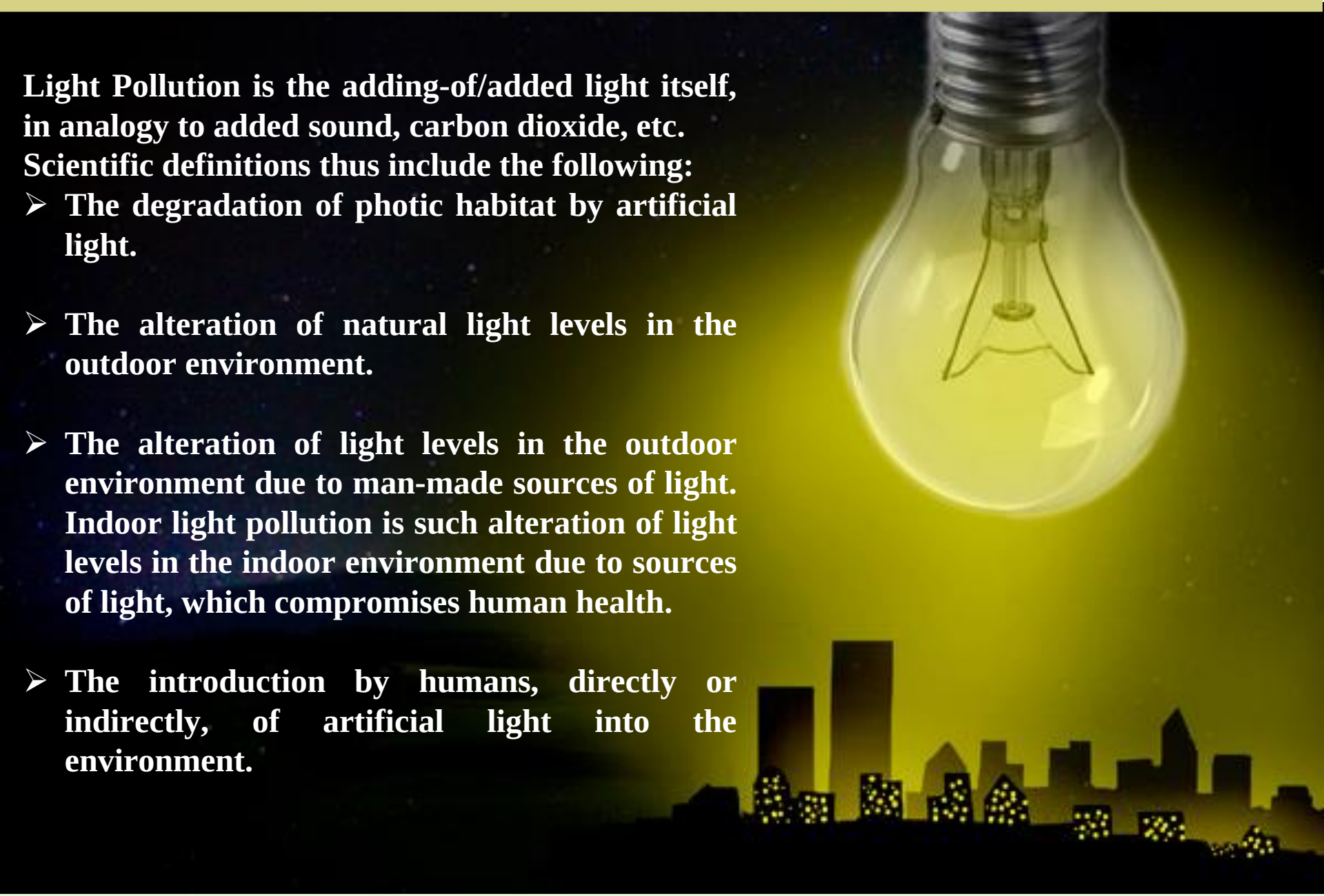
LIGHT POLLUTION AND THE ECOSYSTEM

Light pollution, also known as photopollution or luminous pollution, is excessive, misdirected or obtrusive artificial light. As a major side-effect of urbanization, it is blamed for compromising health, disrupting ecosystems and spoiling aesthetic environments.

