



DISTRICT OF METCHOSIN

AGENDA

HEALTHY COMMUNITY ADVISORY SELECT COMMITTEE MEETING

Tuesday, January 23, 2024 at 4:30 pm
COUNCIL CHAMBERS, MUNICIPAL HALL

1. **Agenda, Additions, Approval**
2. **Presentations**
3. **Public Participation**
4. **Adoption of Minutes**
 - a) Healthy Communities Advisory Select Committee, November 28, 2023 1
5. **Receipt of Minutes**
 - a) Public Works and Protective Services Committee: October 16, November 27, 2023 5
 - b) Special Public Works and Protective Services Committee: November 30, 2023 15
6. **Business Arising from the Minutes**
7. **Reports**
 - a) Council Liaison
 - b) Fire Chief
 - c) Seniors Information Resource Centre (SIRC) Liaison
 - d) Poverty Reduction Subcommittee
 - e) Health and Safety Subcommittee
8. **Correspondence**
9. **Other Business**
 - a) Dark Sky 23
 - Draft Proposal
 - How Blue is Your Night
 - International Dark Sky Community Program Guidelines
 - Royal Astronomical Society of Canada Dark-Sky Site Application Requirements
10. **Adjournment and Next Meeting Date**

District of Metchosin

Minutes

**Healthy Community Advisory Select Committee Meeting
Tuesday, November 28, 2023 at 4:30 p.m.**

Present: Shari Rourke (Chair), Councillor Sharie Epp, Sarah Anthony, Ted White, Jane Hammond, Barret Fullerton, Chris Pratt, Jim Macpherson, Shannon Carman (recorder)

Regrets: Peter Havers

The meeting was called to order at 4:35 p.m.

1. Agenda, Additions and Approval

Agenda amendments – Strike 6(f) (Metchosin Village Square), add RCMP report as new 6(f).

Moved and Seconded by Ted and Sarah that the Committee approve the agenda as amended.

Carried

2. Community Reports

Barrett was introduced, as sitting in for Deirdre as SRC representative.

SRC - Gourmet dinner tickets all sold, Shannon Carman has been hired as interim manager, open hours 11-3. The MSA Business Plan/Budget has just been submitted to Council. Flu/Covid clinic well attended (792). Some people waited over an hour but working to improve for next year (were one person down, had no computers). Had folks present at the clinic from the PODS with information on them. Christmas light tours, only Dec. 18, tickets available at the office or the Makers Market.

3. Public Participation

Tamara Ballard - asking about insurance for snow plowing, as she has the ability to help clear driveways, looking for clarification on what the situation is. Shari - if you volunteer to plow, then there is a “Good Samaritan” law that would protect you, as you are not charging any money. To be discussed further in Business Arising.

4. Adoption of Minutes

Moved and Seconded by Sharie and Ted that the Committee approve the minutes of the Healthy Community Advisory Select Committee meeting held on October 24, 2023.

Carried

5. Receipt of Minutes

a) Public Works and Protective Services Committee, September. 11 2023

Moved and Seconded by Sharie and Jim that the Committee receive the minutes of the Public Works Committee meeting held on Sept. 11, 2023.

Carried

6. Business Arising from the Minutes

a) Snow Plowing

Limited to providers that carry insurance specifically for snow removal. Municipal coverage does not cover any other properties other than municipal – could not be extended to anyone else. Important for folks to know that when a company does not carry specific snow removal coverage, that anything that then happens, the resident is liable. Possible that third party liability might cover some of it, but if it is a company doing it, not a volunteer, then that point is moot. Councilor Epp to talk to CAO for any further clarification; Jim M suggested a Muse article be written on the subject to educate residents.

b) Poverty Reduction Subcommittee

Jim M. met with Chief Dunlop two months ago to discuss the grant, and established there should be a strong focus on what can be done and establish priorities. Oriented towards action and not just another report. Chief Dunlop says the RFP is currently being reviewed by the District. Jim M. and Sarah A. to follow up on how they can help. Jim M. noted that there is little the Municipality can do regarding poverty reduction, given its scope, but perhaps helping to transport those with physical challenges. He suggested looking for one-shot projects or investitures, i.e., purchasing a van for transport, or towards the community kitchen. Funds could potentially be coming from the MCA, who has some extra funds to spend.

Sarah A. noted the potential value of utilizing the old school as a community “hub” for cooking, fixing things, mending things. Shannon C. noted that on that topic, the new non-profit ReImagine West Shore will likely be working with MACCA to put on repair cafes in the New Year and will be hosting a free soup making workshop at Royal Bay on December 13, 2023. Counselor Epp - Can a non-profit buy seconds of vegetables and make food? Shannon C. - Community fridges/freezers are becoming more common – where volunteers make food and leave it in the fridge/freezer for anyone who needs it. Jane - Reminded her of the “Community Kitchen” idea from Mary Gidney - making food together.

