

Light Pollution Affects Wildlife

by Chris Guibert

Before the mid-1800s, most of the world's humans and other animals lived under night skies lit solely by the moon.





Animals need the night



Nocturnal Animals are active at night

Around **70% of the world's animals are nocturnal**, meaning they are active at night. Nocturnal animals have developed special adaptations to help them navigate at night, including:

- Hearing and smell: Cats, owls, and rodents have a highly developed sense of smell and hearing
- Vision: Some nocturnal animals have large eyes that can see well in low light, while others don't rely on sight

Foxes are primarily nocturnal and have vertically-oriented pupils that help them see in dim light.



Barriers, disorientation and fatal attraction

Like roads and fences, artificial light can create barriers that fragment habitat.

For example, many slow-flying bats, including little brown bats, avoid feeding in or even passing through illuminated areas because it exposes them to predators such as owls and other birds of prey.



Cougars - Mountain Lions

Their territory, or home range can range from 20 to 370 square miles, depending on the age, sex, and other factors.

Even large predators such as cougars, which may roam freely through developed areas, often are stopped short by lights at night. This is a particular problem in the area surrounding Los Angeles, where cougars already are confined to small habitat fragments isolated by highways and other barriers that have caused inbreeding within their populations.



Light can be a fatal lure to wildlife

Sea turtle hatchlings that crawl toward artificial light sources are following the same instinctive response that leads them seaward on naturally lighted beaches.

Hatchlings ready to emerge wait just beneath the sand surface until conditions become cool. This temperature cue prompts them to emerge primarily at night.



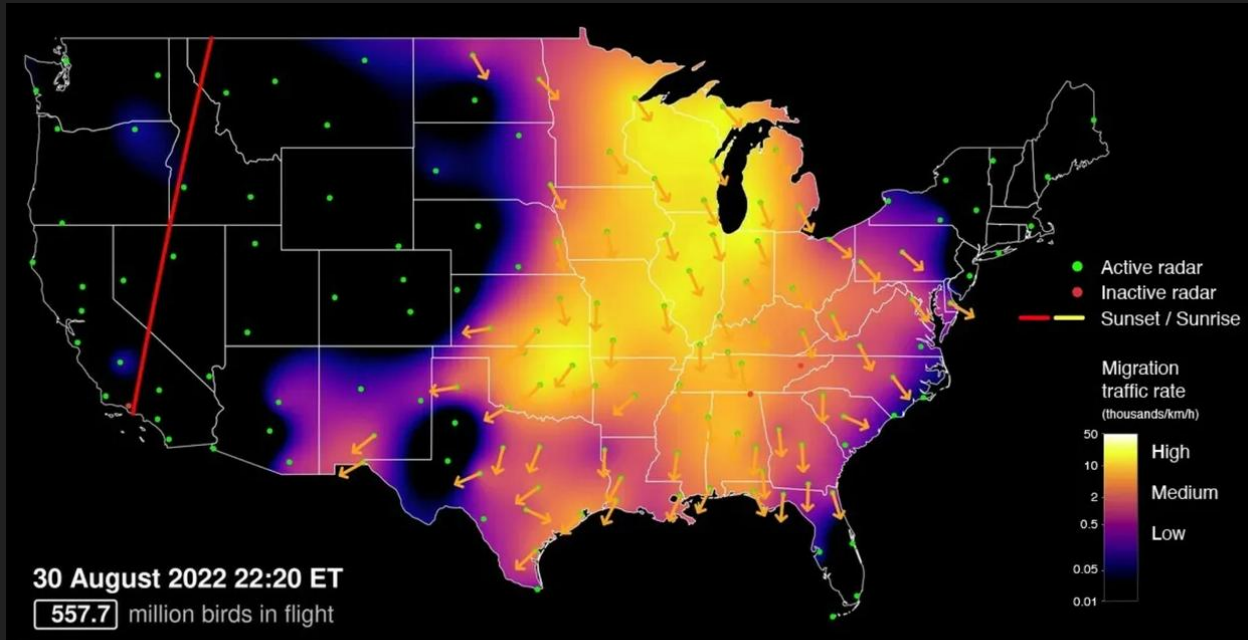
You choose where they go...



80 percent of North American birds that migrate will migrate at night

Birds that migrate or hunt at night navigate by moonlight and starlight. Artificial light can cause them to wander off course and toward the dangerous nighttime landscapes of cities.

Birds often collide with lighted structures. Studies have shown that artificial nocturnal light also interferes with a migrating songbird's ability to use natural polarized light from the sky to calibrate its internal compass



Live bird migration maps Dokter 2022

BirdCast

On August 30, 2022 was the biggest movement of birds in the 2022 fall migration.

At its peak 557 million birds were in flight at 9:20 p.m

A 2023 meta-analysis of 16 studies found that insect populations have decreased by about 45% in the last 40 years



Scientists say light pollution is among many factors driving a potentially catastrophic decline in some of the world's insect populations.

If you have insects fluttering around a street light all night, they're depleting their energy reserves to the point of exhaustion, increasing exposure to predators and potentially missing courtship cues from mates.



What can I do?

Turn off unnecessary lights.

Talk to neighbors and educate others.

Raise the issue at a town council meeting.

Become an advocate.



DarkSky

