

Light Pollution



By Anthony Buhr

Wildlife Ecology & Conservation Major

Public Policy Minor

5/13/24

What do you notice about these pictures?





Defining the Problem

Light Pollution is defined as artificial illumination of the night sky, often limiting the visibility of stars and other Space objects.

U of Arizona: "Night skies are getting 9.6% brighter every year."

Common issues:

- Loss of Biodiversity (Sea Turtles, Migrating birds)
- Health Risks in Humans (Sleep disorders, stress, cancer)
- Equity issues (Environmental Racism)
- Waste of Energy (\$3 billion every year)



Brief History



1882- Edison helped to create an electricity system for the city of Manhattan.

1958- Flagstaff, AZ published ordinance 440 regarding searchlights

1986- AZ published a law making #440 statewide and expanding on it.

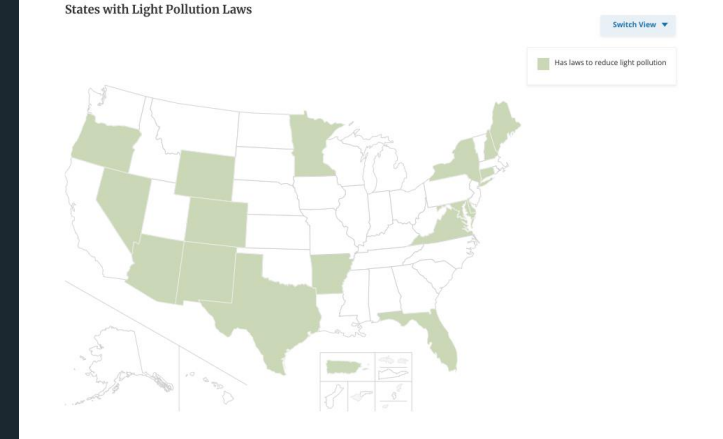
1925- Half of all homes in the US had access to electric power.

~1970- LP was first fully recognized by US astronomers.

2000- The Natural Sounds & Night Skies Division was founded to protect and restore dark sky environments throughout the US National Parks.

Laws & Regulations

The federal government currently has no nationwide laws regarding LP. Only 17 US states have issued ordinances or state laws to reduce Light Pollution.



Regulations

- § 7101A. Is a Delaware regulation that only allows state funds to be used to buy energy saving light fixtures, cutoff lighting, or if the fixture only emits as much light as it needs to. (2005)
- Night Sky Protection Act (NM) manages all outdoor light fixtures to promote safety, conserving energy and protecting the environment for astronomy. Prohibits recreational facilities from using lighting after 11PM. \$25 fine for anyone who violates this law.
- Arizona statute Title 49 requires all outdoor light fixtures to be fully or partially shielded.



Major Actors (Official & Unofficial)