Councilor Epp - Can we reach out through POD leaders on some of these subjects (someone to speak to Kathleen Sutherland)? Barrett - SRC provides services to check on vulnerable seniors, which could be expanded; currently looking at reinstatement of a Pearson College connection. Jane - JDF has a community development mandate who could come out to help with potential initiatives. Councillor Epp - Suggestion that when the commercial kitchen at the gym up and running, the possibility to make a bunch of soup and for people to take home? Given the fact that interest rates are going up along with food prices, there must be more people feeling squeezed. Recent data sets are scarce to pull from.

c) 911 Funding

Councillor Epp talked to Gord from CREST - no info how to spend the money yet.

d) Dark Sky

Ted W. attended MEASC meeting last month, did a verbal presentation on the subject. They were generally receptive, and he was asked to put together a formal presentation to recommend formal Dark Skies certification, which would require a report every year and ongoing education. Ted realized he should get HCASC’s consent first, before presenting to MEASC.

Moved and Seconded by Ted and Jim to recommend that Council authorize the Healthy Community Advisory Select Committee to draft a formal proposal for the District of Metchosin to become a Dark Sky Community.

Carried

e) Census Data

Shari R. - It was difficult to pull the most recent Census information; monthly costs stood out to her as being possibly misleading. By January, she hopes to have more meaningful information to share.

f) RCMP Report

27.5% increase in reports or “files”, especially in fraud. Shannon C. - SRC is having an RCMP officer come speak at their AGM on the topic of fraud. Jim M. - increases are big because they were so small before (not to diminish them). Sarah A.- a lot of these issues tie back to mental health. Ted - our policing has increased, so they are patrolling more too. Councillor Epp – could be of benefit to have a list of community organizations and activities on a small card that RCMP could hand out as a resource.

7. New Business

None.

8. Correspondence

None.

9. Other Business

Jane Hammond announced she won't be renewing her membership to the Committee. Councillor Epp contact Peter H. and ask if we can phone him in if he is not able to attend in person.

10. Adjournment and Next Meeting Date

Adjourned at 6:30 p.m. The next meeting will be on Tuesday, Jan 23, 2024. A social gathering will take place on Tuesday, December 19, 2023 at 4:30 p.m.

District of Metchosin

Minutes

**Public Works and Protective Services Committee Meeting
October 16, 2023 at 7:00 p.m.**

Council Chambers
Metchosin Municipal Hall

PLEASE NOTE: The meeting has been recorded.

Present: Councillor Epp in the Chair, Mayor Little, Councillors Donaldson, Gray and Shukin. Also present was Sue-Lin Tarnowski, Interim Chief Administrative Officer, Stephanie Dunlop, Fire Chief, and Jennifer Miller, Legislative Services Assistant (recorder).

The meeting was called to order at 7:26 p.m.

1. Agenda, Additions and Approval

Moved and Seconded by Mayor Little and Councillor Shukin that the Committee approve the agenda as amended with the addition of a funding source summary in relation to the presentation by Colin Doyle, Director of Land Development and Acquisitions, BC Indigenous Housing Society (CHICHC), Combining Affordable Housing with New Firehall.

Carried

2. Presentations

- a) Colin Doyle, Director of Land Development and Acquisitions, BC Indigenous Housing Society (BCIHS), **Combining Affordable Housing with New Firehall.**

Mr. Doyle provided a presentation on combining affordable housing with the new firehall including the following:

- Concept of combining housing on the same site as the Firehall
- Opportunity to leverage public assets
- Examples from other communities
- BCIHS overview
- Funding sources summary
- Capacity and feasibility
- Potential to supplement the costs of redeveloping the site through provincial housing funding opportunities
- Fiscally responsible solutions
- Net benefit of affordable housing to community

Committee discussion:

- Economics, timing, and benefits
- Firehall Steering Committee meeting discussion
- Housing and tenancy set-up, expectations, and exemptions
- Number of units, bedrooms, and types of tenants
- Incorporating affordable housing considerations to expand the feasibility study
- Four sources of potential additional feasibility funding

Moved and Seconded by Councillors Epp and Shukin that the Committee recommend that Council direct staff to incorporate housing funding sources for the Firehall feasibility study.

Carried

Moved and Seconded by Councillors Epp and Shukin that the Committee recommend that Council direct staff to communicate with the relevant housing funders identified in the funding sources summary regarding the possibility of obtaining additional funding for the Firehall feasibility study.

