Saskatchewan
Land of Living Skies

Saskatchewan is known as the *Land of Living Skies*, yet…our *night* skies are quickly disappearing from careless, artificial night lighting.

Light Pollution is light that shines where it is not needed or wanted.

It is easily recognized as:

- light that shines off the property where the light fixture is located
- light that shines onto your property from source not located on your property
- glaring light from poorly aimed fixtures or from a light that is too bright for its surroundings
- light that shines up into the sky
- light that is too bright

Responsible Lighting

There are simple solutions to solving lighting problems. The four main considerations for responsible lighting are:

- control where the light is directed and why
- control the quantity of light emitted
- control time and duration of lighting
- control the spectral response of light when necessary to do so

The benefits of responsible lighting practices are:

- saving energy through reduction of use
- minimize light pollution
- protecting nocturnal wildlife habits and habitat
- following Kyoto energy policies
- minimizing dangerous glare
- reducing light trespass onto adjacent properties
- providing adequate night-time safety and security
- reducing secondary pollution effects such as air and river pollution that are by-products of current power producing technologies
- promoting environmental and ecological awareness
- respecting the 4.3 billion year old natural day/night life cycle
- preserving the beauty of the night sky for scientific study and personal pleasure

Ecological Light Pollution

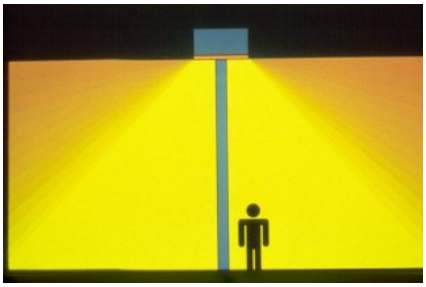
Sharon Guynup from National Geographic writes:

"Few studies have been done on the effects of artificial lighting on mammals. All 986 species of bats, most small carnivores and rodents, 20 percent of primates and 80 percent of marsupials are nocturnal."

Does night lighting affect all these species?

Yes, it does. Typical lighting levels between two streetlights is 1 lux. The full moon emits about 0.3 lux. Human beings can navigate in the dark with 0.1 lux. In contrast to this, squirrel tree frogs can detect lighting levels of 0.0001 lux and tend to become inactive at 0.001 lux. Ben Harder in his article also goes on to state that light domes from large cities can be seen from 200 km to 300 km away and could affect nocturnal species within that radius.

Poorly designed fixtures are often chosen for their daytime decorative look, but at night they pollute the sky and affect wildlife behaviour.



Good lighting shines downward and the sky remains dark.

On September 28, 2004, the Cypress Hills Interprovincial Park (CHIPP) was signed on as a Dark-Sky Preserve (DSP) at the Annual Park Manager's Conference.

The signing included Sask Environment, Alberta Community Development and Parks Canada Agency as partners in the establishment of the Cypress Hills Inter-provincial Park Dark Sky Preserve.

Back Row (L-R): Rick Goett, CHIPP Sask Park Supervisor, Keith Bocking, Heritage Appreciation Team Leader, Alberta Community Development, David Rohatensky, Fort Walsh National Historic Site Manager , Aaron Domes, Visitor Services Officer, Alberta Community Development, Vance Petriew, RASC LPA Committee, Melody Nagel-Hisey, CHIPP Naturalist. **Front Row (L-R):** Brad Mason, CHIPP Sask Park Manager, David Phillips, Assistant Deputy Minister, Saskatchewan Environment, Cheryl Penny, Superintendent South Sask Field Unit, Parks Canada Agency, Rosemary Jones, Planning Team Leader, Alberta Community Development, Richard Huziak, RASC LPA Saskatoon Committee. Photo by Darcy Kozoriz.

Light Pollution Abatement Efforts within the Dark-Sky Preserve

- CHIPP – Centre Block has changed 88 lights in the park to be full cut-off non-polluting fixtures, reducing the effect of light on wildlife and flora, and reducing energy consumption.
- Park-owned lights are now turned off while the park is closed for the winter saving energy and preserving natural lighting levels during the winter months.
- A light bulb exchange program in town of Elkwater, AB helped to improve outdoor lighting within the park and reduce light pollution.
- The Cypress Hills Dark-Sky Preserve was awarded the Royal Astronomical Society of Canada's National Light Pollution Abatement award for their light pollution abatement efforts within the park.
- Since the DSP declaration, CHIPP has received recognition in several provincial and national publications including *Canadian Geographic*.
- Light Pollution awareness is part of the interpretive programs within the park and is taught to school groups and park visitors on a regular basis
- Brochures on light pollution and the nocturnal environment are freely available to park visitors.
- CHIPP has recently expanded its interpretive program by purchasing a telescope and now runs an astronomy program for park visitors.
- 2006 is the 10th anniversary of the Saskatchewan Summer Star Party where amateur astronomers meet to enjoy CHIPP's astronomically dark skies. The star party has grown to be one of the best star parties in Canada.

