



A grant for developing this Master Site Plan was awarded to the Lumber Heritage Region and Cameron County by Pennsylvania DCNR. Lardner/Klein Landscape Architects was hired to develop the Master Site Plan. Cameron County formed a Dark Sky Committee to help gather public input and identify priorities for dark sky viewing, education, and compatible daytime uses. For information about the process please visit: <https://www.lardnerklein.com/parks-trails-natural-areas/cameron-dark-sky> (or use the QR Code)



Purpose of today's public workshop:

The focus of this workshop will be to review the initial draft master site plan generated from ideas suggested by the planning committee and from the June 6 public meeting.

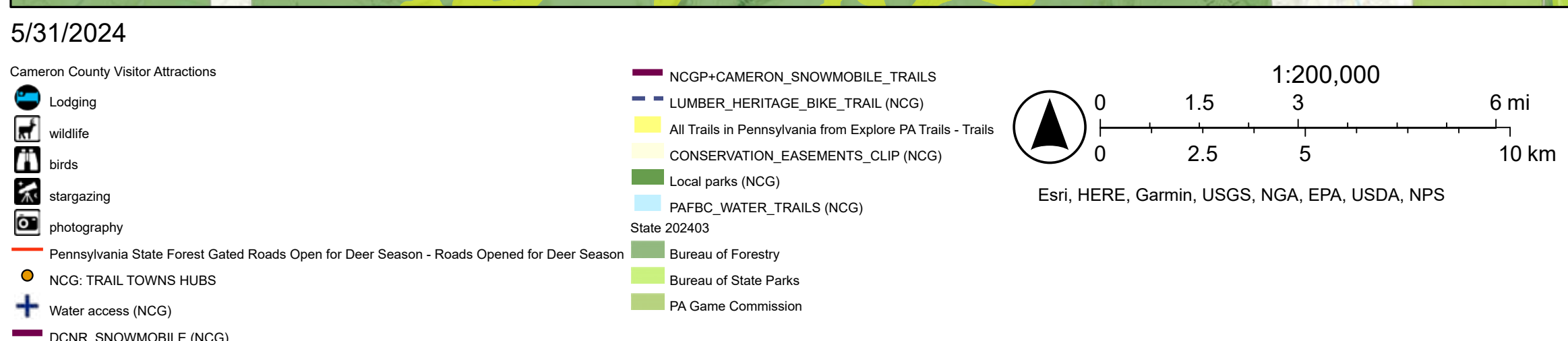
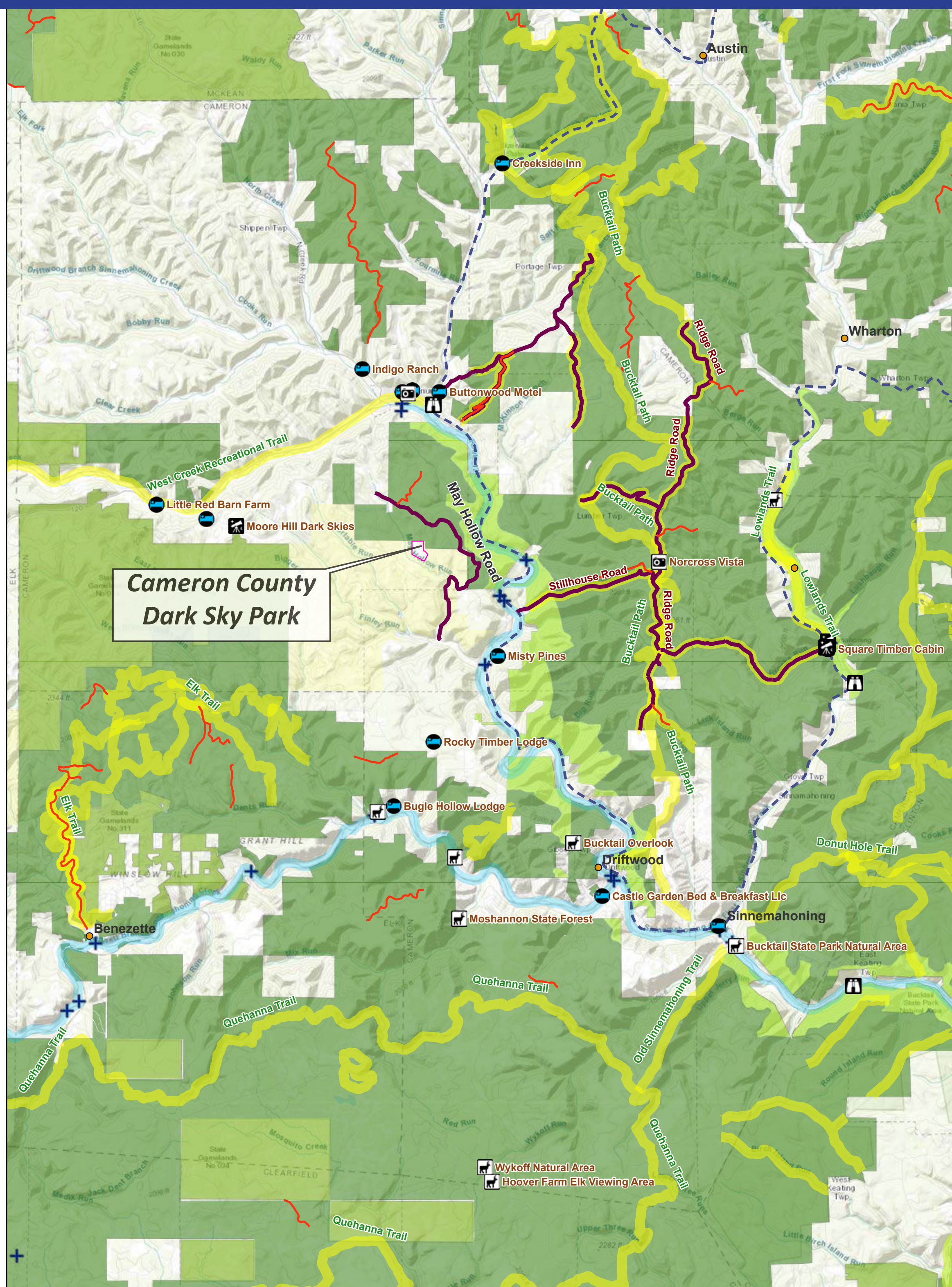
The draft master site plan is illustrated on these displays:

1. Introduction and Context
2. Existing Site Conditions
3. Draft Master Site Plan
4. Proposed Viewing Areas
5. Upper Meadow Wildlife Viewing Area
6. Dark Sky Park Designations

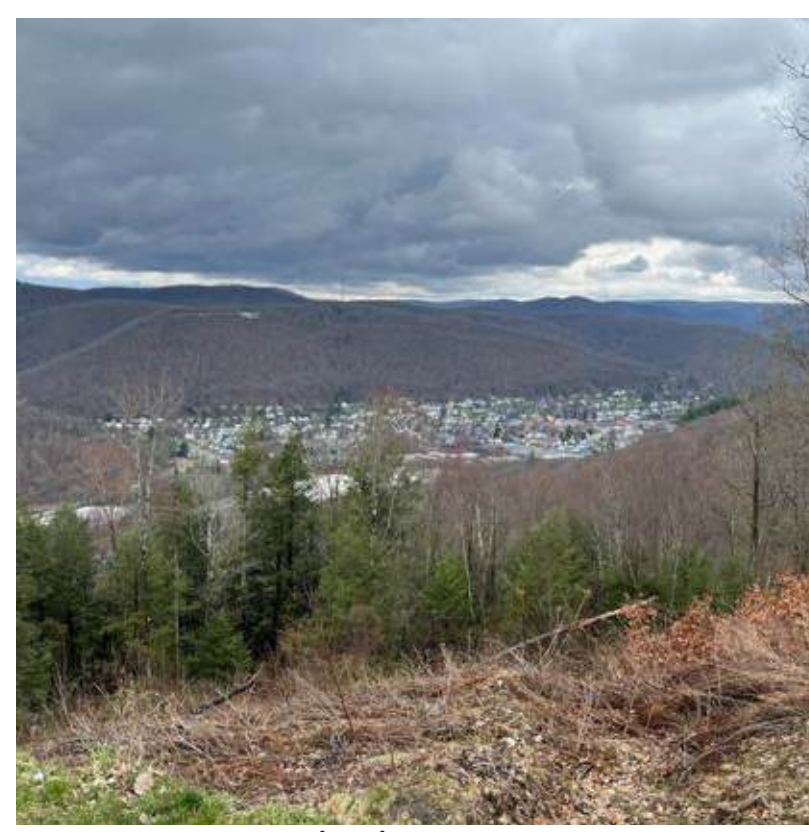
Purpose of the Master Site Plan

One of Cameron County's most attractive assets is its dark sky, which offers exceptional starry nights, perfect for stargazing and appreciating the natural beauty, the sights, and sounds of the dark night. The purpose of the master site plan is to establish a development program and design concept for how best to enhance the County's reclaimed landfill property off May Hollow Road for use as a Dark Sky Park.

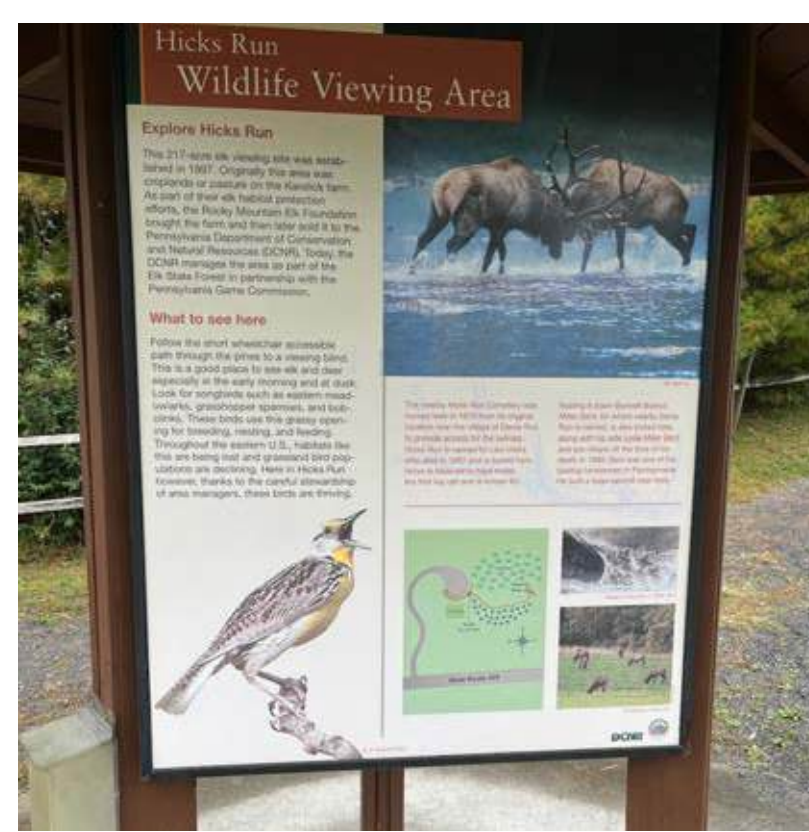
Nearby Nature/Outdoor Recreation & Lodging



