

Hill Country Alliance  
Night Sky Preservation in Austin and Travis County  
Presentation to the City of Austin  
Environmental Commission  
February 5, 2020

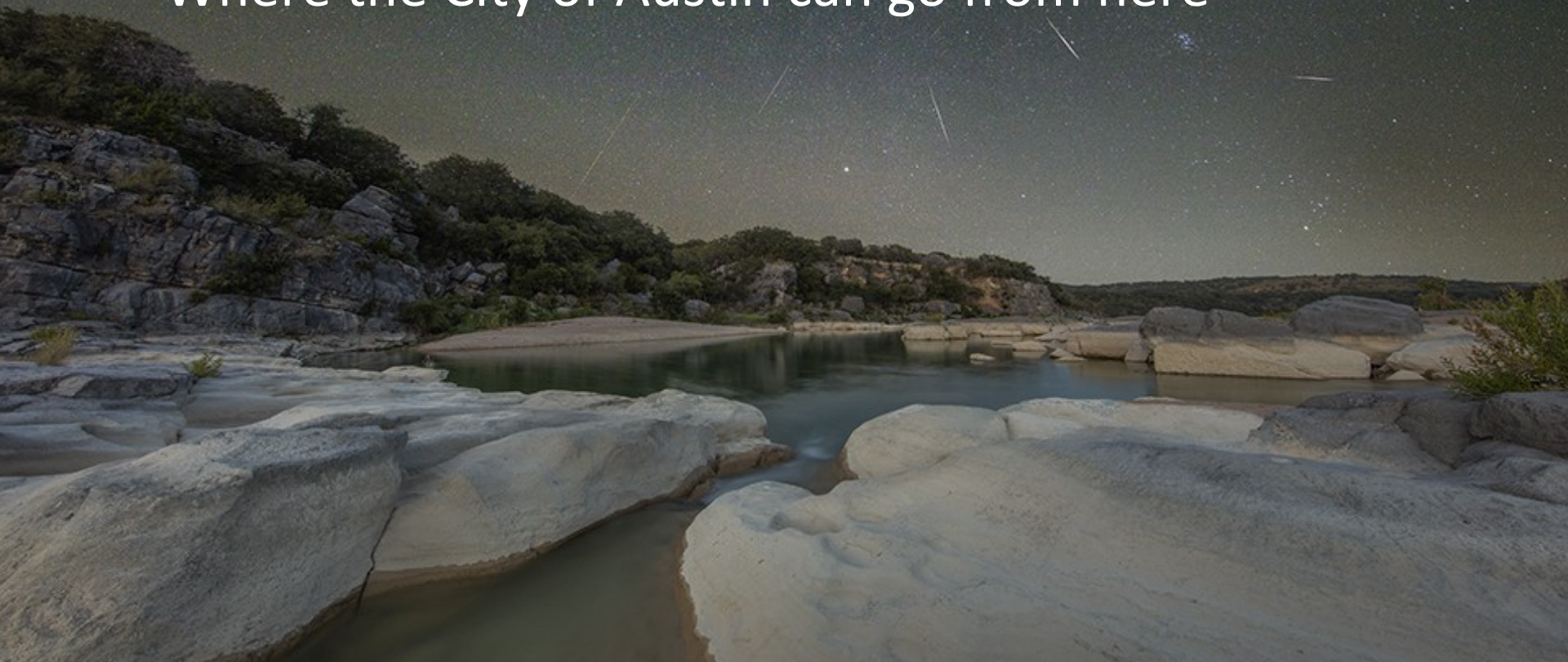
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# Today's presentation:

- What night sky preservation is and why it matters
- Current efforts for night sky preservation
- Where the City of Austin can go from here



I - 35 divides the mostly dark half of the US from the very light polluted half







Light pollution can be caused by urbanization or industrialization, but it doesn't have to be...



# Why does night sky preservation matter?

Habitat: Preserving naturally dark nights is a vital part of preserving habitat.

All of the plants and animals that live in Central Texas, including humans, are evolved for dark nights. (Exception: cave-dwelling species)



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Habitat: Preserving naturally dark nights is a vital part of preserving habitat.