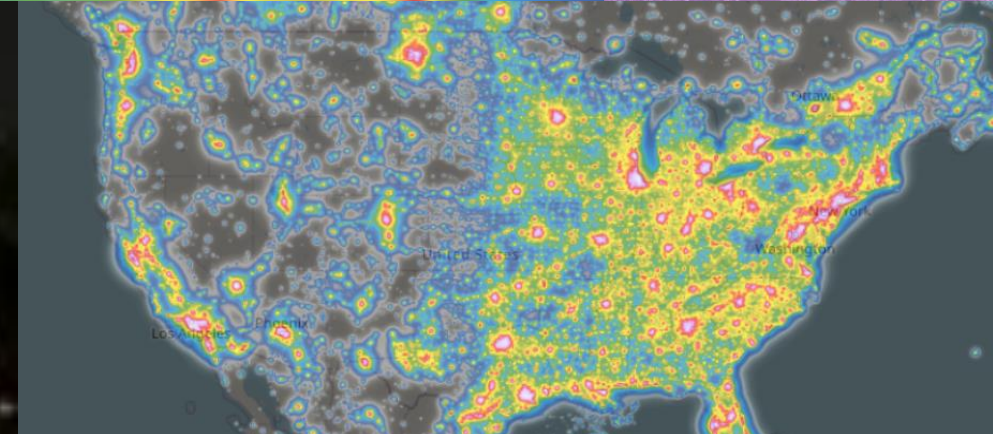
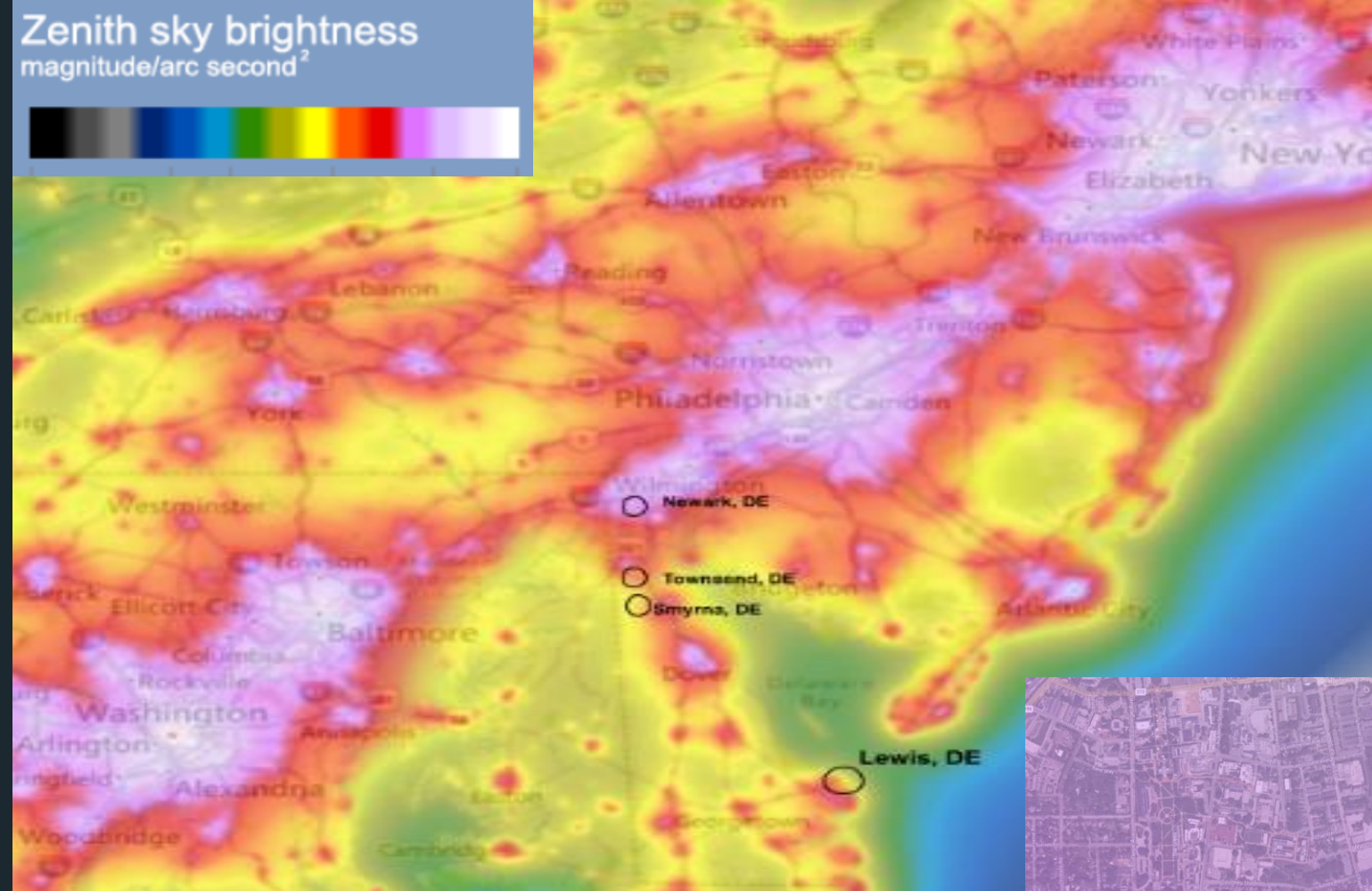
- Department of the Interior (DOI)
 - National Park Service (Budget: \$8B)
 - Natural Sounds and Night Skies Division (Budget: \$250,000)
- Department of Energy (DOE)
- Interest Groups (Dark Sky International)
- Local Wildlife
- All of you



UD & DE's Light Problem

While Delaware does have a state statute about LP (2005), the only other legislation for LP only applies to Townsend, DE and it was passed in 2011. We have not had any new LP legislation in over 13 years. While Townsend's LP is quite high, it would help the issue if major DE cities like Dover and Newark were to impose actual regulations on LP.

UD is also a major contributor. If you walk around campus on a late night, you will always see the Harrington Turf lights shining bright. For Perkins Events, you can see search lights shining bright in the sky. These activities are not only affecting wildlife, but they're also affecting everyone on campus.



Policy Options for Delaware

1. Impose a uniform LP law that applies to the entire state.

- This allows all DE legislators to be on the same page regarding this issue.
- Could take inspiration from the legislation of other states.
- Would bring LP to the forefront of sustainability talks.

2. Fines & Tax Credits

- Individuals/Corporations that have been responsible producing large amounts of LP would be fined.
- Communities who live in high level LP areas would receive tax credits.

3. Education Campaigns

- Devote Federal funding to teach Delawareans about Light Pollution
- EX: Ads about getting COVID Vaccine



What Can You Do?

- Communicate with local legislators or people with platforms to spread awareness about LP.
 - EX: Dr. Kauffman; Dr. Williams (UD Sustainability Department)
- Educate yourself and your friends about Light Pollution
- Invest in sustainable behaviors
 - Buy shielded light fixtures
 - Turn off lights when you no longer need them.



Citations/References

- [NatGeo](#)
- [Light Pollution Map](#)
- [Science Direct](#)
- [National Conference of State Legislatures](#)
- [FY25 NPS](#)
- [www.nhm.ac.uk](#)
- [DOE](#)