Cherry Springs State Park-7601.jpg



Emporium overlook



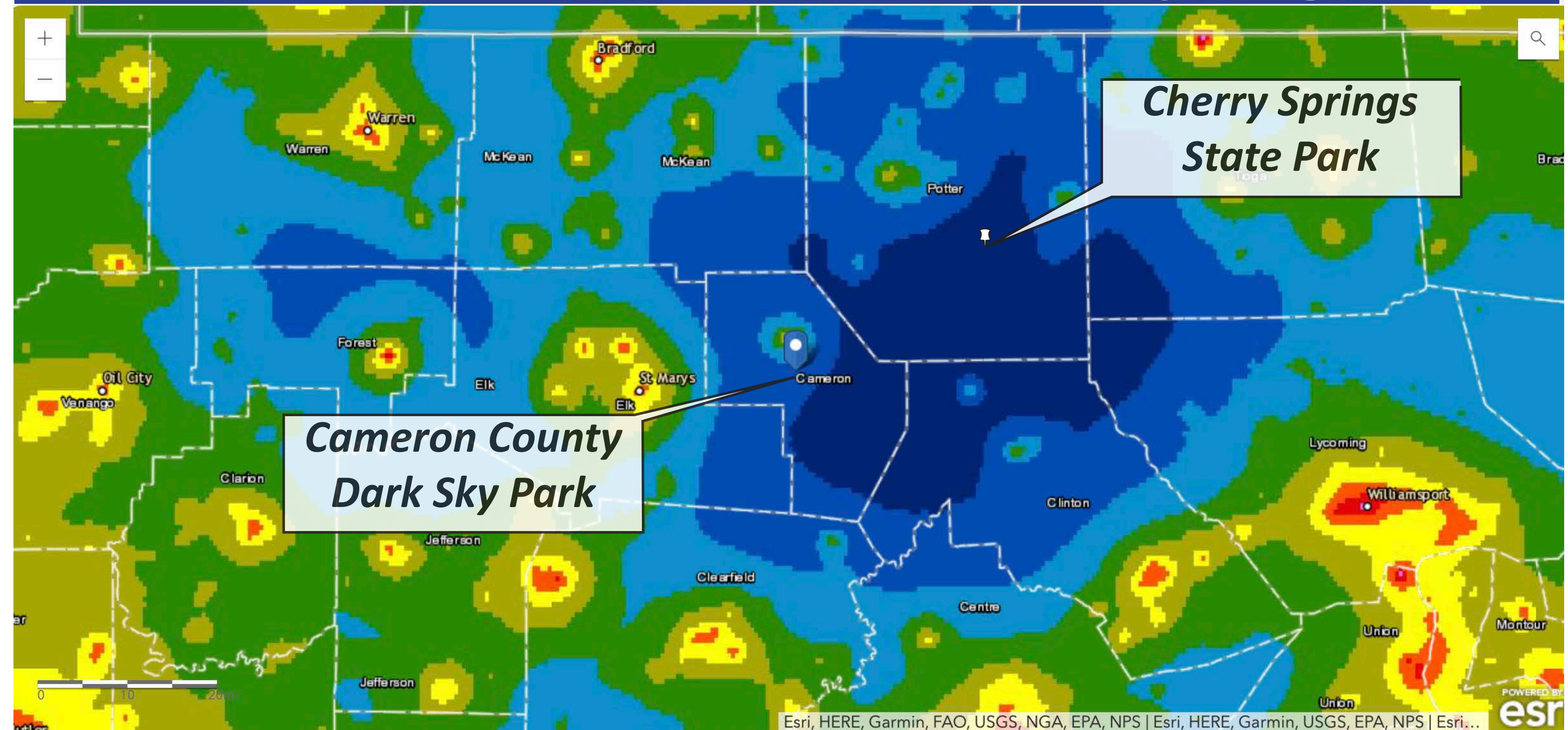
Hicks Run Wildlife Viewing Area



Elk Country Visitor Center



The New World Atlas of Artificial Sky Brightness

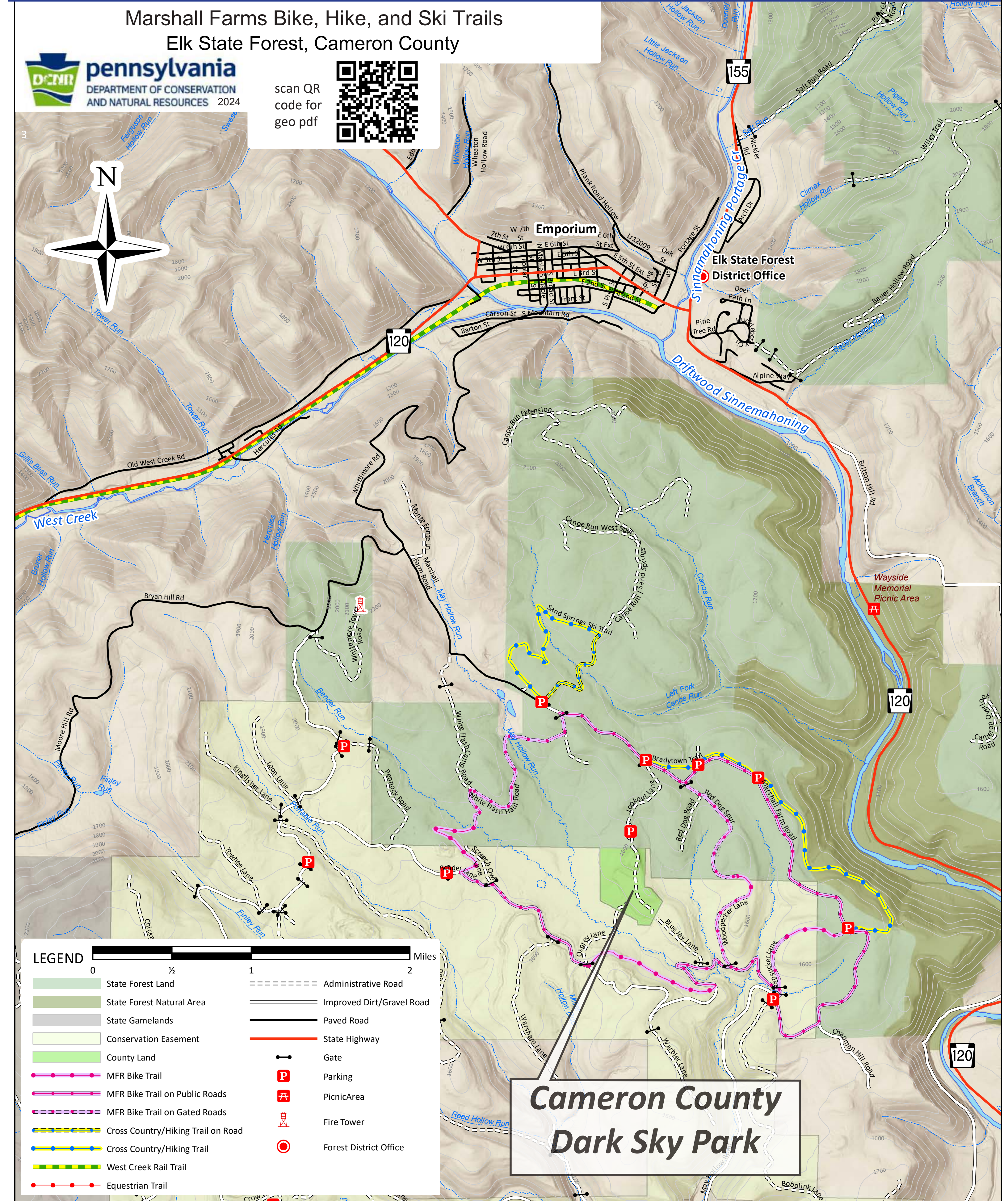


Ratio to natural brightness	Artificial brightness ($\mu\text{cd}/\text{m}^2$)	Approximate total brightness (mcd/m^2)	Color
<0.01	<1.74	<0.176	Black
0.01-0.02	1.74-3.48	0.176-0.177	Dark gray
>0.02-0.04	>3.48-6.96	>0.177-0.181	Gray
>0.04-0.08	>6.96-13.9	>0.181-0.188	Dark blue
>0.08-0.16	>13.9-27.8	>0.188-0.202	Blue
>0.16-0.32	>27.8-55.7	>0.202-0.230	Light blue
>0.32-0.64	>55.7-111	>0.230-0.285	Dark green
>0.64-1.28	>111-223	>0.285-0.397	Green
>1.28-2.56	>223-445	>0.397-0.619	Yellow
>2.56-5.12	>445-890	>0.619-1.065	Orange
>5.12-10.2	>890-1780	1.07-1.96	Red
>10.2-20.5	>1780-3560	>1.96-3.74	Magenta
>20.5-41	>3560-7130	>3.74-7.30	Pink
>41	>7130	>7.30	White