Carried

b) Brooks Westshore Students

Four grade eight students from Brooks Westshore School provided an overview of their PowerPoint presentation including the following:

- Westmont Prize – Annual Design Competition
- 2023 Theme: Great Solutions for Great Problems
- Idea for sports accessibility
- Idea to utilize space behind the Metchosin Elementary School site
- Power soccer
- 3D model for wheelchair design
- Request for Council to consider their ideas now or in the future

Committee discussion:

- Alignment with West Shore Parks and Recreation Society and the Intermunicipal Advisory Committee on Disability Issues
- Power Soccer, developing the wheelchair, and building spaces
- Westmont Prize categories and process
- Research and consultation with people with disabilities

Moved and Seconded by Councillor Epp and Mayor Little that the Committee recommend that Council provide a letter of support and encouragement for the Brooks Westshore students' Westmont Prize project submission.

Carried

3. Public Participation

Betty Hildreth, Metchosin resident, noted that an Arts and Culture strategy could serve as a launching pad for management of the Metchosin Elementary School site as a whole and as a vision for the village core. Ms. Hildreth spoke in favour of the three possible options listed in the staff report and suggested there are other local onsite and economically viable opportunities that could be added to the list for discussion. Accessing the newly renovated auditorium also needs to be strategized as soon as possible to address the current gym issues.

Chris Van de Water, Metchosin resident, offered support for an Arts and Culture strategy and bringing arts into the community. Mr. Van de Water provided various descriptions of what culture means and is in favour of an on-site manager to manage bookings and related logistics on a part-time basis including a proper website.

4. Adoption of Minutes

Moved and Seconded by Councillors Shukin and Donaldson that the Committee adopt the minutes of the Public Works and Protective Services Committee meeting held September 11, 2023.

Carried

5. Receipt of Minutes

Moved and Seconded by Councillor Gray and Mayor Little that the Committee receive the minutes of the Healthy Community Advisory Select Committee held September 26, 2023

Carried

6. Reports

a) Staff Report, Metchosin Elementary School Site Framework and Management

Staff provided an overview of the Metchosin Elementary School Site Framework and Management to serve as an opening venue for discussion and outline next steps and high-level strategies.

Committee discussion:

- Part-time option for staff or contractor to oversee site management
- Potential for a multi-purpose role for part-time assistant for the Fire Chief and part-time site manager for the school
- Various portions of the site
- Gym bookings management versus challenges with the entire building
- Setting priorities to determine next steps
- Past discussions and history
- Overview of the space
- Costs, operations, and fiscal responsibility
- Community input
- Setting a vision and long-term and short-term goals
- Prioritizing uses: community, recreation, training, and commercial
- Alignment with the District's Strategic Plan
- Option for community-led action committee for site management

Moved and Seconded by Councillors Epp and Shukin that the Committee recommend that Council hold a visioning workshop, possibly with a facilitator, to set priorities for use of the school and grounds and discuss options for management and maintenance.

Carried

b) Staff Report, Grant Application, UBCM Community Emergency Preparedness Fund (CEPF) and Community Resiliency Fund (CRI)

Fire Chief Stephanie Dunlop provided an overview of the staff report regarding provincial grant funding requests.

Moved and Seconded by Mayor Little and Councillor Donaldson that the Committee recommend that Council support the application of the four provincial grants as follows:

1. CEPF - Emergency Support Services in the amount of \$30,000 for the purchase of supplies and equipment for our Emergency Support Services Group Lodging and Reception Centres. These programs are the backbone of community care and support services during a catastrophic event within Metchosin (submission deadline January 27, 2024).

2. CEPF - Emergency Operations Centre and Training in the amount of \$30,000 for the purchase of supplies and equipment for our Emergency Operation Centre. This grant will support the purchase of equipment and supplies to improve our Emergency Operation's Centre capacity by way of technology, storage, and tools (submission deadline February 2, 2024).
3. CEPF - FireSmart Community Funding & Supports in the amount of up to \$200,000 to continue our Community FireSmart Program. This grant will include the funding of a FireSmart Coordinator position for, continue the chipping and rebate programs and support ongoing activities to increase our community resiliency by way of planning and education (submission deadline October 30, 2023).
4. CEPF - Volunteer & Composite Fire Department Equipment in the amount of up to \$30,000 in support of the purchase of operational equipment, updated water appliances and continue the shift to electric tools (submission deadline October 20, 2023).

And That Council authorize the Interim CAO to execute any agreements related to successful grant applications.

