



## **Tamarack wants to help all of Valley County Protect its Beautiful Dark Night Sky!**

**Only 10% of the world's people will ever look up and see the Milky Way – but we in Valley County still can!**

**So let's all save money, reduce light pollution, and preserve our dark sky!**

### **Why is that important?**

Research continues to probe the connection between darkness and health, and evidence now links growing light pollution with negative impacts on the human immune system, behavioral changes in animal populations, and decreased plant growth. Both bright days and dark nights are essential for hormone production (melatonin), cell function, and brain activity. When it comes to human health, excessive night lighting can lead to a decrease in cognitive and motor skills. A good night's sleep helps reduce weight gain, stress, depression and the onset of diabetes.

Dark nights are essential for normal feeding, mating, and migratory behavior for many species. Animals and plants live by a *circadian* rhythm attuned to our planet's 24-hour cycle. Wildlife faces confusion of time when there is too much artificial night light, causing fatigue similar to the effects of jet lag. Some mammals known to be affected by artificial light include our predators, deer, and migrating birds. Many of our beneficial insects are attracted to artificial lights, which interferes with mating and migration, and makes them easy prey for bats and other predators. This can cause a decline in their numbers, affecting species that rely on insects for food or pollination. Without dark skies, plants also show a reduction in growth.

### **OK, but what can I do?**

Thoughtful nighttime lighting is the key to reducing light pollution. Below are some easy solutions and they can save you money!

**Use the right amount of outdoor light** for your need, but not more than necessary. "More light" is not always good. You can use lower wattage or fewer bulbs to reduce the light's brightness and save money.

**Replace older porch or barn lights.** Compact fluorescents or LED fixtures are good alternatives and will save on your electric bill.

**Use sensors or timers** to insure that lights are **ON** when you need them and **OFF** when you don't need them. And yes, that saves energy and money.

**Shine your outdoor lights down, and only where it is needed.** Stand off your property, even across the street, and look at your porch light. If you can see the exposed bulb, then it is not properly shielded. Can the angle or location of the fixture be adjusted? Can you fashion some shading? If not, consider changing the fixture.

**Use small wattage lights** for illuminating landscaping or building accents if you desire that type of lighting. The subtle accent of carefully placed, modest lighting can be appropriate to Valley County's natural habitat.

**Change out yard older lights.** Mercury vapor globes are particularly bad because their blue light is the most harmful to our natural habitat. Use low-pressure or high-pressure sodium lamps (yellow light), which are also more economical. These bulbs are excellent for broad outdoor areas.

**Sounds great! Can you show me some examples?**

Sure! The image on the left below shows a common example of an energy wasting and light polluting fixture:



But the image on the right above shows an energy-saving fixture that directs light where it is needed and does not pollute the night sky:

Below is another example of what we are talking about:



The simple lighting change shown above saves money, reduces light pollution, and makes for happier neighbors!

So helping conserve our dark night sky can be as simple as reducing your outdoor lighting wattage and saving money on your electricity. You can also use "Dark Sky Compliant" lighting fixtures – they are everywhere now! (And if you read labels – choose bulbs of a beneficial "color temperature" less than 3000 kelvins – they reduce the harmful blue light.) Thank You!!

## Citizen-Science Outreach

Everyone with a smartphone can help promote our area's beautiful night sky, and also raise awareness of light pollution wherever you are. You can use a free app to take night sky quality readings, and use another free app to report your readings to a global initiative. GlobeAtNight.org is an international citizen-science campaign to raise public awareness of the impact of light pollution by inviting citizen-scientists to measure and submit their night sky brightness observations.

The app DSM (Dark Sky Meter) by DDQ is free and will allow you to easily take a quality reading of the night sky.



Then you can share your results with the GlobeAtNight.org citizen science campaign, by using the free app "Loss of the Night" (you can also use your computer) by GmbH to input and share your data:



In 2016, more than 14,500 data points were contributed. Try it out!

#### **Internet Resources**

Here is an excellent video (6:25) by the International Dark Association titled “Losing the Dark”:

<https://www.youtube.com/watch?v=dd82jztFlo>

We like the cute videos put out by the Rangers at Theodore Roosevelt National Park. Here is a link to one (3:33) titled “Light Pollution – the Solution is Easy”:

[https://www.youtube.com/watch?v=vk\\_yirISflc](https://www.youtube.com/watch?v=vk_yirISflc)

Here is a National Geographic video (3:45) called “Where are the Stars?” showing views of the Milky Way at various levels of light pollution:

[https://www.youtube.com/watch?v=0FXJUP6\\_O1w](https://www.youtube.com/watch?v=0FXJUP6_O1w)

Here are some other Links we like:

Darksky.org

Savingourstars.org