All of the plants and animals that live in Central Texas, including humans, are evolved for dark nights. (Exception: cave-dwelling species)

- Pollinators (eg moths)
- Fireflies
- Frogs
- Birds
- Bats
- Deer
- Coyotes
- Etc. etc.



# Why does night sky preservation matter?

Wasted electricity: It is estimated that 33% of all outdoor lighting is wasted by shining where it is not intended to be.



VS.





# Why does night sky preservation matter?

Wasted electricity: It is estimated that 33% of all outdoor lighting is wasted by shining where it is not intended to be.

That amounts to between 10 and 15 million tons of CO<sub>2</sub> annually in the US, for residential lighting alone. Overall, \$3 Billion are spent annually in the US on outdoor lighting shining where it is unintended.

# Why does night sky preservation matter?

Tourism and recreation: Central Texas destinations, including some in Austin, are enjoyed for their star-filled skies.





# Why does night sky preservation matter?

Visibility for driving and security: Glare from unshielded lights *reduces* our ability to see at night, by making shadows darker.

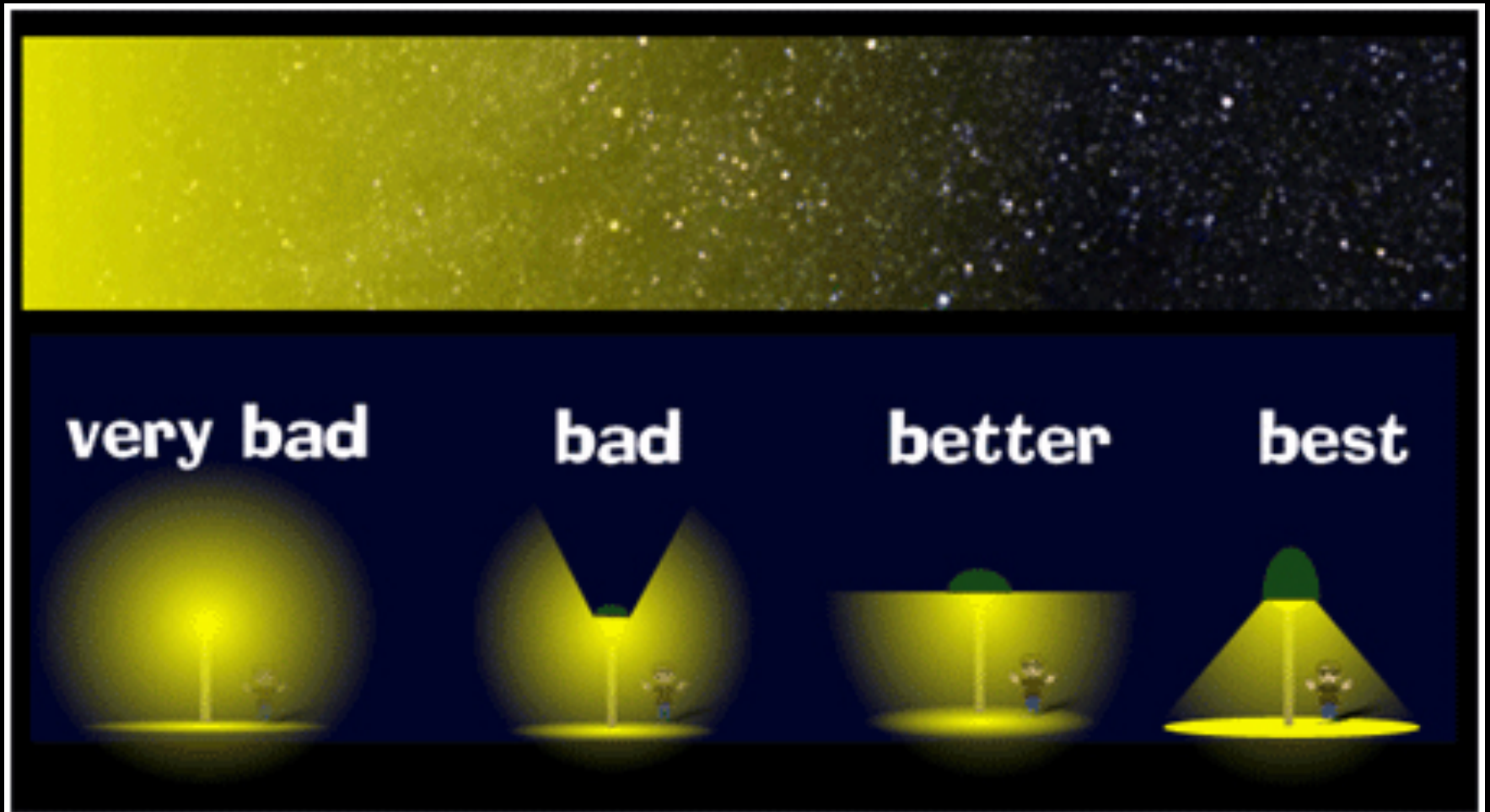






# What is good lighting?

- Fully Shielded: No sky glow, glare, or light trespass





# What is good lighting?



Outdoor lights should be rated **3000K** or below

Lighting Facts <small>Per Bulb</small>	
Brightness	820 lumens
Estimated Yearly Energy Cost \$7.23	
Based on 3 hrs/day, 11¢/kWh	
Cost depends on rates and use	
Life	
Based on 3 hrs/day	
1.4 years	
Light Appearance	
Warm <span style="display: inline-block; width: 100px; border-bottom: 1px solid black; position: relative; top: -5px;"><div style="position: absolute; left: 0; top: -5px; width: 0; height: 0; border-left: 5px solid transparent; border-right: 5px solid transparent; border-bottom: 8px solid black;"></div></span> Cool	
2700 K	
Energy Used	60 watts

# What is good lighting?

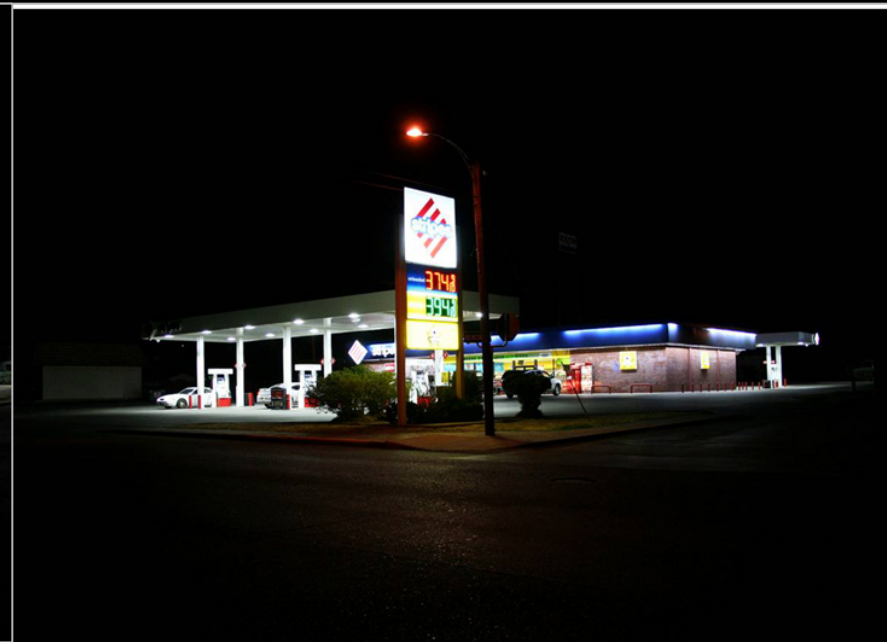
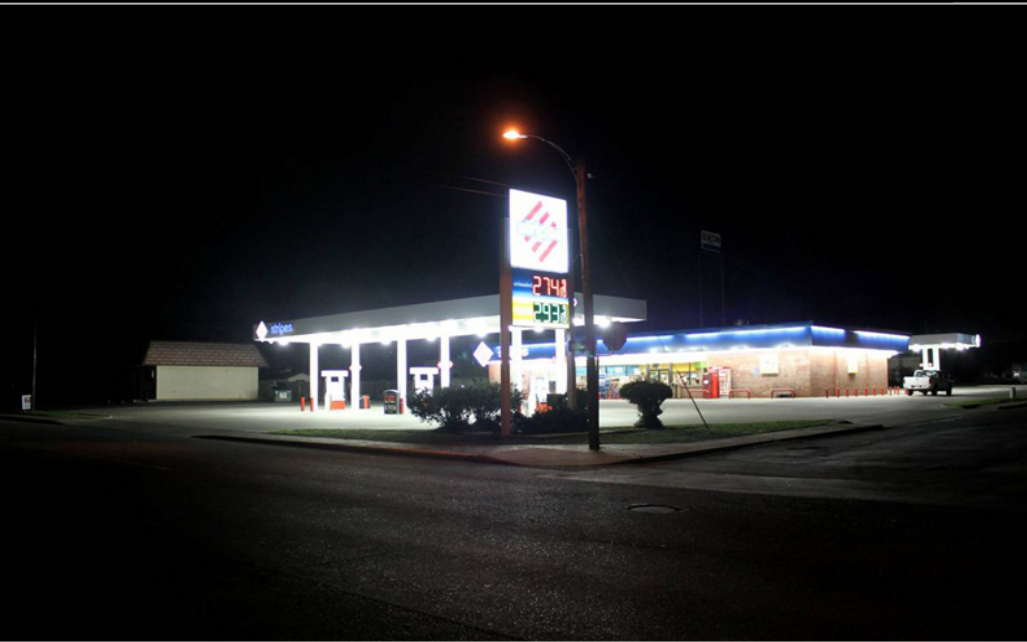
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- Correlated Color Temperature at or below 3000K
- Only on when needed: use switches and sensors
- Not more than is needed for a specific task