All of these successes have very positive effects on all types of environmental programs within Saskatchewan and Alberta. CHIPP actively promotes eco-tourism and public awareness of the night-time sky and is working hard to make the Dark-Sky Preserve accessible for future generations!

Positive Effects of the CHIPP Dark-Sky Preserve Declaration

The Cypress Hills Dark-Sky Preserve and the Royal Astronomical Society of Canada are actively promoting light pollution awareness within the province of Saskatchewan and Alberta. Leading by example has also inspired many others to do something about light pollution in their area.

- Saskatchewan Parks are now being rated for their preservation of dark skies and implementation of dark-sky awareness education in Mike & Anna Clancy's new book *A Users Guide to Saskatchewan Parks*.
- Reasor's Ranch, located adjacent to the south flank of CHIPP has requested information on how they can protect the Dark-Sky Preserve status of CHIPP.
- The proposed Wild Rose Wind Power Farm adjacent to the Alberta side of the CHIPP DSP asked what kind of lighting they should use on their wind turbines so that they did not compromise the sky in their area and the Park.
- Point Pelee National Park in Ontario was inspired by the success of the CHIPP DSP and is now Canada's first *National Park* Dark-Sky Preserve.
- Pending Dark-Sky Preserves at Alberta's Blackfoot Nature Preserve and BC's Okanagan and Similkameen River valleys are now proposed and following in CHIPP's footsteps to preserve the night-sky.
- Rockin' Beach Regional Park near Rock Glen, SK is interested in becoming a DSP to preserve their dark skies for park visitors.

Operational Lighting Standards Policy in Saskatchewan Parks

In 2005, a Working Committee consisting of members from Sask. Environment and the Saskatchewan Light Pollution Abatement Committee drafted the Operational Standards Policy which is hoped to provide guidance for Park Managers when adoption new dark-sky management practices. This policy is ready to be adopted and is currently sitting within upper management for approval.

How can you reduce Light Pollution?

- Use only as much lighting as you need. This will save energy and money, too.
- Use low-intensity (60W or less) light bulbs with shielded fixtures.
- Aim lights downwards. No light should shine above the horizontal.
- Be considerate of your neighbour when erecting lights that shine on their property.
- Turn lights off when you don't need them. Use a timer or motion sensor.
- Ask for light pollution friendly lighting at your local retailer.

A Dark-Sky Preserve lighting guideline "*Dark-Sky Preserve Lighting Standards*" exists. Contact the Saskatchewan Light Pollution Abatement Committee for a copy.

Outstanding Lighting Issues within Saskatchewan Parks

Sask Environment. The Light Pollution Abatement Committee would like to see Sask Environment make the commitment to have all Saskatchewan Parks become Dark-Sky Preserves through the implementation of *Operational Standards Policy for Saskatchewan Provincial Parks Dark-Sky Preserves.* This would regulate the use of non-environmental lights within Parks and prevent poor lighting from being installed in the future. The replacement of existing poor lights through attrition will minimize costs.

SaskPower. SaskPower owns over half of the lights in the Cypress Hills Inter-provincial Park within the boundaries of the Dark-Sky Preserve and many lights in other Provincial Parks. The Light Pollution Abatement Committee will continue to work with SaskPower to promote the installment of DSP compliant lighting fixtures within the parks. Writing a letter of encouragement to SaskPower will help influence their decision to adopt responsible lighting practices within Saskatchewan.

Businesses and Homeowners. Public education of Dark-Sky Preserve concepts needs to be made a priority within the parks to strengthen support for eco-friendly lighting. Lessees need to actively get involved by ensuring their lighting complies with the Dark-Sky Preserve lighting standards.

And the Impact?

We will show our environmental leadership by using responsible lighting practices and strive to protect our …

Land of Living Skies

FOR MORE INFORMATION

contact

The Saskatchewan Light Pollution Abatement Committee

C/o RASC, Saskatoon Centre
PO Box 317, RPO University
Saskatoon, SK
S7N 4J8

Contact: Richard Huziak (Saskatoon)
huziak@SEDSystems.ca tel: (306) 665-3392
Contact: Vance Petriew (Regina)
vance.petriew@saskeds.com tel: (306) 565-3085

Saving our nighttime skies

Saskatchewan Light Pollution Abatement Committee