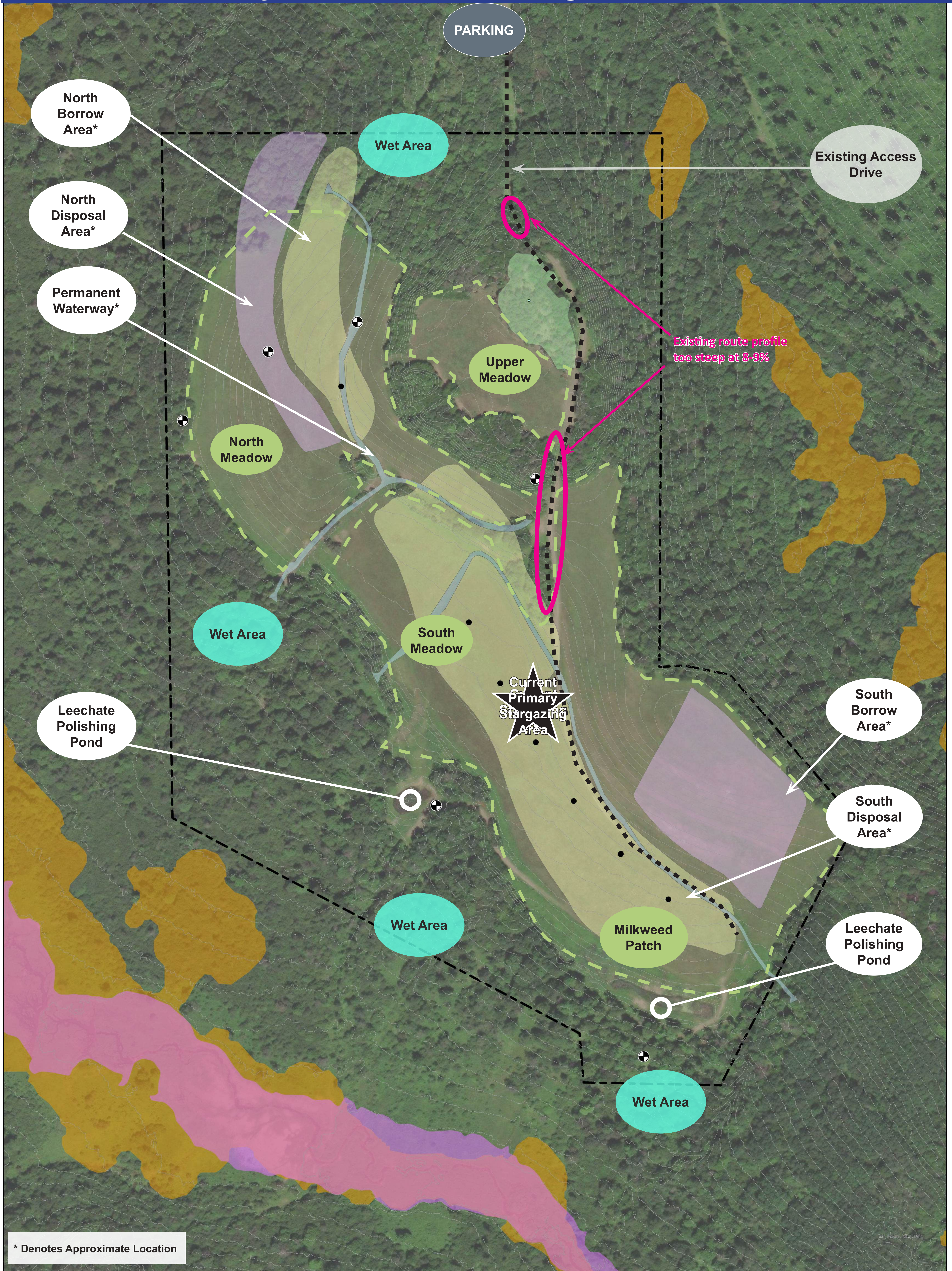
Light pollution in urban centers creates a sky glow that can blot out the stars. The brighter the area in this map, the harder it is to see stars and constellations in the night sky (2019).

Credit: Falchi et al., Sci. Adv., Jakob Grothe/NPS contractor, Matthew Price/CIRES.

Nearby Bike, Hike & Ski Trails (DCNR)



Cameron County
Dark Sky Park



Legend

★ Primary Night Sky Observation Area
 ○ Shale/Coal Mining Overburden Piles

● Gas Vent
 ● Monitoring Well
 — 5' Contours
 ■ Fill Borrow Area

■ Capped Landfill
 ■ Permanent Waterway
 ■ Site Boundary
 ■ Mining Overburden

■ Flood Zone A -1% annual chance of flooding
 ■ Wetlands

0 100 200 400 Feet



A Parking and Access (PA DCNR)



- Entrance signage at May Hollow Road (far left)
- Advance sign about light and noise dimming at roadway split
- Existing DCNR gravel lot
- Proposed concrete stop bars to mark parking spaces with reflectors

B Trailhead/Visitor Comfort Station



- Recently installed DCNR Information kiosk (r)
- Proposed waterless vault restroom w/ odor control, courtesy of Romtec (c)

C Upper Meadow Pavilion & Access Trail



- Proposed upper meadow trail with perimeter viewpoints
- Proposed pavilion with storage and solar panels (far l)
- Proposed elevated and accessible route walkway (example below)



D Upper Dark Star Viewing Area



Detail Section D.1 looking East



Detail Section D.2 looking North



F Wildlife Viewing



Hicks Run, Elk State Forest Viewing Blind

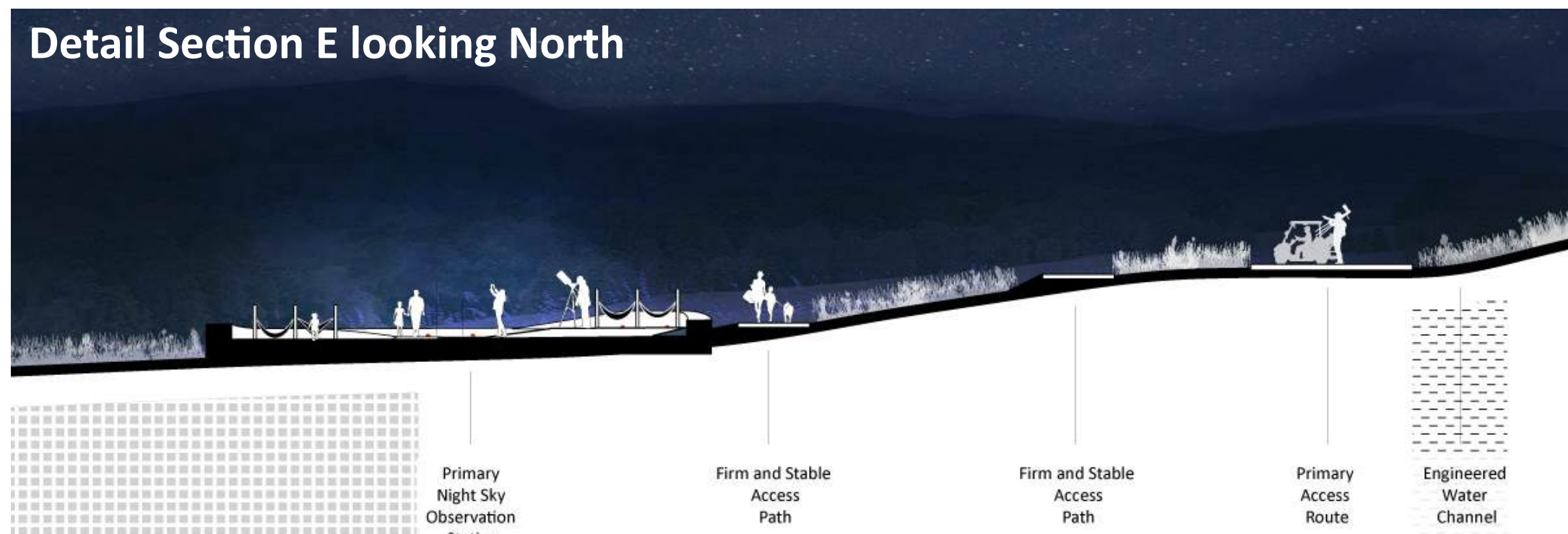
East Point Park Bird Sanctuary Pavilion by PLANT