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**Flagstaff's Thorpe Park — the right light at last!**



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# Choose Better Lights for Better Nights







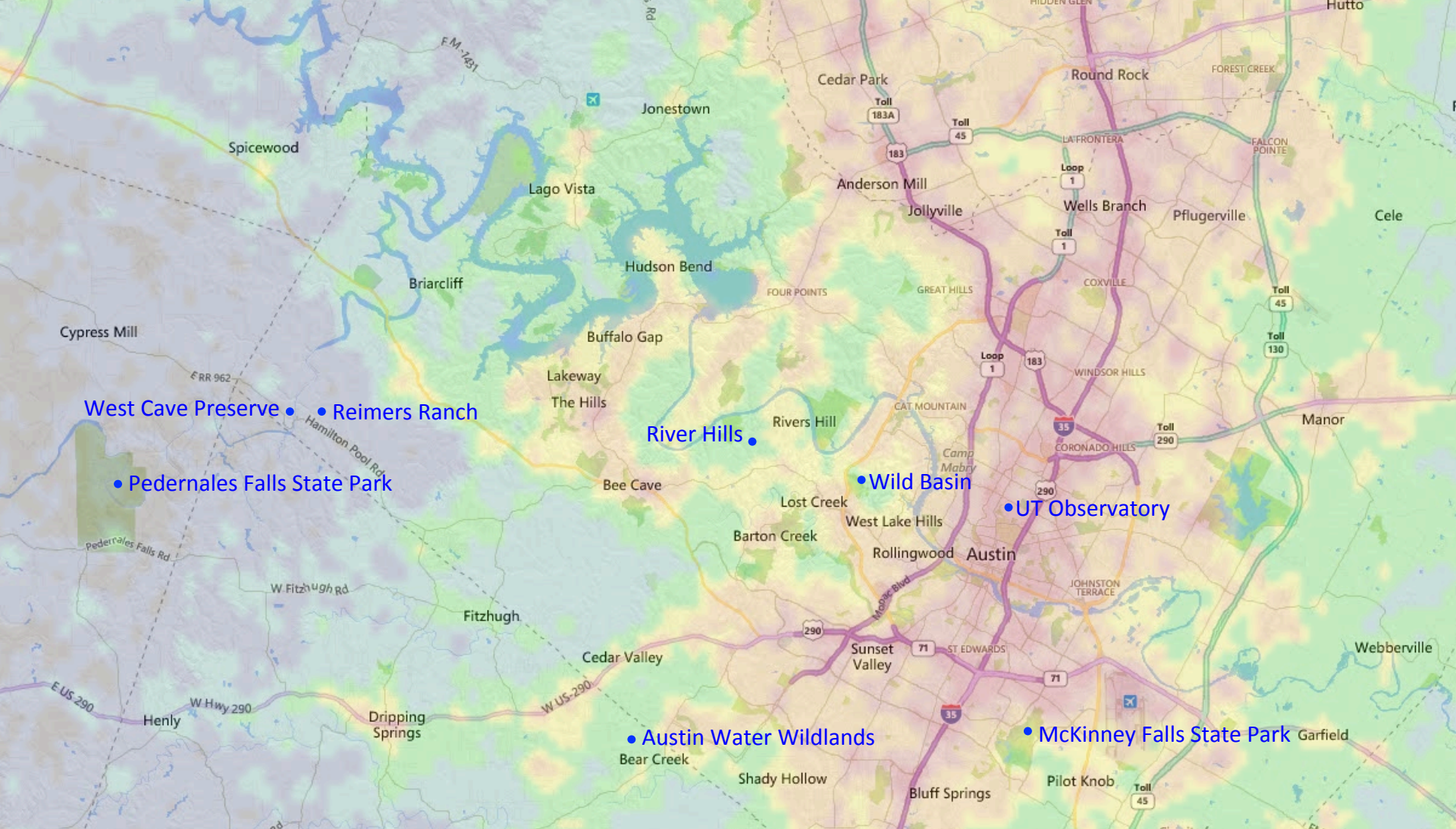


# Current efforts for night sky preservation

- Outreach and Education
- Collaboration
- International Dark-Sky Association Designations
- Policy







Star Parties are regularly held in Austin and nearby at:

- Austin Water Wildlands sites
- Wild Basin Wilderness Preserve
- McKinney Falls and Pedernales Falls
- UT Observatory on campus
- River Hills Neighborhood
- West Cave Preserve
- Reimers Ranch Observatory



# Collaboration: Loop 360 Dark Sky Corridor



Meets three times annually to discuss and collaborate on night sky preservation

- Hill Country Alliance
- COA Office of Sustainability and PARD
- Austin Water Wildlands Division
- City of Sunset Valley
- Travis County Parks
- McKinney Falls State Park
- Wild Basin Wilderness Preserve
- REI
- River Hills and Lost Creek Neighborhood Associations
- Austin Astronomical Society
- Austin Bat Refuge
- IDA Texas Chapter
- and growing...



# IDA Designations

The International Dark-Sky Association (IDA) has designations for Dark Sky Communities, Dark Sky Parks, Urban Night Sky Places, and Developments of Distinction.

Designations help preserve the night sky by motivating better policies and more outreach and by cementing the importance of night skies to a designee.

To earn a designation, a place must have good lighting, educational programming, and strong policies in place.

Currently designated in our region: Lost Creek Neighborhood, River Hills Neighborhood

Currently applying: A suite of Austin Water Wildlands sites, Reimers Ranch, Wild Basin, City of Buda, McKinney Falls