LIGHT POLLUTION

Light Pollution is the adding-of/added light itself, in analogy to added sound, carbon dioxide, etc. Scientific definitions thus include the following:

- **The degradation of photic habitat by artificial light.**
- **The alteration of natural light levels in the outdoor environment.**
- **The alteration of light levels in the outdoor environment due to man-made sources of light. Indoor light pollution is such alteration of light levels in the indoor environment due to sources of light, which compromises human health.**
- **The introduction by humans, directly or indirectly, of artificial light into the environment.**



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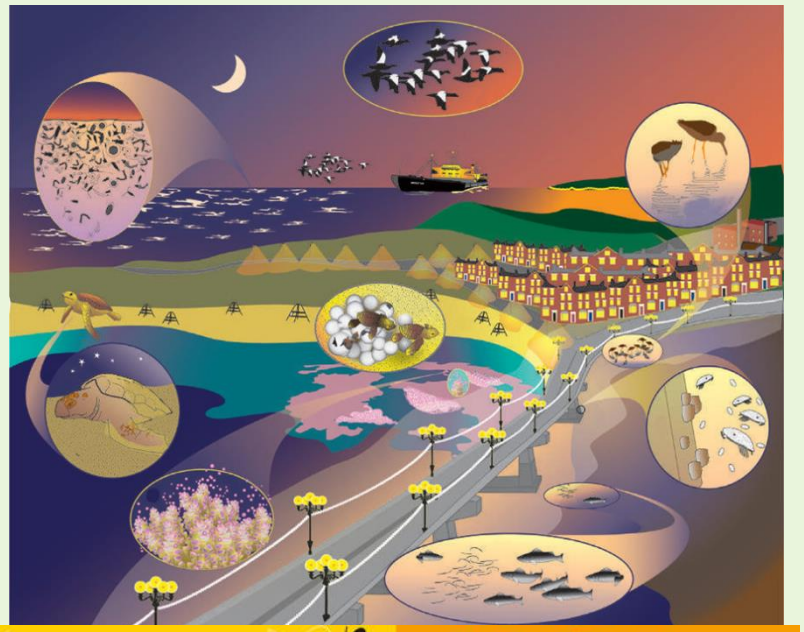
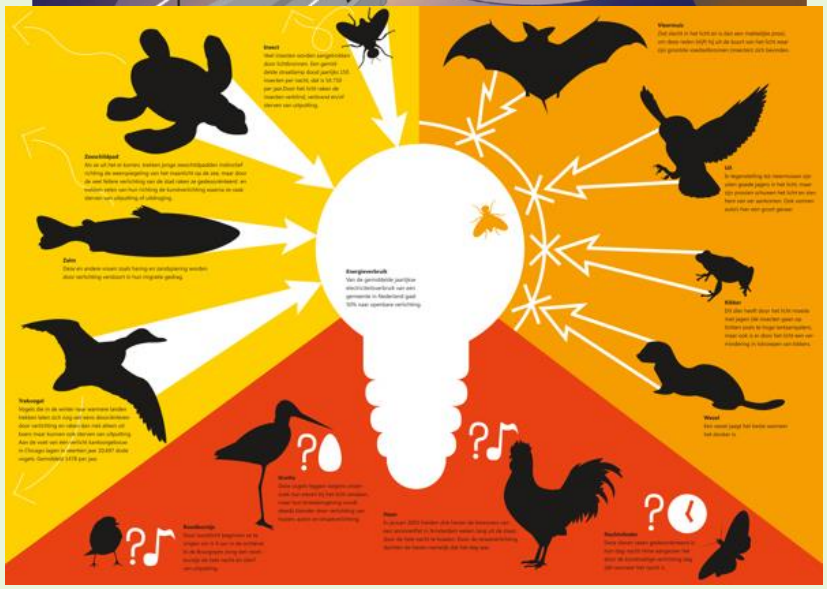
Light pollution **poses a serious threat** in particular to nocturnal wildlife, having **negative impacts on plant and animal physiology**. It can confuse **animal navigation**, alter **competitive interactions**, change **predator-prey relations**, and cause **physiological harm**. The rhythm of life is orchestrated by the natural diurnal patterns of light and dark, so disruption to these patterns impacts the ecological dynamics.