Carried

c) Councillor's Update

Councillor Epp provided the following updates:

- The District is receiving a Road Safety ICBC Grant in the amount of \$7,350 towards a pedestrian-activated crosswalk on Rocky Point Road for the Galloping Goose crossing at Matheson Lake to be used by the end of March 2024.
- A Firehall Steering Committee meeting took place including a presentation from Colin Doylend.
- Metchosin Seniors' Association:
 - The Metchosin Caregiver Support Group meeting will take place on Thursday, October 19th at the Metchosin Seniors' Resource Centre.
 - Flu and COVID clinics will be held in the School Gym October 24th and 25th.
 - The Friday social is scheduled for October 27th at the Community House.
 - The office manager role job search is underway and will be managed by volunteers in the interim.
- The Metchosin stakeholders meeting took place last month with representatives from 11 groups. Discussions included extreme heat management, summer wildfire risk, winter risks, climate change, the EOC notification testing, and FireSmart.
- Councillor Epp attended a workshop: Hot Topics, Impacts of Extreme Heat, with the focus on understanding vulnerability and how to help the community before, during, and after an event.
- A meeting of the Capital Regional Emergency Services Telecommunications (CREST) took place. CREST links 50 agencies across the South Island. An increase is expected for the next three years due to inflation. Other items discussed were negotiations with the CRD to formulate a strategic plan and moving forward with a new building.
- A meeting was held last week with Dr. Connie Allsopp, BC Healthy Communities. A webinar is schedule for November 8th: Equity in action: How leaders can champion inclusive policymaking.

- Councillors Epp and Gray and Mayor Little attended the CRD's Forum of All Councils on October 14th to promote understanding and reconciliation.

7. Correspondence

- a) Eila Zylak, Lighted Crossings
- b) Students from Brookes Westshore School, Metchosin School Site
- c) Colin Doylend, Funding Source Summary, Combining Affordable Housing with New Firehall.

8. Adjournment

Moved and Seconded by Councillors Donaldson and Gray that the meeting be adjourned at 8:32 p.m.

Carried

Certified Correct:

Chair

Corporate Officer

District of Metchosin

Minutes

**Public Works and Protective Services Committee Meeting
November 27, 2023 at 7:00 p.m.**

Council Chambers
Metchosin Municipal Hall

PLEASE NOTE: The meeting has been recorded.

Present: Councillor Epp in the Chair, Mayor Little, Councillors Donaldson, Gray and Shukin. Also present was Sue-Lin Tarnowski, Interim Chief Administrative Officer, Stephanie Dunlop, Fire Chief, and Jennifer Miller, Legislative Services Assistant (recorder).

The meeting was called to order at 9:33 p.m.

1. Agenda, Additions and Approval

Moved and Seconded by Councillors Donaldson and Gray that the Committee approve the agenda as amended with the addition of the following correspondence as supplemental information:

- Lynda, re: Staff Memo, Flesh Road Bridge (aka Hall Bridge) Update

Carried

2. Presentations: None.

3. Public Participation

Councillor Donaldson declared a perceived conflict of interest regarding any public participation related to the Flesh Road Bridge, stating that the Flesh Road Bridge is in her neighbourhood, and left the meeting at 9:34 p.m.

Tamara Ballard, resident, spoke in favour of the least costly option for the Flesh Road Bridge for pedestrians and cyclists with equestrian use included and railings for safety precautions. Ms. Ballard noted that the costs have gone up considerably since last year and will only continue to rise. Given that there is no cost sharing from CRD or FortisBC, the repair and deactivation estimates are too costly.

Penny-Rae Schur, resident, expressed health and safety concerns related to egress via the Flesh Road Bridge in case of fire. Ms. Schur wants to ensure that the 19 homes on Ferncliffe Place have vehicle access to the Flesh Road Bridge in the event that the road is blocked. Ms. Schur would like Council to communicate plans regarding the Flesh Road Bridge with the neighbouring residents.

Brent Donaldson, resident, has lived on a property near the Flesh Road Bridge for 35 years. Mr. Donaldson provided the history of Council motions, budget approvals, correspondence, work carried out, and statutory right of way related to the Flesh Road Bridge. Mr. Donaldson expressed concern regarding the estimated cost increases, does not agree with the options to deactivate or convert the bridge to pedestrian and cyclist use, and would like to see a public information session for input by residents.

Moved and Seconded by Mayor Little and Councillor Shukin to extend the Committee meeting beyond 10:00 p.m.

Carried

Adopted: January 15, 2024

Councillor Donaldson returned to the meeting at 9:51 p.m.

4. Adoption of Minutes

Moved and Seconded by Councillors Gray and Donaldson that the Committee adopt the minutes of the Public Works and Protective Services Committee meeting held October 16, 2023.

Carried

5. Receipt of Minutes

Moved and Seconded by Councillors Donaldson and Shukin that the Committee receive the minutes of the Firehall Steering Committee meeting held October 3, 2023.