# Policy

COA's outdoor lighting requirements (LDC Subchapter E 2.5) address shielding but do not address:

- Over lighting
- Correlated Color Temperature of LEDs
- Sports lighting

Implementation of the code may be a challenge for COA.

Streetlight policy in Austin appears to allow for opt-out areas, but in practice, new developments may not be aware of this option or its benefits.

Sunset Valley adopted a very good outdoor lighting ordinance in 2018

# The year ahead

- Continue to develop collaborations across the city through regular tri-annual meetings
- Continued collaboration with the MLS stadium development team
- Development of a working group to meet monthly and implement more collaborative projects
- Outreach to new developments
- Outreach to businesses and landowners along Loop 360
- Continue to work on IDA designation applications
- Continued public outreach and education

## Calendar:

- May 15 – Hill Country Dark Sky Conference
- October – Hill Country Dark Sky Month (Fredericksburg)
- November 13, 14, 15 – IDA Annual General Meeting and Conference (San Antonio)



# Where COA can go from here

- Explore an update to the exterior lighting code to address correlated color temperature of LEDs, maximum allowed lumens per acre, and grandfathered non-conforming lighting
- Examine available options for better implementation of the existing code
- Engage the South Central Waterfront Advisory Board because pedestrian friendly and urban can also be night sky friendly
- Work with TxDOT and Austin Energy to explore more night sky friendly designs, including smart streetlight systems

The Hill Country Alliance and our partners can help!

# Thank you!

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