



## Newsletter 8 – October '07

RASNZ Dark Skies Group



### Welcome

Welcome to the eighth newsletter of the Dark Skies Group of the RASNZ.

### First off:

Here are two late notices. Sorry they are late but time seems to be short lately. *(You may need to copy and paste links into your browser)*

### Talk Environment Roadshow meeting

You are invited to the fifth annual Talk Environment Roadshow meeting.

### Environmental issues that matter to you.

The Ministry for the Environment would like to hear your views on environmental issues important to you, including:

- adapting to the impacts of climate change
- sustainable business
- encouraging household sustainability
- national guidance under the RMA

Please register to attend the Roadshow by visiting the MfE website: [www.mfe.govt.nz/talkenvironment/](http://www.mfe.govt.nz/talkenvironment/) or calling freephone 0800 TALKENV (0800 825 536)

### Great World Wide Star Count

From October 1<sup>st</sup> to 15<sup>th</sup> 2007 this international event encourages everyone to go outside, look skywards after dark, count the stars they see in certain constellations, and report what they see online.

[http://www.windows.ucar.edu/citizen\\_science/star\\_count/](http://www.windows.ucar.edu/citizen_science/star_count/)

This is a good opportunity to develop a baseline for New Zealand's nighttime light pollution levels. If you can, send in an assessment of your viewing area's limiting magnitude.

### Monitoring

The Great World Wide Star Count is one example of monitoring of an environmental effect.

Nightsat is a concept for a satellite system capable of global observation of the location, extent and brightness of night-time lights at a spatial resolution suitable for the delineation of primary features within human settlements.

Based on requirements from several fields of scientific inquiry, Nightsat should be capable of producing a complete cloud-free global map of lights on an annual basis. We have used a combination of high-resolution field spectra of outdoor lighting, moderate resolution colour photography of cities at night from the International Space Station, and high-resolution airborne camera imagery acquired at night to define a range of spatial, spectral, and detection limit options for a future Nightsat mission. The primary findings of our study are that Nightsat should collect data from a near-synchronous orbit in the early evening with 50 to 100 m spatial resolution and have detection limits of 2.5E-8 Watts cm<sup>-2</sup>sr<sup>-1</sup>µm<sup>-1</sup> or better.

Although panchromatic low-light imaging data would be useful, multispectral low-light imaging data would provide valuable information on the type or character of lighting; potentially stronger predictors of variables such as ambient population density and economic activity; and valuable information to predict response of other species to artificial night lighting.

The Nightsat mission concept is unique in its focus on observing a human activity, in contrast to traditional Earth observing systems that focus on natural systems.

<http://www.informaworld.com/smpp/content~content=a779112588~db=all~order=page>

A soon-to-be-published report by the U.S. National Research Council's (NRC) Space Studies Board recommends that Earth-observation satellites being planned and deployed by NASA and NOAA include systems—like NightSat—that monitor the impact of human activity on Earth.

<http://www.spectrum.ieee.org/sep07/5514>

### **New Yorker Article**

*The Dark Side - Making war on light pollution*, by David Owen is a long and informative article in the New Yorker about the loss of the starry sky and the measures now being taken to curb light pollution.

[http://www.newyorker.com/reporting/2007/08/20/070820fa\\_fact\\_owen?printable=true](http://www.newyorker.com/reporting/2007/08/20/070820fa_fact_owen?printable=true)

### **Energy Strategies**

The Government is planning to release key energy strategy documents shortly. These include the final versions of the New Zealand Energy Strategy (NZES) and the New Zealand Energy Efficiency and Conservation Strategy (NZECS). The DarkSkies group made submissions to the draft versions of these so it will be interesting to see the final versions.

The Electricity commission plans further consultation relating to these strategies to be undertaken within the next few months.

### **Draft Lighting Strategy**

The NZ Efficient Lighting Strategy draft is due out for comment in 3 weeks. There are 6 "Action Areas", streetlighting is one of them. This is an Industry/Government working group (paid for by the Electricity Commission) vested with the task of coming up with the big picture 10 year lighting efficiency strategy and the first 3 year "Action Plan". The group is big on electrical engineering viewpoints on efficiency.

Optical/wastelight viewpoints are more difficult to swing. We need to get involved with submissions to this draft strategy when it is released. I'll forward further details as they come available.

### **Sustainability – Ecology**

These two words will be used more often in association with outdoor lighting over the next few years. Climate change, carbon credits and emissions bring focus to the sustainable and efficient use of resources all around the world.

One international initiative is the Communities for Climate Protection. CCP-NZ is a voluntary programme which aims to empower local government to reduce greenhouse gas emissions from councils' operations and from their communities through a strategic milestones framework designed for both territorial authorities and regional councils.

For an example of what this programme can provide see the Local Government Association of South Australia's "South Australian Strategic Action Planning Guide for Sustainable Public Lighting" at [http://www.iclei.org/fileadmin/user\\_upload/documents/ANZ/CCP/CCP-AU/Projects/SPLAP/SASustainablePublicLightingGuide.pdf](http://www.iclei.org/fileadmin/user_upload/documents/ANZ/CCP/CCP-AU/Projects/SPLAP/SASustainablePublicLightingGuide.pdf)

An increasing number of media articles about light pollution are focussing on ecological impacts. A recently published book "Ecological Consequences of Artificial Night Lighting" is a very good overview of knowledge around the impacts of outdoor lighting on the natural night environment.

<http://www.urbanwildlands.org/ecanbook.html>

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## Random Illuminations

### British Columbia, Canada

Light pollution is one of the main causes. The brightness and glare from millions of street lights as well as light from homes, office blocks.

<http://www.canada.com/vancouvernews/news/arts/story.html?id=8c2980c8-4b91-42d1-b7b8-9a9d6abb3b87>

### Lunar Lighting

With this project ordinary streetlights will dim or brighten with moonlight—saving energy and rekindling an urban connection to the night sky.

<http://www.metropolismag.com/cda/story.php?article=2918>

### Why Lights at Night are Harmful?

Light pollution affects you and the environment.

[http://www.canadianliving.com/life/green\\_living/why\\_lights\\_at\\_night\\_are\\_harmful.php](http://www.canadianliving.com/life/green_living/why_lights_at_night_are_harmful.php)

### Lights out on Britain's bats

As more buildings are lit up at night, bats are in trouble - because they need darkness to feed.

[http://observer.guardian.co.uk/uk\\_news/story/0,2126821,00.html](http://observer.guardian.co.uk/uk_news/story/0,2126821,00.html)

### The Effects of Light Pollution on the Animal Kingdom

With the loss of billions of insects every year to light pollution, the hunt for food is becoming more difficult for these birds.

<http://starrynightlights.com/blog/?p=53>

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### Light Pollution Yahoo Group

Check out our email discussion group. Interesting discussions happen from time to time.

<http://groups.yahoo.com/group/RASNZ-lightpollution>

## RASNZ Conference 2008

The venue for the 2008 RASNZ conference will be the Godley Resort at Lake Tekapo. Dates are Friday 23 May to Sunday 25 May. Note the dates and start planning.

The important work of the Mt John Observatory and the need for dark skies will feature.

## Anti Spam Regulations

New anti spam regulations require commercial bodies to gain confirmation from people that emails are welcome. My understanding is that this would not apply to this newsletter.

However if you do not want to continue to receive this newsletter please reply to this email with a request to be removed from the list.

I would be pleased to get positive feedback, news items and photos of good and bad lighting examples as well.

That's all for now.

Best regards,

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