Carried

6. Reports

a) Staff Memo, Flesh Road Bridge (aka Hall Bridge) Update

Councillor Donaldson declared a perceived conflict of interest related to the Flesh Road Bridge, stating that the Flesh Road Bridge is in her neighbourhood, and left the meeting at 9:54 p.m.

Staff provided an overview of the Flesh Road Bridge memorandum regarding an update to the December 8, 2022 memorandum on the structural assessment of the bridge, estimated costs for three options, and the related impacts and costs associated with the utilities attached to the bridge.

Committee discussion:

- Estimated cost increases for repair and remediation, total deactivation, and pedestrian and cyclist use
- Emergency access to Ferncliffe subdivision
- Capital Regional District water line and FortisBC natural gas line
- Confirmation that the CRD and FortisBC will not be participating in cost-sharing
- Potential funds available this fiscal year and budget planning for future fiscal years
- Fire and environmental risks if the bridge fails
- Potential to carry out repair and remediation in phases
- Concerns regarding the updated cost summary
- Suggestion to request information from staff on the estimated lifespan of repairs
- Consideration of budget discussions and a multi-year approach to the work
- Importance of notifying the community in advance of when the Flesh Road Bridge will next be on a Council agenda

Moved and Seconded by Councillors Shukin and Gray to receive the Flesh Road Bridge Staff Memorandum for information.

Carried

Moved and Seconded by Councillor Gray and Mayor Little to Council request staff to provide information on the feasibility of the Flesh Road Bridge repairs being a multi-year project in order to deal with the costs in a more gentle manner.

Carried

Councillor Donaldson returned to the meeting at 10:10 p.m.

b) Councillor's Update

Councillor Epp provided the following updates:

- Public Works staff update:
 - A new staff member has joined the Public Works crew
 - Warning signs on the road have been replaced
 - Dog waste signs and receptacles for Taylor Beach and Sandgate Road have been installed
 - Regular winter work is ongoing along with graffiti removal from the walls at the school
- Metchosin Seniors' Association (MSA)
 - The MSA welcomed Shannon Carmen as the new manager of the resource centre
 - A Christmas lights fundraising tour will take place on December 18th
- CRD Arts Commission
 - The intake for spring project grants is open on the CRD Arts website
 - Efforts continue to encourage Colwood and Langford to join
 - Langford is close to developing a strategic arts and culture plan
- Capital Regional Emergency Service Telecommunication (CREST)
 - Work is completed on getting coverage to Port Renfrew
 - CREST is looking to expand its network beyond the CRD
 - CREST equipped many radios with 65 channels to allow firefighters to stay connected when deployed to other areas in the province
- West Shore Arts Centre Intermunicipal Committee
 - The inaugural meeting was held on November 16th
 - A discussion on completed feasibility and accessibility studies will be on the December meeting agenda

7. Correspondence

a) Lynda, re: Staff Memo, Flesh Road Bridge (aka Hall Bridge) Update

8. Adjournment

Moved and Seconded by Mayor Little and Councillor Donaldson that the meeting be adjourned at 10:14 p.m.

Carried

Certified Correct:

Chair

Corporate Officer

District of Metchosin

Minutes

**Special Public Works and Protective Services Committee Meeting
November 30, 2023 at 12:00 p.m.**

Council Chambers
Metchosin Municipal Hall

NOTE: The meeting has been recorded.

Present: Councillor Epp in the Chair, Mayor Little, Councillors Donaldson, Gray and Shukin. Also present was Sue-Lin Tarnowski, Interim Chief Administrative Officer, Stephanie Dunlop, Fire Chief, Tina Hansen, Deputy Corporate Officer, and Jennifer Miller, Legislative Services Assistant (recorder).

The meeting was called to order at 12:00 p.m.

1. Agenda, Additions and Approval

Moved and Seconded by Councillors Donaldson and Mayor Little that the Committee approve the agenda as amended with the addition of the following correspondence regarding the Metchosin School Site Visioning Workshop as supplemental information:

- Morgan Yates
- Carol Voyt
- Debra Pile

Carried

2. Public Participation

Ernie Chan, resident, thanked Council for the opportunity to share a vision. Mr. Chan would like to see a space for a permanent natural history club and a place where people could drop in and talk to each other. Mr. Chan offered his services to help organize should the project get traction.

Betty Hildreth, resident, expressed support for a public shared space and noted that the timing for strategy is perfect. Ms. Hildreth suggested that this community asset could pay for itself if properly managed. Talking to neighbours and hearing what has been done elsewhere would be beneficial.