Example of boardwalk for lower wetland viewing

E Group Dark Star Viewing Area



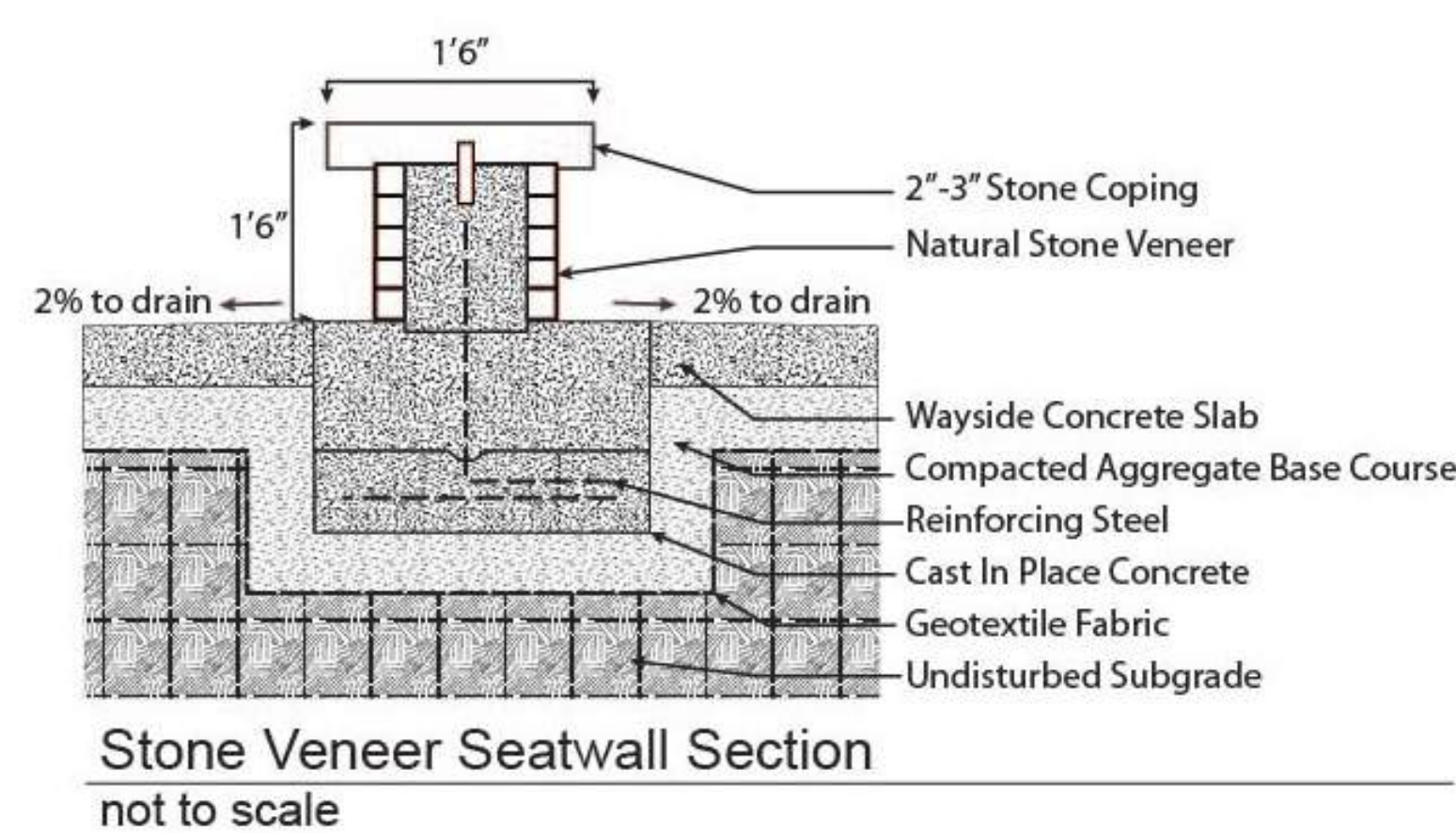
Detail Section E looking North



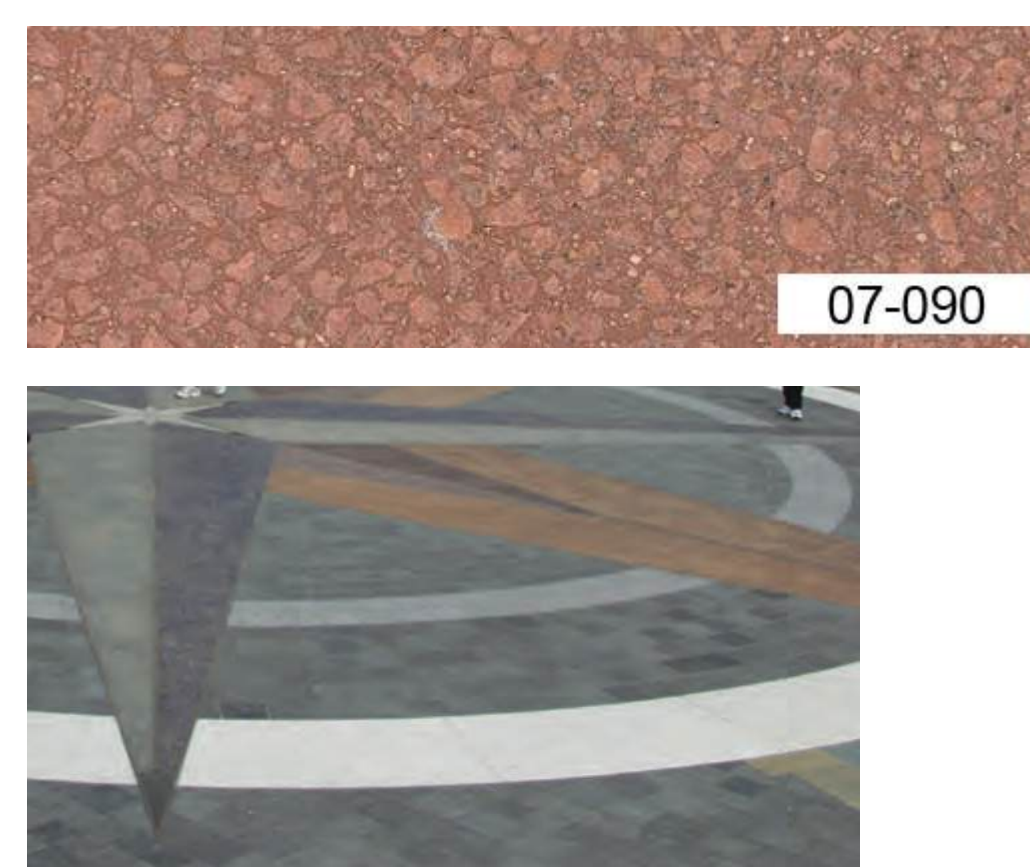
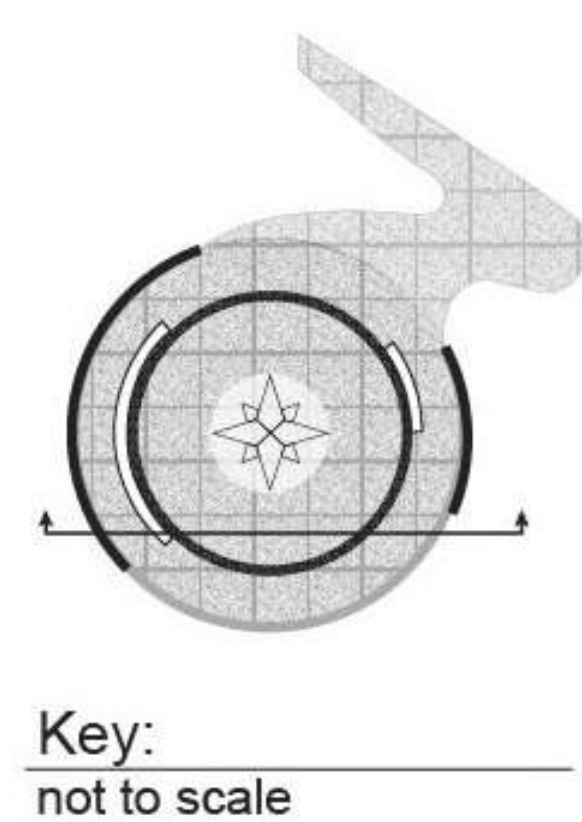
E Group Viewing Area



Seatwall



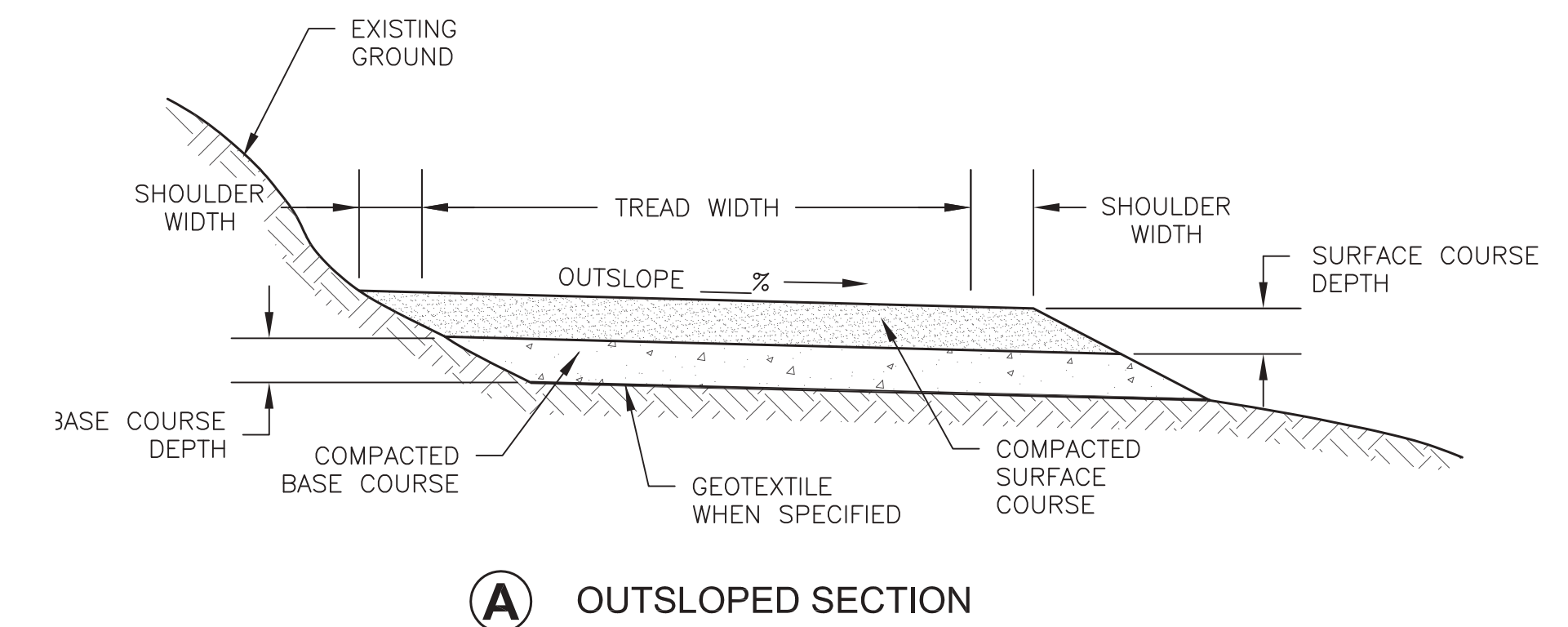
Decorative Concrete Surface



Outsloped Accessible Trail on Fill

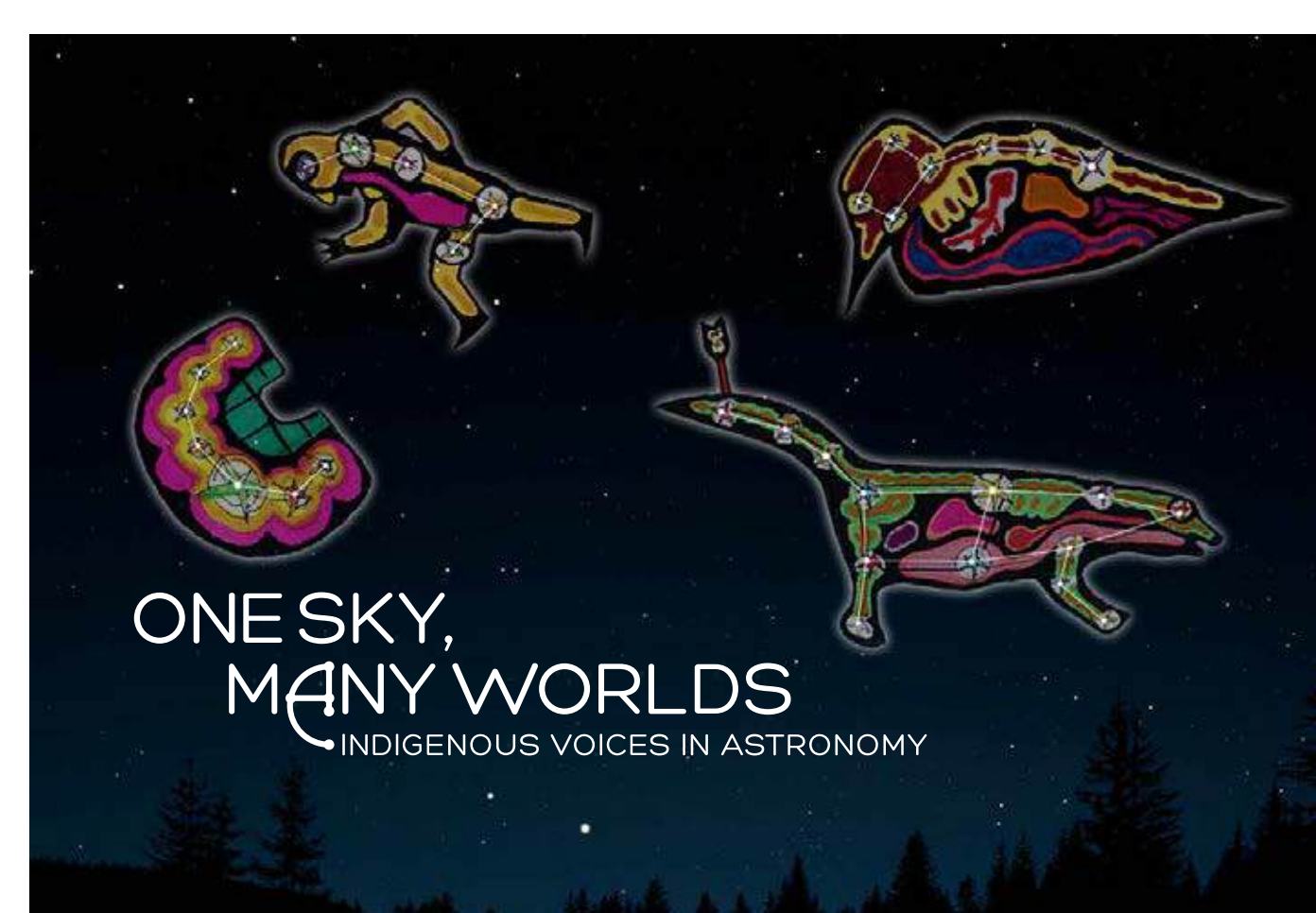


Solarpath USA (see master site plan for lighting application locations (lighting only along entry route to pavilion))



