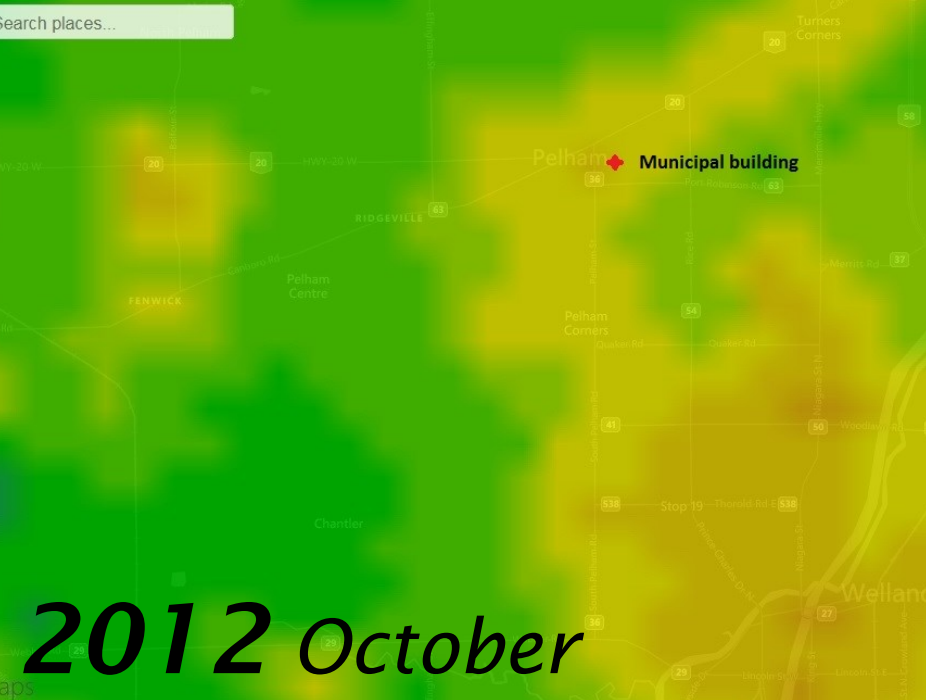


Search places...



2012 October



2019 October

Causes of light pollution:

- ★ Excessive light
- ★ Improperly aimed luminaires
- ★ Unshielded / poorly shielded fixtures
- ★ Lighting at unnecessary times
- ★ Improper lamp colour or type
- ★ “Light wars”

Too much light | in the wrong places | wrong colour

Consequences:

- ★ Human health risks
- ★ Safety & security problems
- ★ Ecosystem / wildlife disruption
- ★ Energy waste - \$\$
- ★ Trashy, confusing nightscapes
- ★ Skyglow
- ★ Loss of natural night sky heritage

Health concerns

Circadian rhythm disruption

- ★ Concerns by AMA, WHO; many scientific studies
- ★ Melatonin production is suppressed by even a little light at night
- ★ Links to health problems, including cancer and other diseases and conditions
- ★ Metabolism and sleep disruption



BLUE wavelengths

(shorter than about 500 nm)

are the worst culprits, with much greater effects on life functions (human and wildlife)

White light contains blue!



Unshielded
wallpack



← Uplight

Glare – a security risk



Large
alcove in
darkness

The aging eye – a matter of safety

- ★ Adverse effects of glare increase sharply with age
- ★ Adaptation is slower
- ★ More confused by visual clutter
- ★ Needs better light uniformity
- ★ Worse in rain, fog, snow

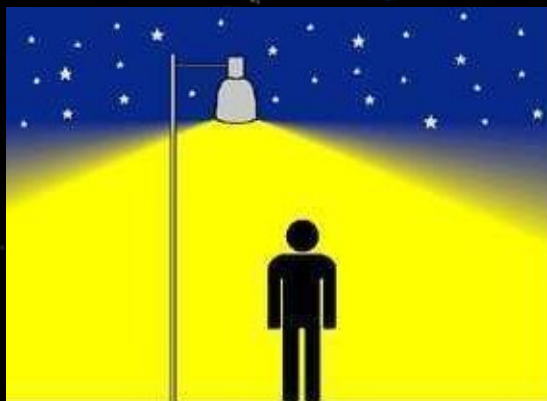
Effects on natural environment

- ★ Life cycle disruption of most species of terrestrial and aquatic life:
 - ★ birds (including during migration)
 - ★ mammals (including bats and domestic animals)
 - ★ insects (including pollinators, and even aquatic insects)
 - ★ amphibians, reptiles
 - ★ fish, zooplankton
 - ★ plants
- ★ Resource depletion, pollution

Light pollution control is **simple**:

- ★ Use only as much light as necessary
- ★ Light only where necessary
 - ✧ Light only the target!
 - ✧ Use shielded luminaires
 - ✧ Aim properly
- ★ Light only when necessary
 - ✧ Timers, dimmers
 - ✧ Motion activation
- ★ Avoid blue wavelengths

(100% savings when lights are off!)



Fully shielded

Lights the target,
not the sky

Minimal glare

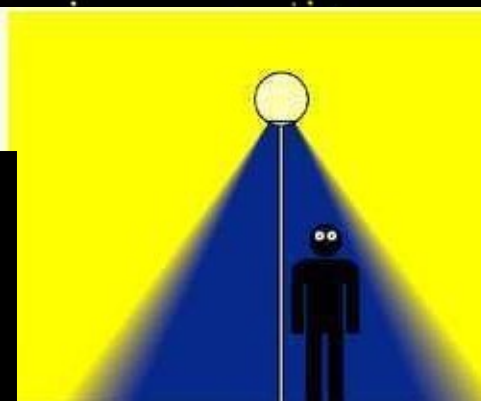
Minimal trespass

Minimal waste



Unshielded

Severe glare
and trespass



Globe ("decorative") style

Misses the target

Glare, trespass

RESPECTFUL LIGHTING

- ★ Reduces risk to human health and damage to ecosystems and wildlife
- ★ Safer and more attractive night environments
- ★ Reduces energy waste, saves \$
- ★ Enhances enjoyment of property, reduces conflict

RESPECTFUL LIGHTING

An outdoor lighting policy would:

- ✧ Mandate *SMART* lighting ...
RESPECTFUL lighting
- ✧ Reduce impacts on health and the environment
- ✧ Support nightscapes that are safe, inviting, economical
- ✧ Conserve energy and resources
- ✧ Reduce resident dissatisfaction with unsuitable lighting