Morgan Yates, resident, supports this timely review and believes that the site should support social, recreational, cultural, and educational opportunities. Mr. Yates noted that the visioning process should be informed by the Official Community Plan and that the site could evolve to operate on a break-even financial basis with priority given to local non-profit uses.

Carol Voyt, resident, proposed that Council first consider the objectives that underpinned the District's decision to purchase the property, the intended user groups, tenant leases, incomes and expenses, operating costs, rental revenue streams, and daily management. Ms. Voyt suggested that Council then address operational details.

Sarah Anthony, resident, referred to a recent Cowichan community workshop and noted this "makers' workspace" concept is an inspirational way for community members to learn, create, and share their skills. Ms. Anthony noted that the kitchen could be used in a similar way to provide classes and a space for people to potentially sell their products and earn income.

Diana Smith, resident and coordinator of Metchosin ArtPod, supports a vision that covers management and administration and economic sustainability and suggested thinking outside the box and more broadly. Ms. Smith noted that decisions should be made on essential questions such as priority users, site management, desired usage, the village core, grounds, and uses.

Judy Roper, resident, spoke in favour of including the Metchosin preschool in the Metchosin School site. Ms. Roper noted that the preschool is currently renting at West Mont School. Ms. Roper would like to see a focus on putting the preschool into this space so that the preschool can continue to be a community asset.

Norm Hardy, resident, spoke on behalf of himself and some of his neighbours in favour of the District considering creating a gathering place for people to discuss issues, share ideas, and work on projects together. Mr. Hardy suggested that cars should not be the defining feature of the site and recommended setting aside part of the property for pedestrian usage.

Art Brendon, resident, spoke in favour of reviewing the management plan for public use and fiscal management of the property and physical oversight. Mr. Brendon suggested a holistic approach to managing the gym and arts centre. A public arts policy could give context to the Metchosin Arts & Cultural Centre (MACCA) and provide an umbrella for the public space.

Jennifer Burgis, resident and Metchosin Seniors' Association board member, noted that all improvements and upkeep to date have come about through volunteer work and grant applications with the community in mind. Ms. Burgis indicated that there are accessibility issues to be addressed at the Seniors' Resource Centre and would like Council to keep in mind what seniors would require from a community space.

Jacob Lamb, resident, shared his perspective from his previous work as a District Public Works employee who has worked in the Metchosin School Site building. Mr. Lamb supports arts and culture and believes there are opportunities for groups to work together and to generate income to support local services. He indicated that the shared washrooms could be an issue and may not be a viable option for the preschool.

Eric White, resident, spoke in favour of visually enhancing the front of the building to minimize the look of a parking lot. Mr. White suggested that an enclosure over the space between Mile Zero Brewing and the other building could improve the aesthetic and provide a much-needed outdoor space.

Chris Van de Water, resident and MACCA president, noted the various events open to the public changing dynamic of the studio spaces. Mr. Van de Water is looking forward to the gym being finished and supports the management function to tend to bookings and daily operations. He supports a public community space, an art policy, and addressing accessibility challenges.

Debra Pile, resident, impressed upon the committee the need for open public green space in the community. Ms. Pile would like to see a balanced use of the grounds between formal group rentals and casual users and the protection of public green space. She urged Council not to develop grounds that would result in additional taxes in order to be maintained.

3. Metchosin School Site Visioning Workshop

a) Introductions, Carmen and Jock Hildebrand, Facilitators, Arts Portal Inc.

Jock and Carmen Hildebrand introduced themselves and provided an overview of their background and expertise.

Mr. Hildebrand provided an overview of the PowerPoint presentation including the following:

- Building use, operations, and management
- The complexity regarding the site management
- History and context
- Previously identified user groups: arts and culture, sports and recreational, and fire and emergency training center
- The need for a clearly defined management structure for the multi-use space
- How the various facility stakeholders view the space
- Considerations such as operational, management models, and oversight committee
- Common goals
- Examples of other mixed-use community centres
- Various models for arts and culture facilities
 - Facilities owned and operated by municipalities
 - Facilities with long-term leases from municipalities
 - Outsourced professional management
 - Long-term lease to arts and culture organization
 - Sale of facility to arts and culture organization
- Recommendations for the District:
 - District in-house management of the facility
 - Long-term lease to an arts and culture organization
 - An outside facilitator to meet with stakeholders
 - An informal circle meeting with stakeholders
 - Establishment of an oversight committee

b) Committee Discussion

Mr. and Mrs. Hildebrand facilitated a round table to provide an opportunity for committee members to share their vision and ideas for the Metchosin School site.