Dark sky myth and legend

Suggested interpretive themes and tools to supplement dark sky viewing areas in daylight



Sound and stories

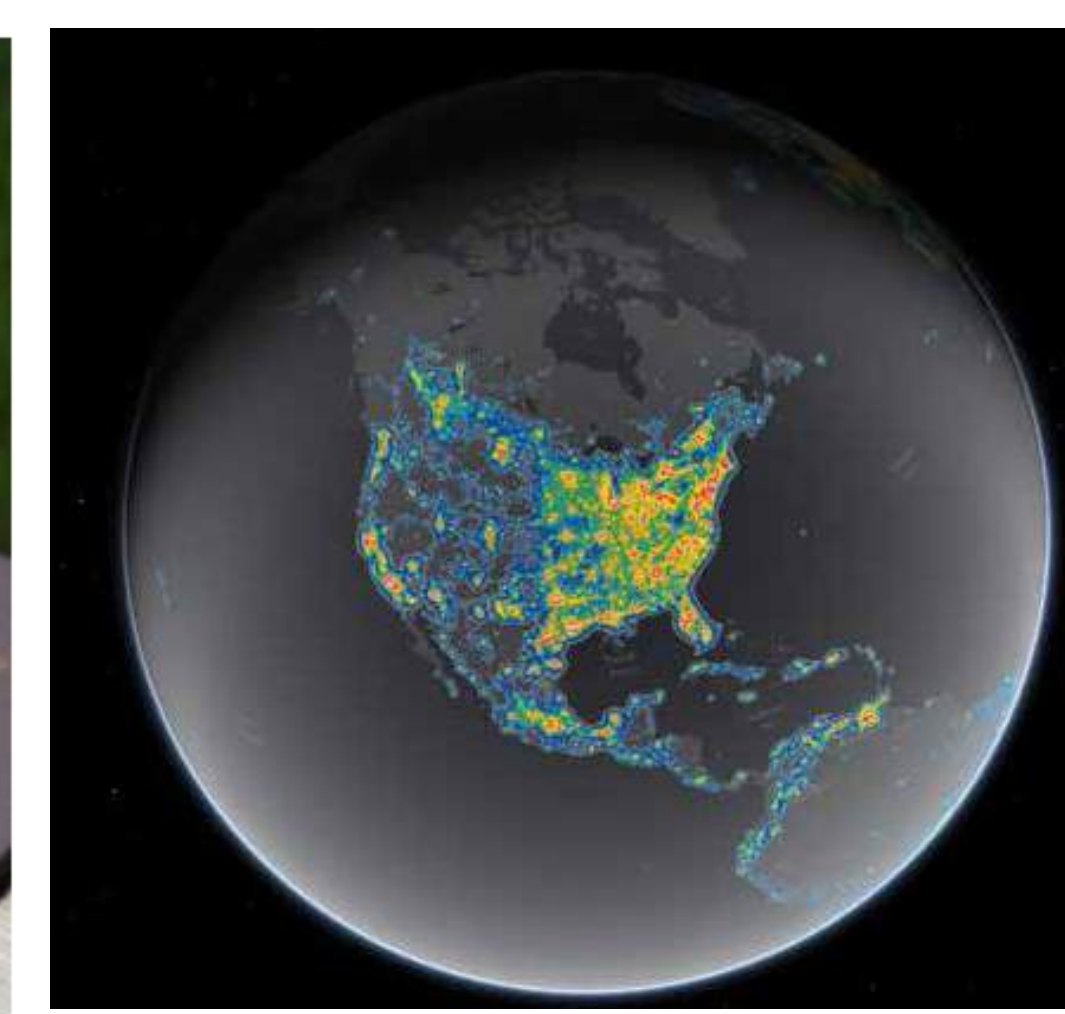
Wildlife needs dark sky



Bird and animal silhouettes and handrail wraps



Conserve the Nightsky



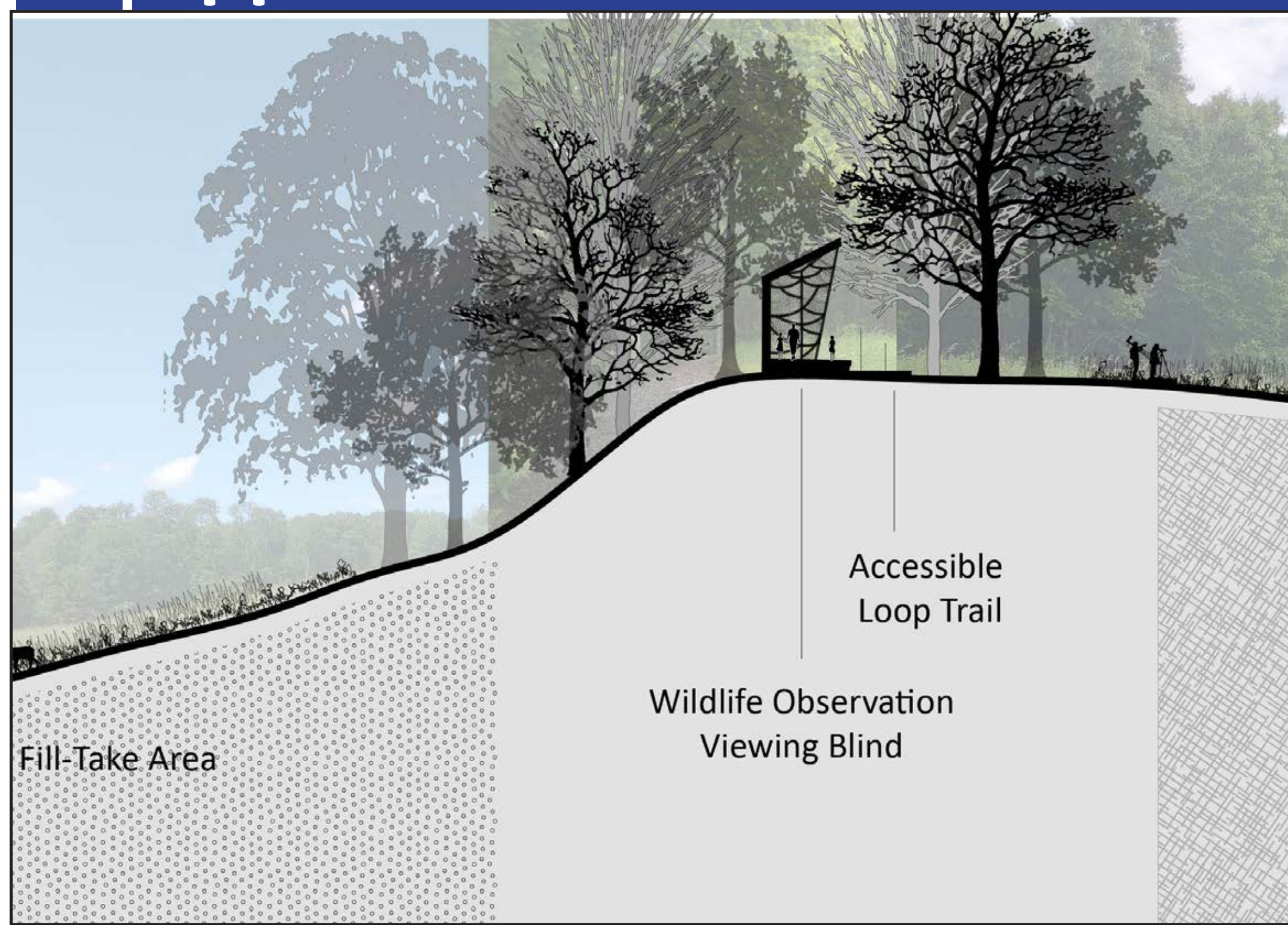
Interpretive displays



et al., including

5 Dark Sky Park: Upper Meadow Wildlife Viewing

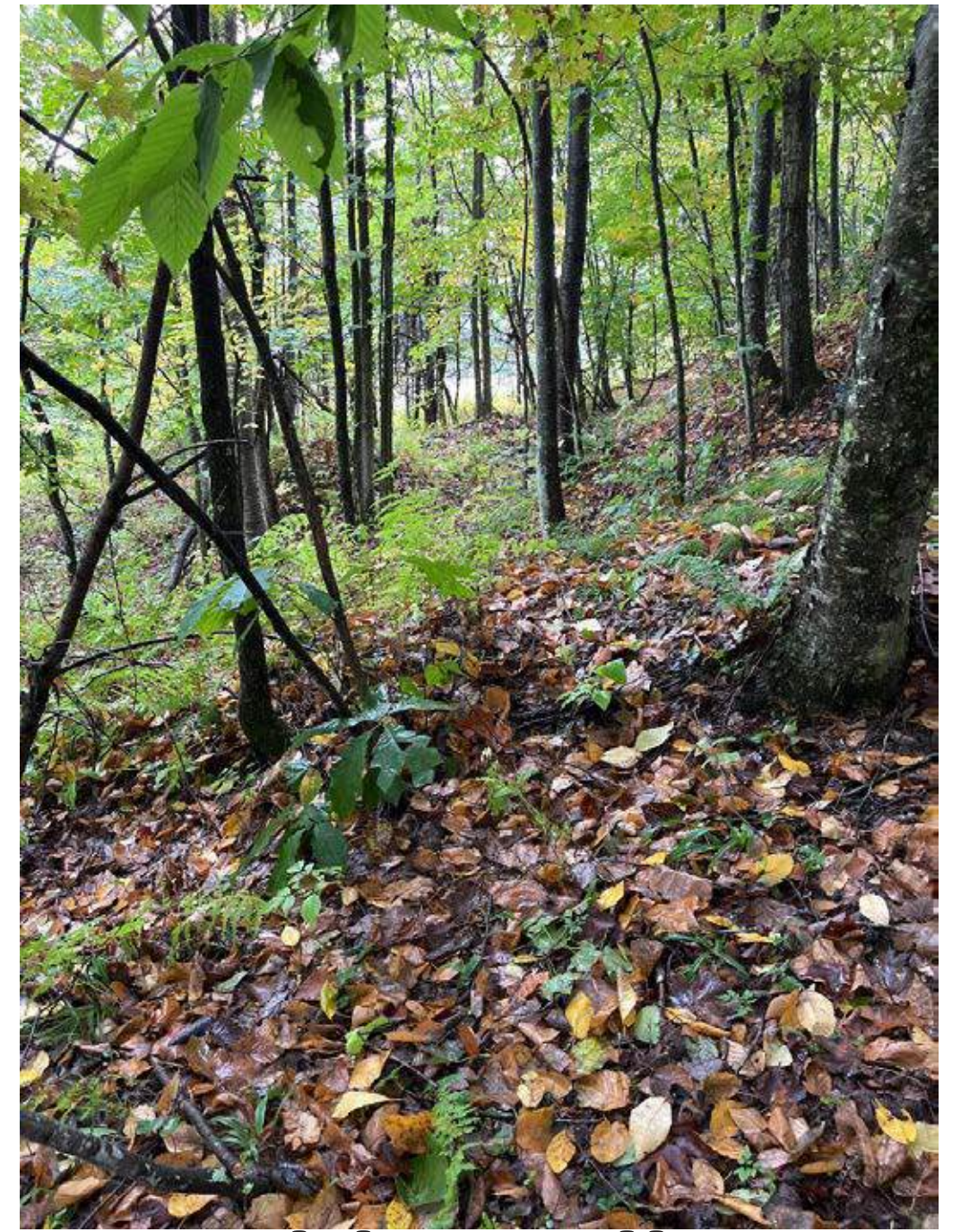
F Upper Meadow



SECTION F.1 Viewing Blind



C.1 Pavilion



C.2 Accessible walkway



