at FlagstaffDarkSkies.org

Protecting, Recovering Dark Skies with The Flagstaff Solution

March 8, 2022, by Bonnie Stevens



WATCH NOW! Dark starry nights, away from light pollution, open a wondrous window into the universe. Clearly, astronomers need dark skies for space exploration and discovery, but science tells us we need dark skies for our health. Animals do, too. And communities' way up North rely on dark skies for their winter economy, as tourists seek captivating views of the aurora borealis. Meet some of our dark skies champions who are sharing The Flagstaff Solution and leading the world to a darker future on Zone Living:

<https://starworldwidennetworks.com/episodes/dark-skies-champions-leading-the-way-to-a-darker-future-video>

FDSC Web Resources Highlights

My Neighbor's Porch Light Is Driving Me Crazy!

The most common complaint we hear related to "dark sky" protection and light pollution arises from glaring porchlights in residential areas. It can be very frustrating, and seem very rude, when someone leaves a porch light on all evening or even all night every night when that light shines into your eyes and onto your property. It helps to understand that the vast majority of people behind those lights are simply unaware of the impacts they are causing on the "other side" of their front door or property line. Whether or not the light conforms to Flagstaff's dark sky standards (and often it is impractical to determine this due to state-required grandfathering laws),



a legal approach is probably not the most effective way to improve your night experience and maintain good relationships with your neighbors. When you understand that your neighbor, whatever they may think of dark skies, can meet their lighting needs on their property without lighting up your property, there is hope for finding a mutually agreeable solution. Look at the guidance on our webpage [How to Talk to Your Neighbor](#).. for ideas on effective ways to bring back the stars to your home.

Photo by William Seven

Supporting Dark Skies through Arizona Gives

The Flagstaff Dark Skies Coalition is participating in Arizona Gives Day on Wednesday, April 6. Arizona Gives is a partnership between the Alliance of Arizona Nonprofits and Arizona Grantmakers Forum that has helped raise more than \$30 million for Arizona nonprofit organizations since 2013. Those interested in supporting the Coalition, may do so through the portal on the AZGives website, <https://www.azgives.org/> by typing “Flagstaff Dark Skies Coalition” in the search bar labeled “Find Organization” and click on the FDSC logo. Contributions will support the

Coalition’s expanded mission of celebrating the night sky and sharing The Flagstaff Solution with other municipalities seeking to preserve and restore their dark skies.

Flagstaff Roadway Lighting Standards

Leading the way in the LED era

Fully shielded amber lighting on roadways has been the standard in Flagstaff for over thirty years. The city owns over 3600 streetlights, the majority of which are low-pressure sodium (LPS), the gold standard for dark sky protection. But the only manufacturer of these lamps – Phillips – has closed the production line for this technology.

Across the country, communities are switching to white LEDs. Though energy-efficient, the spectrum of these lights dramatically increases light pollution. Even the lowest-impact white LED (sometimes specified as 2200 K CCT) would increase skyglow almost 300% compared to LPS. Looking for better options, Flagstaff city engineering staff invited representatives from FDSC, Lowell and the Naval observatories to help find a solution that meets lighting needs while preserving or improving dark skies. After testing low-impact LED lights around Flagstaff (see for example lighting in the Cheshire neighborhood and along Butler Avenue between South Milton

and Ponderosa Parkway), this group recommended amber LEDs (specified as “narrowband amber” or NBALED) that fully preserve Flagstaff’s world leading dark sky standards. Though there is some loss in energy efficiency using these amber LEDs compared to white LEDs, the dramatically reduced light pollution impacts make the solution an overall win-win for lighting needs and dark sky protection. “The lowest-impact amber LEDs use more energy than white LEDs,” says Coalition Board President Chris Luginbuhl, “but in just the last couple of years the Amber LED technology has improved, more than doubling the efficiency. We are optimistic that the energy costs will continue to decrease as the technology matures.” These new standards were adopted by Flagstaff city Council as the new standard for Flagstaff roadway lighting in September 2020.

City staff has begun approving and purchasing products that meet the new standards, and estimate that the new LED roadway lighting upgrade will be complete within five to six years. Initial replacements will focus on burned-out fixtures, but soon moved to replace some higher impact fixtures in town such as the white LED section near

the Flagstaff Mall. Roadway, an area lighting on the NAU campus (not regulated by the Flagstaff engineering standards), has been using NBALED for several years, and the city and local observatories have initiated a conversation with the Arizona Department of Transportation concerning the use of amber lighting on interstate highways in and around Flagstaff.

For more information see the article in ARS Technica

<https://arstechnica.com/science/2019/10/how-flagstaff-arizona-switched-to-leds-without-giving-astronomers-a-headache/>



An amber LED fixture test installation on the NAU campus.

Committees Forming for Exciting Year

The Coalition currently is putting together committees and is thrilled to report its outstanding recruits! Meteor Crater CEO and President Matthew Kent is chairing the Marketing/Promotions Committee with members including Babbitt Ranches President Billy Cordasco, Lowell Observatory Historian Kevin Schindler, Zion Realty Founder Lori Anna Harrison, Findlay Toyota Marketing Manager Marc Johnson, Coconino Community College Marketing and Events Coordinator Brian Harris and Coalition Member William Seven. Lowell's Chief Marketing and Revenue Officer Danielle Adams joins Coalition Executive Board Member Drew Carhart and retired educator Anne Cordasco on Education and Outreach. The Technical and Research Committee is chaired by Coalition President Chris Luginbuhl and supported by Carhart. Meanwhile, Coalition Executive Board Member Don Davis chairs the Membership Committee with support from William Seven and Coalition Member Ben Luginbuhl. Former Museum of Northern Arizona Director Robert Breunig, Chris Luginbuhl and Coalition Executive Director Bonnie Stevens are on the Fundraising Committee. If you'd like to volunteer to serve on a committee, please contact Stevens at bonnie.stevens@gmail.com

Become a Member of the Coalition

Your membership supports the mission of the Flagstaff Dark Skies Coalition; To celebrate, promote and protect the glorious dark skies of Flagstaff and northern Arizona. And by example setting the gold standard in night sky protection

Our mission is to celebrate the wonders of the nocturnal ecosystem that all humanity inhabits, to promote awareness and participation, and to protect this natural resource for future generations as our common inheritance. We work to enhance public awareness about the night, and advocate for public policies that reduce wasteful lighting. By celebrating the values found in natural darkness, we work to continue Flagstaff's 60+ years of worldwide leadership in night sky protection. <http://www.flagstaffdarksdies.org/become-a-member-of-the-coalition/>

Memorable Quotes

"With lights and ever more lights, we drive the holiness and beauty of night back to the forests and the sea; the villages, the crossroads even, will have none of it." -- Henry Beston, ***The Outermost House – 1933***

"That does not keep me from having a terrible need of – shall I say the word – religion. Then I go out at night and paint the stars." --Vincent Van Gogh, **In a letter to his brother**

"Be humble for you are made of earth. Be noble for you are made of stars." -- **Serbian proverb**