Committee discussion:

- Multi-use facility for all community members, arts, culture, recreation
- Training facility
- Youth recreation in the gymnasium
- Children, youth, seniors, and arts group
- Fields for active use and play
- Budget for part-time management
- Potential user groups and functions such as recreation, theatre, concerts, lunches
- Online calendar, bookings, communication, security, after-hours processes
- Natural areas room, community space, youth groups, sports, first responder centre
- Commercial rentals to assist with bottom line
- Managing conflicts
- Previous studies and consultant reports
- Healthy Communities Advisory Select Committee Village Square gathering initiatives
- Tax-payer dollars
- Zoning
- Uses such as community learning space, recreation, training centre, and arts and culture
- Facility bookings and fee structure
- Alarm system, accessibility, fiscal responsibility, subsidization
- Caution to not compete with other venues such as the community house and the community hall
- Event planning

- Gym rental and daily management
- Recreation, learning, arts and culture, and sports
- Targeting a break-even statement in a vision statement
- Rents and subsidies, financial sustainability
- Safety and cleanliness of the building
- Council's role to set the vision and have staff administer
- Community focused with local access
- Financial sustainability
- Effective management
- Current District resources and costs to increase resources
- Asset maintenance and depreciation

Mr. Hildebrand turned the committee's attention to the topic of long-term and short-term management and a discussion ensued as follows:

- Short-term priority for gym rentals
- In-house management verses potential partnership with a non-profit organization
- Partnership with a non-profit organization
- Potential of a community organization or committee represented by all stakeholders and reporting directly to Council
- Limited District resources
- Concern regarding timing to get the management functions up and running
- Previous Council discussions regarding priority uses and user groups of community use, recreation, fire and emergency response training centre, and commercial
- Community feedback
- Focus on the gym being available for use as soon as possible
- Including green space as a priority
- Protecting community safety, first responder training, and fire department access
- District office closure, timing, and staff input
- Importance of collaboration and advanced booking for first responder training
- Potential booking and access conflicts
- Liability and insurance
- Input and feedback from residents on priorities
- Draft fees and liability waivers
- Short-term decisions to make the facility ready for use versus long-term planning
- Long-term discussions at budget meetings and revenue projections

Moved and Seconded by Councillors Epp and Gray to recommend that Council set the top four priorities for use as:

1. Community use;
2. Recreation;
3. First responder and community emergency; and
4. Commercial.

Moved and Seconded by Councillors Gray and Shukin to amend the motion by adding the words "as pertaining to the gym with appropriate changes in priority in accordance with timing and rentals with appropriate notice".

Carried
Mayor Little and Councillor Donaldson opposed the motion

The main motion as amended was adopted with the final wording as follows:

Moved and Seconded by Councillors Epp and Gray to recommend that Council set the top four priorities for use as:

1. Community;
2. Recreation;
3. First responder and community emergency; and
4. Commercial.

as pertaining to the gym with appropriate changes in priority in accordance with the volume and timing of rentals with appropriate notice.

Carried Unanimously

Moved and Seconded by Councillors Shukin and Donaldson to recommend that Council bring forward the declared priorities for use in terms of booking the gym to the public for their input.

Carried

Mr. Hildebrand referred to the five options listed in the PowerPoint presentation related to administration models.

1. Facilities owned and operated by municipalities
2. Facilities with long-term leases from municipalities
3. Outsourced professional management
4. Long-term lease to arts and culture organization
5. Sale of facility to arts and culture organization

Committee discussion:

- Lease terms and lease renewals
- Temporary use permits
- In-house management versus outside professional
- Scope of management
- Maintenance
- Managing commercial tenants
- Long-term management governance by a community commission with multiple stakeholders
- Potential of adding personnel to the District to manage the facility
- The definition and function of a “Commission” in the *Community Charter*
- Advisory committee option and Terms of Reference
- Volunteer involvement
- Ongoing governance and marketing function
- The cost of doing business
- Gathering stakeholders feedback on a regular basis

Action: Staff to bring a report on options to be considered for the day-to-day operations for Council’s feedback.

Mr. Hildebrand referred to the recommendation to have an outside facilitator conduct a circle dialogue with the relevant stakeholders, followed by meetings with each stakeholder group. It was recommended that each stakeholder bring one or two representatives to the circle to ensure an efficient use of time.