C.2 View from the boardwalk looking north toward pavilion



C.3 View from the lower end of the boardwalk leaving the meadow and looking northeast

Interpretive Topics

How this landscape evolved

-  **Forest**
-  **Coal Extraction**
-  **Landfill**
-  **Restoration**

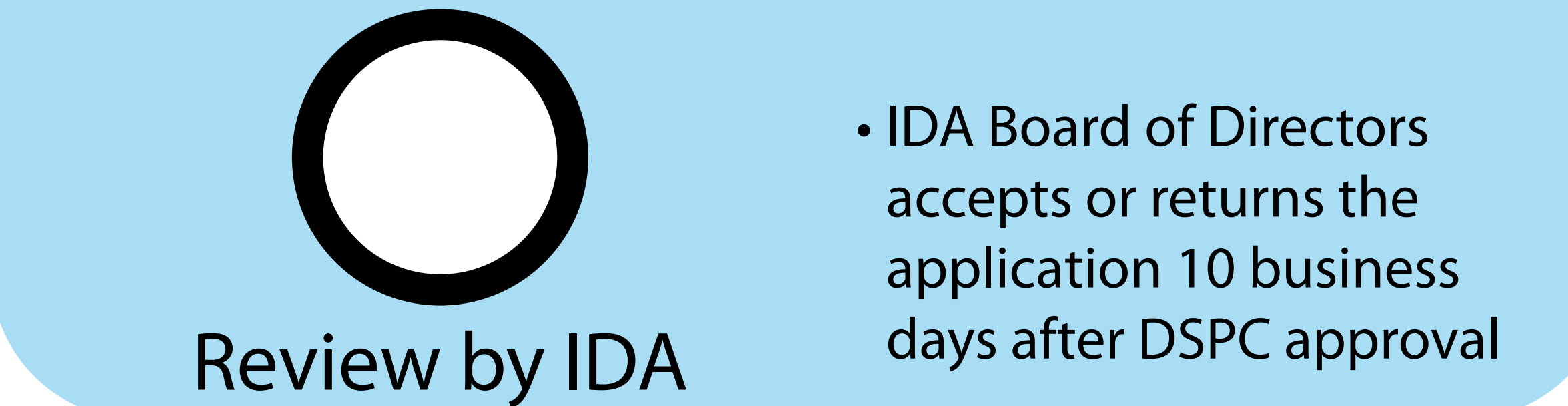
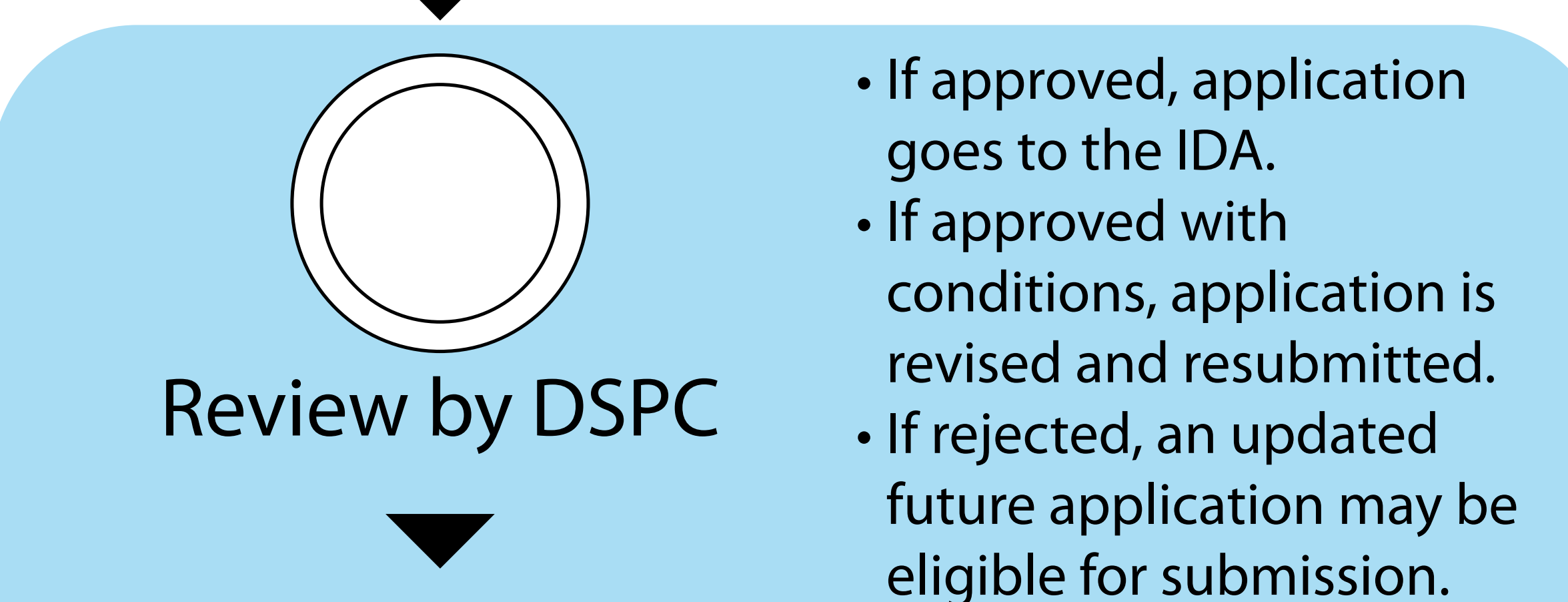
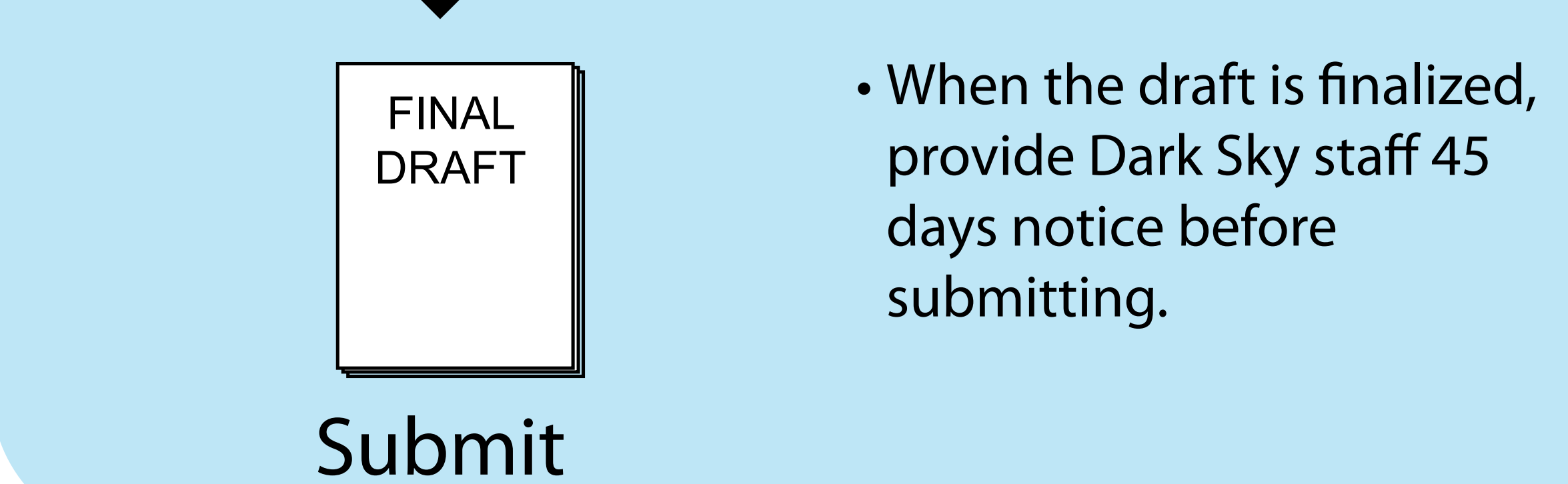
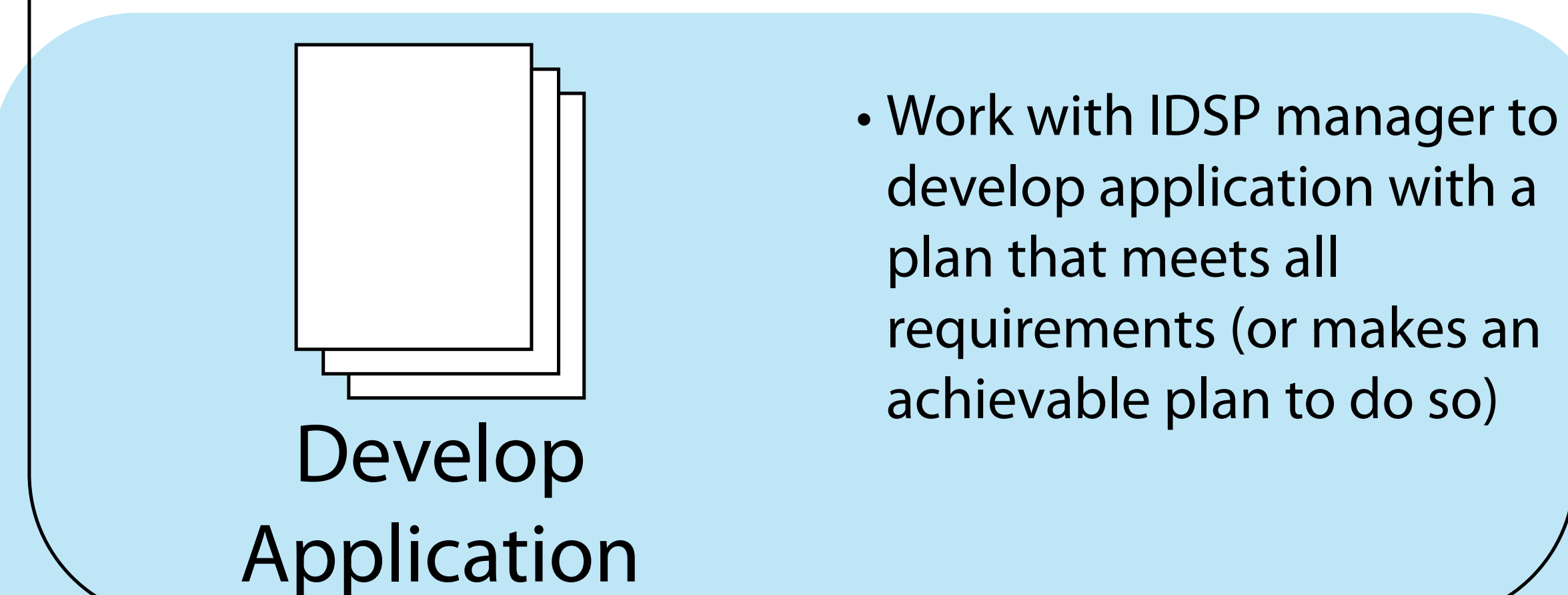
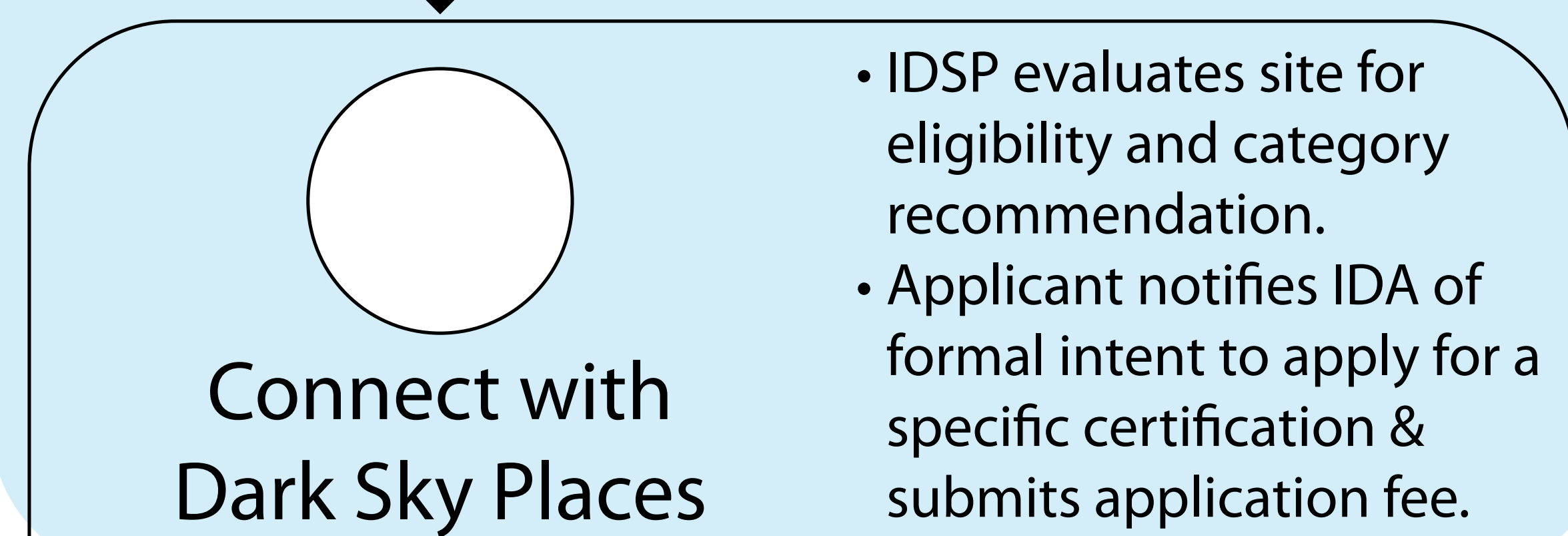
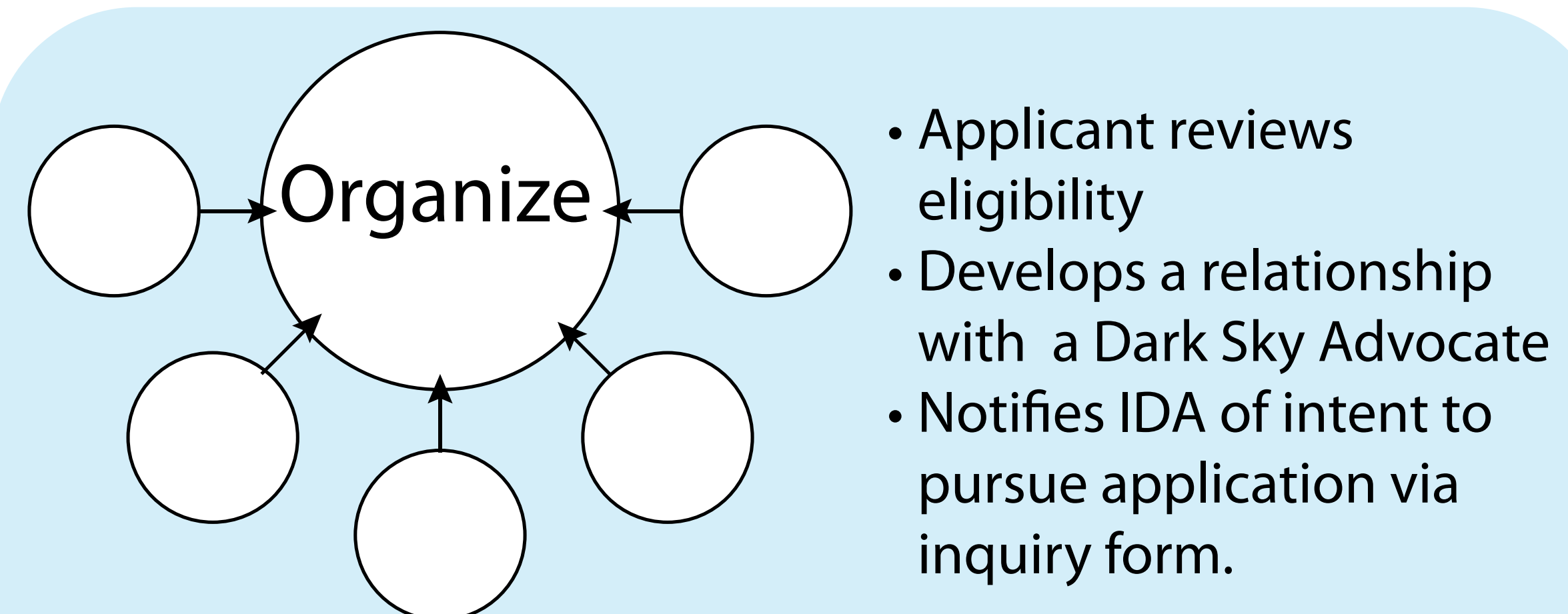
Who lives here now?

