

Milton J. Roney  
International Dark Sky Association  
March 12, 2008

Thomas Armitage, Ph.D.  
Designated Federal Officer  
EPA Science Advisory Board  
U.S. Environmental Protection Agency (1400F)  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Dear Dr. Armitage,

Thank you for the opportunity to comment on the February 2008 Review Draft of the Ecological Research Program Multi-Year Plan FY 2008-2014. I would like to raise several points with the goal of incorporating study of the effects of light pollution in the overall research strategy.

Light pollution has negative impacts on wildlife, human health, energy waste, carbon emissions, glare & safety, as well as loss of the night sky. The increase of light pollution is obvious to the casual observer, and particularly so to those like me who regularly flee a bright city in search of a dark sky, seeing more lights on each trip. Nationally, light pollution has been well documented in satellite photographs over many years. A projection of growth in light pollution can be seen at <http://www.yosemite.org/naturenotes/NALightPollution.htm> .

As written, the plan addresses a number of areas affected by light pollution. Under "Constituents of Well Being," categories of "Basic Materials for Good Life," Health, and "Good Social Relations" are all impacted by light pollution, which wastes energy, increases carbon production, and suppresses melatonin production. With respect to social cohesion, light pollution deprives nearly everyone of the night sky, which inspired religious thinkers, poets, philosophers, thinkers and romantics for five thousand years – up until it began to disappear about 50 years ago. The document inadvertently seems to imply that only the spirituality of Native Americans is affected by the environment. Not so; for example:

*Two things fill the mind with ever new and increasing admiration and awe, the more often and steadily reflection is occupied with them: the starry heaven above me and the moral law within me. Neither of them need I seek and merely suspect as if shrouded in obscurity or rapture beyond my own horizon; I see them before me and connect them immediately with my existence.*

*-- Immanuel Kant, Critique of Practical Reason 1783.*

It would be extremely helpful if the document could clarify the relevance of light pollution to research included in the plan. For example, LTG1, Element 1, which relates to decision support on human health and well being, including illness and disease, cultural preservation and spiritual fulfillment, relates very closely to light pollution research. Without significantly altering the document, or giving unfair advantage to light pollution research, it would be possible to insert an example, perhaps research on the relationship between light pollution, melatonin production, and breast cancer. This would serve to validate light pollution as an important part of the environment, and worthy of better research and understanding.

Thank you again for the opportunity to comment on this document.

Milton J. Roney  
Washington DC Liaison  
International Dark Sky Association.  
[mjroney@starpower.net](mailto:mjroney@starpower.net)  
[www.darksky.org](http://www.darksky.org)  
202 966-2186

Thomas Armitage, Ph.D.  
Designated Federal Officer  
EPA Science Advisory Board  
U.S. Environmental Protection Agency (1400F)  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

March 12, 2008

Dear EPA SAB Ecological Processes and Effects Committee,

I would like to talk with you briefly about the problem of light pollution in our Federal Class 1 Areas. The EPA in its October 1979, *Protecting Visibility: An EPA Report to Congress* first mentioned the problem of increased night sky brightness. Subsequent documents such as the *1982 Air Quality Criteria for Particulate Matter and Sulfur Oxides Volume III* and the *1995 Air Quality Criteria for Particulate Matter II of III* review draft also included this language. Unfortunately, it appears that the increased night sky brightness was attributed more to particulate matter than artificial lighting. As national particulate matter levels have declined, the night sky brightness has continued to increase.

Based on 1997 numbers, we have found that over half of the 149 Class 1 Federal Areas analyzed have moderate to severe light pollution problems. One-quarter of these areas have a night sky brightness so severe you can no longer see the Milky Way. Current forecasts by the National Park Service show there will be no place left in the lower 48 states with an unpolluted night sky by 2025.

Light Pollution has implications in the Clean Air Act, Endangered Species Act and poses a serious threat to both the environment and human health. The extinction of the nighttime ecosystem is probably the most widespread, yet undocumented problem we are facing this century. The EPA can take actions now to unify their approach to this problem. Coordinating research efforts such as LEED, Energy Star Programs, Clean Air Act and Endangered Species Act will allow all efforts within the EPA to benefit.

Reference: <http://www.yosemite.org/naturenotes/NALightPollution.htm>

Report on Class 1 Areas: <http://www.trianglealumni.org/mcrol/class1.html>

Sincerely,

Robert Wagner  
9005 N Chatham Avenue  
Kansas City, MO 64154  
Missouri Night Sky Protection Act Homepage:  
<http://missourinspa.googlepages.com/>