

The Half of the Environment Which Conservation has Overlooked

A reprint of the Illinois Coalition for Responsible Outdoor Lighting website page at <http://www.illinoislighting.org/conservation.html>

Environmental conservation is a difficult undertaking. The world, its space, its resources, appear effectively limitless to many of us; seemingly, we can take whatever we want, and dump whatever refuse we don't want, and not have to worry about consequences.

Fortunately, at least some of us have learned that natural systems are not only what sustain human life, but also that nature itself is an amazing resource which gives value to our being. Conservationists stand as the voice of nature, its advocates and protectors for not only the present, but for a future which will still hold a livable Earth for humans and a wide array of biodiversity to sustain it.

But the environmental conservation movement, as it presently stands, features an odd trait which many of its adherents seem to not really be conscious of: like human beings in general, the movement tends to be diurnal -- awake during the day, and asleep at night.

Nature, on the other hand, runs twenty-four hours a day. Ecosystems are just as active at night as during the day. Just as much activity has evolved to take place under starlight as under sunlight. Even organisms like plants, which we would think of as "diurnal", since they need light for photosynthesis, are conducting other types of physiological processes during the dark of night. And as we explain on other pages of this website*, it is becoming clear that the widespread dumping of manmade light into our nocturnal ecosystems is creating substantial negative environmental impacts -- impacts which we can currently only guess at, because the subject has been so sparsely studied.

What we need to start doing is looking at ecosystems and conservation from a 24-hour point of view. Does the environment in question qualify as "restored", "natural" or "sustainable" during both the day and the night? Are the nocturnal creatures finding the environment suitable to their needs? To explore this concept, let's take a look at one Illinois example: the Goose Lake Prairie State Natural Area, 50 miles southwest of Chicago. Developed by the State beginning in 1969, it holds Illinois' largest contiguous area of remnant and restored prairie.

In the daylight, much of Goose Lake Prairie appears probably very similar to how the area looked for thousands of years; excepting the absence of bison, it is a fairly diverse prairie community.



Goose Lake Prairie State Natural Area, May 11, 2012, 7:06pm. Sunset: 8:05pm.

Night now brings a different face to the Goose Lake area. Where for eons, the nighttime environment was illuminated by no more than starlight and the periodic Moon, the past few decades -- just the briefest moment of geologic time -- have brought a perpetually glowing sky to the area, and local lights which glare across the landscape.



Goose Lake Prairie State Natural Area, May 11, 2012, 9:56pm. Photographer's note: "To reach the spot these photos were taken at required walking through fairly dense prairie growth and over a water-filled swale. There was no problem in doing so for the night visit, because of the high level of ambient light; I didn't even bring a flashlight."

The nocturnal environment faces all the same stresses that the daytime one does -- air, water, and noise pollution, etc. But night brings another manmade stress -- artificial light which disrupts the timing of natural light/dark cycle, can interfere with the visual perception of nocturnal creatures, and can affect animal behavior by either attracting or repelling nocturnal organisms.

The night unfortunately carries a lot of psychological/sociological baggage in the human

mind, which has often relegated it to second-class status (or worse, condemning it as the sinister half of the day). Our species has an innate fear of darkness; we don't see well after sunset, so it is better to stay in the tree or the cave, rather than falling prey to some predator with better night vision, or falling off a cliff in the dark. That deep-seated fear became a cultural theme; the very term "darkness" has taken on endless negative overtones. The night carries a bad reputation in our human eyes -- undeservedly so, considering what an important role it plays in most ecosystems, and what amazing pleasures it can offer the human observer who casts aside the primitive fear of the dark.

The situation needs to change. The modern conservationist needs to start looking at both halves of the natural environment -- the daytime and nighttime halves. Artificial light must be recognized for what it is -- an assault on the natural night, period. We cannot allow ourselves to fall back on an unconscious rationalization that "beating back the night" is a good thing for humans to do -- that darkness is scary, therefore somehow evil, and light is always cleansing and good.

In practical application, nighttime preservation is not an issue of us vs. nature -- of human beings giving up something just so nature can benefit. We can have adequate lighting when and where we need it, to remain active after sunset, without dumping gargantuan amounts of light where it isn't needed. We can also re-discover the amazing pleasures which the night offers to the human observer; the sights, sounds and smells, the stars in the heavens, an unmatched peace and tranquility.

*Link reference to the article *Fireflies and Lightbulbs: Does Manmade Light Impact Ecosystems?* at www.illinoislighting.org/fireflies.html

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