-  **Bats**
-  **Owls**
-  **Whip-poor-will**
-  **Coyotes**
-  **Elk**



INTERNATIONAL DARK SKY PLACES PROGRAM CERTIFICATION

The International Dark Sky Place certificate provides commemorative recognition for communities that are demonstrating best practices for protecting night skies. Places are nominated, and go through a certification program that is reviewed by the Dark Sky Places Committee and International Dark Sky Association

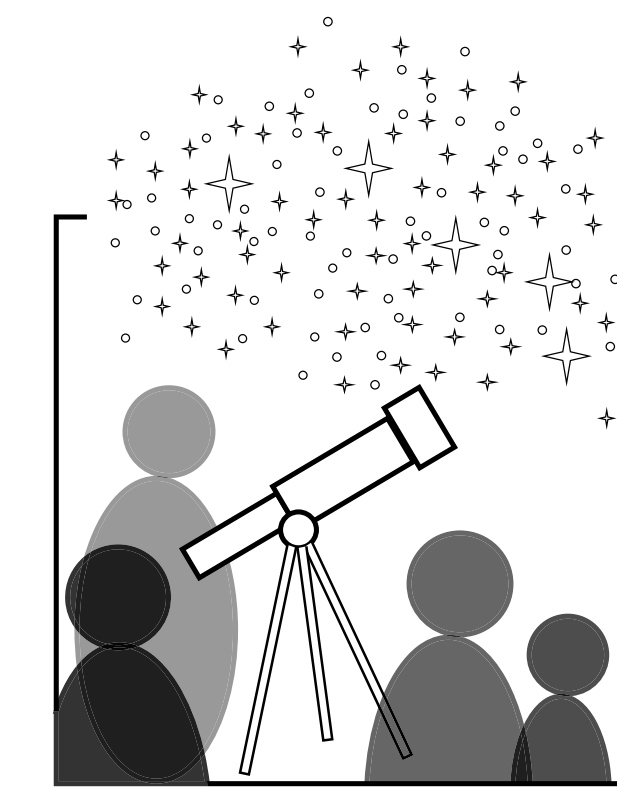


Built Environment Category:

- Provides a nighttime experience of reduced light pollution
- Utilizes effective lighting policies that use light only when necessary and create safe public spaces
- Protects nearby areas that depend on natural darkness.