For example, some species of spiders avoid lit areas, while other species are happy to build their spider web directly on a lamp post. Since lamp posts attract many flying insects, the spiders that don't mind light gain an advantage over the spiders that avoid it.





REPTILES AND LIGHT POLLUTION

- Reptiles are strongly affected by light pollution.
- Sea turtles like to build their nests in remote and very dark beaches.
- Coastal lights interfere with their ability to find safe nesting areas for their eggs.
- Artificial lights can confuse the baby turtles and take them to crawl away from the ocean into the roads or communities.
- If they don’t find their way back to the ocean, they get exhausted or dehydrated and die.

Insects and Light Pollution

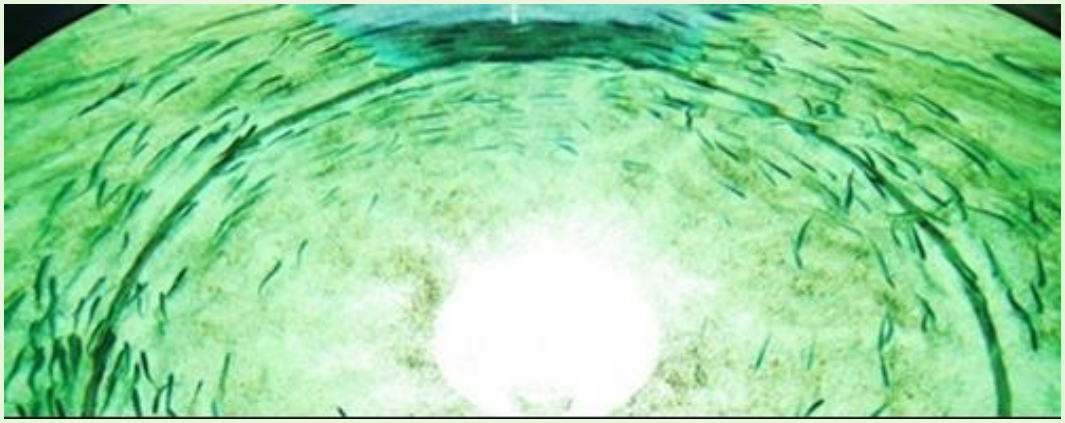
Insects are sensitive to light. If firebugs disappear from strong light to the mountain, then moths will be gone because they will fly at the light instead of firebugs. Established night road lamps in reservoirs, forests, rivers and lakes can bring the extinction of specific species, or change of the neighbor ecosystem. Regarded as noise pollution, singing cicada in the deep summer night actually caused by light pollution which providing the disturbance of cicada's ecosystem

LOST BIRDS AND LIGHT POLLUTION

There are many extinct migratory birds lost their destination without navigation information by stars and moon due to the light pollution, and also hundreds of dying birds hit the bright telecom tower at night. Nocturnal animal owls flying at night are having a survival problem caused by too bright lights.

FISH AND LIGHT POLLUTION

There are a variety of fish which gather around the light or avoid the light, so excessive light brings poor growth and egg-laying, or extreme egg-laying according to their characters. These homing-instinct fish, salmon and herring, can easily be prey for flesh-eating fish as they spin around the night lightings. Also, freshwater fish, sand lance and green hydra can easily be easy targets for the capturing fish with its nature follow the light.



PLANTS AND LIGHT POLLUTION

Many cactus species bloom only in the dark of night. They are pollinated by nocturnal insects or small animals, principally moths and bats. And those of Queen of the Night are fully open for only two hours at night. Increasing the lighting conditions around them may prohibit them from ever flowering and thus reproducing

PLANTS AND LIGHT POLLUTION

It is clear that most night lighting may not be enough to cause photosynthesis, but still can affect trees that are sensitive to day length. Artificial lighting, especially from a source that emits in the red to infrared range of the spectrum, extends the day length and can change flowering patterns, and most importantly, promote continued growth long after it is safe for the trees to do so, due to a coming winter.

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