Community or Populated Area

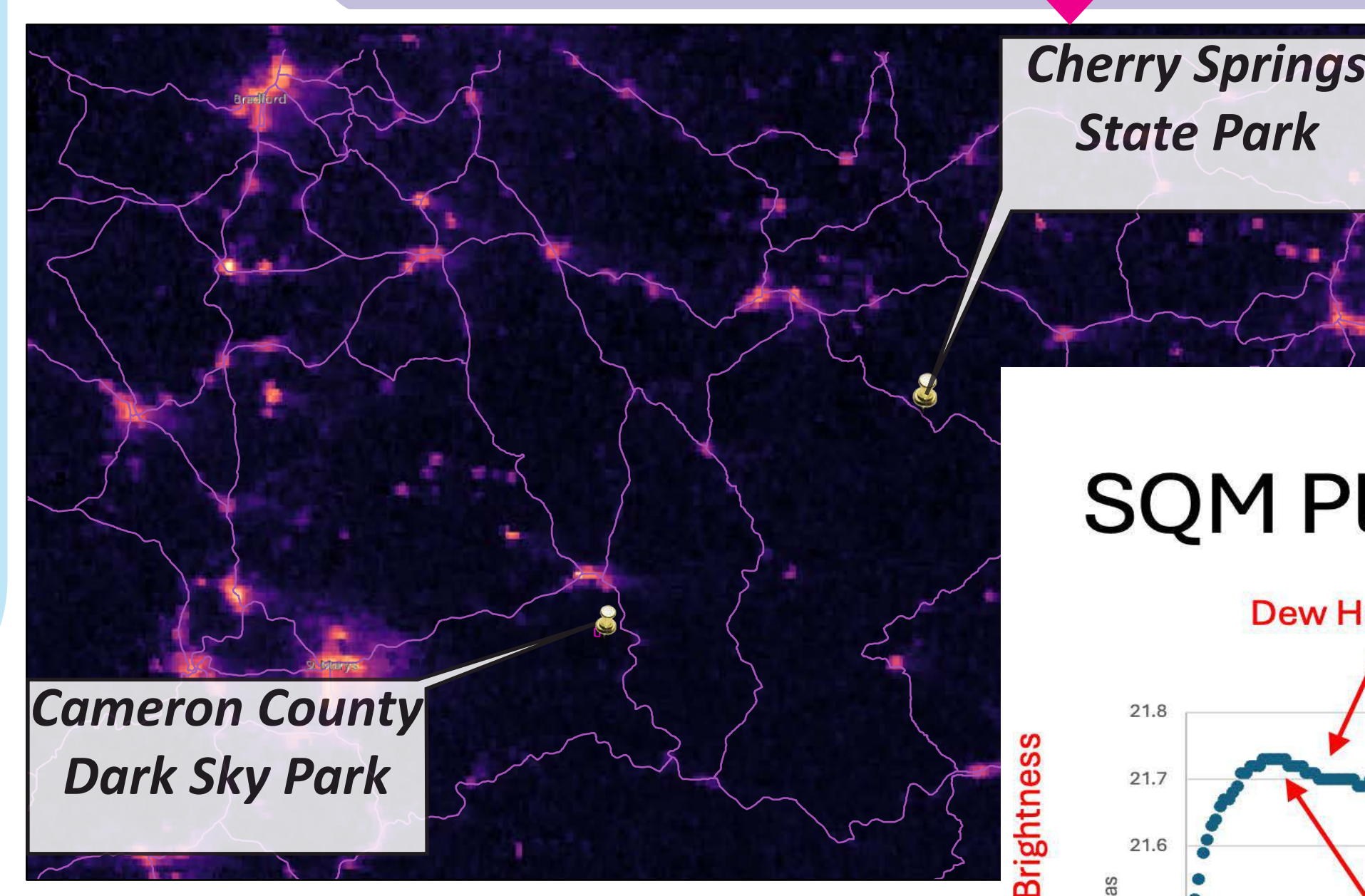
International Dark-Sky Community



Nighttime public access and outreach events



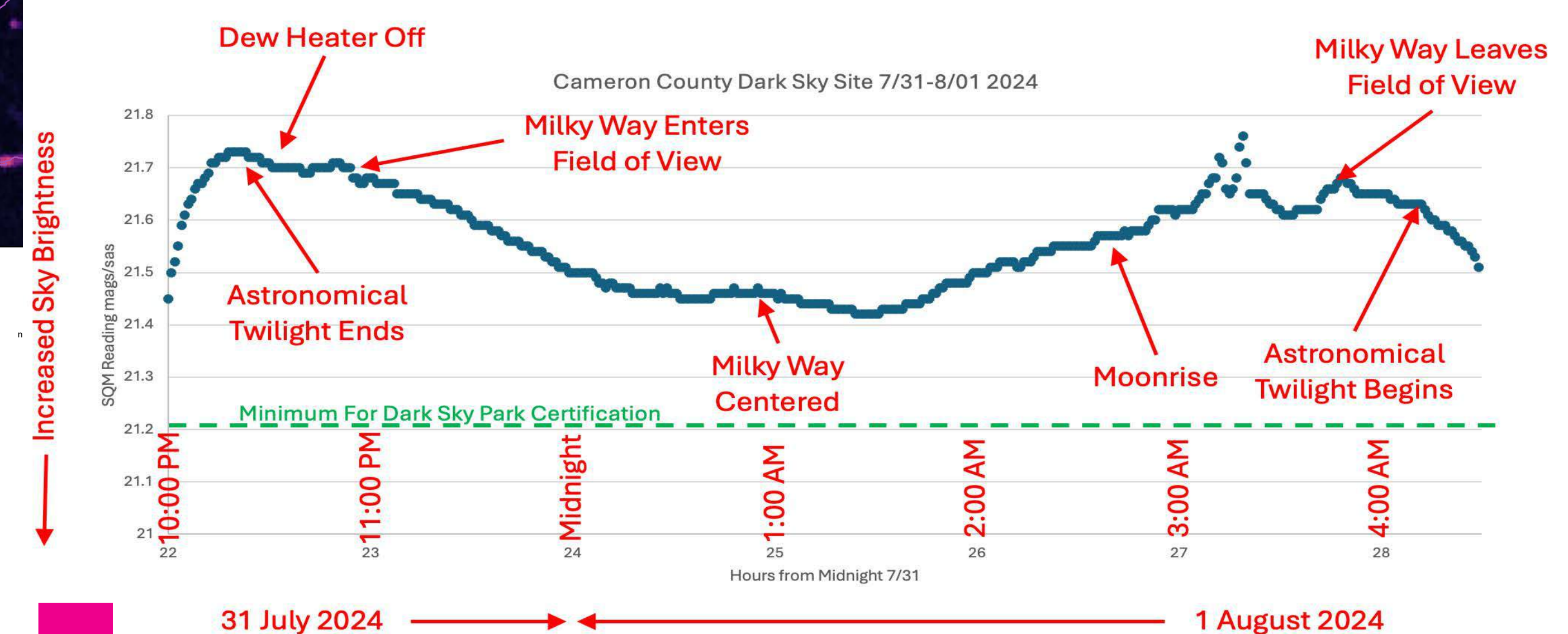
Dark-Sky Friendly Lighting Policy



Emporium Sky Darkness Measurements

Steve Conard
PA Wilds Astronomy Club

SQM Plot (mags/sq-arcsec)

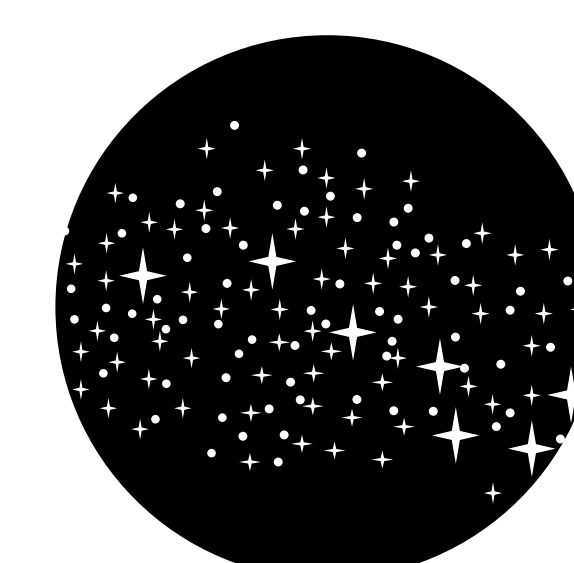


Conservation Approach:

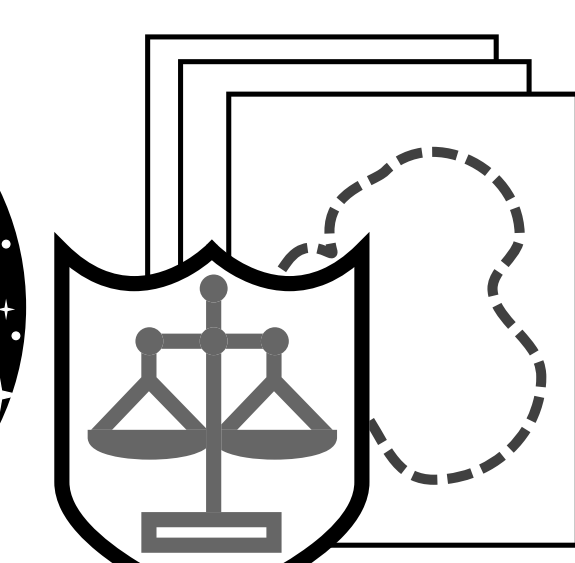
- The Milky Way is visible to the unaided eye
- There are no artificial light sources nearby with significant glare
- Any light domes are dim, restricted, and closer to the horizon

Park or Protected Land with sky quality above or close to 21.1 mags/arcsec Zenith Luminance AND can be accessed by staff and visitors

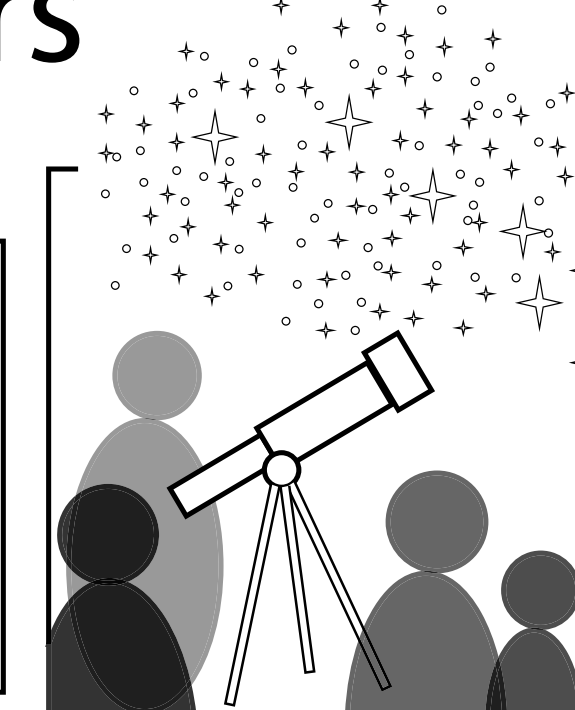
International Dark-Sky Park



Protected, exceptionally Dark Sky



Land is Legally Protected



Nighttime public access and outreach events



Lighting & Restoration Examples