Ms. Hildebrand facilitated a group visioning exercise. The following key phrases, words, and ideas were shared with a view to creating a vision statement:

- Multi-use facility
- Community focused
- Home to arts culture
- Learning
- Financially sustainable
- Governed and management effectively
- Governed locally
- Community based governance
- Stakeholder based governance
- A gathering place for community that promotes mental health and wellness for the community
- Gathering point for seniors
- All generations
- Community centered
- Local use for our community
- Welcome people from elsewhere
- Clean and safe
- Gathering space to bring people together
- Managed with ease
- Financially viable
- Accessible

Committee discussion regarding finances including the following:

- Strategy to influence revenue
- Budget and reserves
- School site financials
- Metchosin school status report, Pivotal IRM dated December 12, 2022
- School Capital repayment line item

c) Opportunity for Public Input

Diana Smith, resident, expressed concerns regarding the format of the meeting and noted that the public attending the meeting today have many ideas to contribute. Ms. Smith noted that the presented recommendations were premature, that stakeholders should first be consulted, and that a long-term vision should be given careful thought.

Art Brendon, resident, suggested a vision of self-sufficiency through sponsorship and to look at immediate and long-term needs. Mr. Brandon noted that an energy solution should be incorporated to be environmentally responsible and that a strata title idea be considered to involve the private sector.

Carol Voyt, resident, applauded shifting the description of the old school site to a multi-use facility rather than an arts and culture facility. Ms. Voyt noted the importance of having a responsible and accountable District staff person manage the bookings instead of volunteers. Ms. Voyt questioned whether the District will afford the same financial benefits to other non-profit groups as they have done for the Metchosin Arts and Cultural Centre Association.

Ernie Chan, resident supports a Metchosin community hub and noted the community should be the guiding star in the decision-making process. Mr. Chan would like to see an open, accessible, and equitable space for a wide array of users. First responder training should extend to community members as we are all first responders.

Charla Huber, resident, rents studio space at MACCA and has volunteered with the Metchosin emergency program. Ms. Huber offered a vision statement as “Create a hub of the community, for the community honouring and supporting the physical and mental well-being, growth, and enhancement of everyone in Metchosin that honours safety, belonging, and creativity for all.”

Betty Hildreth, resident and MACCA Vice President, suggested that an advisory committee may be a better option than a commission in light of learning about the definition of commission. Ms. Hildreth outlined the work, energy, and dedication of the volunteers who have contributed to the facility and does not see that sports teams would be contributors in the same way.

Sarah Anthony, resident, suggested that fundraising efforts could be an option, similar to what was done at the Community House. Ms. Anthony noted that businesses provide benefits to the community such as Mile Zero Brewing. She would like to see the concepts outlined in a recent village square presentation come to fruition.

Jane Hammond, resident, spoke in favour of the pieces of the puzzle coming together as the committee works through the visioning process. Ms. Hammond referenced a previous Metchosin outreach component of the West Shore Parks and Recreation Society and suggested that WSPR could be a partner for programming which would be optimal for families.

Chris Van de Water, resident and MACCA President, noted that the day-to-day management of the arts centre is well under control. Mr. Van de Water suggested that a remote coordinator is not ideal, and that interim management could be carried out by staff from the music studio in an interim scenario.

Diane Smith, resident, noted that the two recommendations in the PowerPoint equate to a closed list and that different and creative options that are more representative of Metchosin have not been presented. Ms. Smith suggested there may be an opportunity for the District-owned facility to be jointly operated by the District and a steering committee made up of user groups.

Betty Hildreth, resident, expressed concern that the title of today’s meeting is a misnomer. Ms. Hildreth was under the impression that cooperation and sharing the facility was the focus, but the PowerPoint presentation heading referred to arts and culture.

Jennifer Burgis, resident, suggested that the District website could be utilized to manage an interim calendar for gymnasium bookings with District management. Ms. Burgis supports redoing this workshop with the circle dialogue idea with representatives from user groups.

d) Next Steps

Ms. Hildebrand will liaise with staff regarding the motions and direction from today’s meeting.

4. Adjournment

Moved and Seconded by Councillors Gray and Shukin that the meeting be adjourned at 3:24 p.m.

Carried

Certified Correct:

Chair

Corporate Officer

Dark Skies for the District of Metchosin

Introduction:

Metchosin is a rural and rural-suburban municipality which is part of the Capital Regional District (CRD) on Vancouver Island. Other members of the CRD include the Cities of Victoria, Colwood and Langford which are highly urbanized. Metchosin, where farming is still a significant factor in the local economy, is perhaps the most rural member. Parks and undeveloped land still provide a haven for wildlife and a respite for humans from the ills of urbanization. It has a unique character much appreciated by residents and visitors alike.

This unique character is under threat. Increasing amounts of outdoor lighting are affecting wildlife populations and are also detrimental to human health. Ironically, studies have shown that security, often touted as the reason for excess lighting, is not improved by outdoor lighting. There is also some indication that excess light even reduces security by providing glare and shadows that assist the nefarious in their activities. Blue LED lighting, which is cheap and becoming common, reduces the production of melatonin in both humans and wildlife. As melatonin is profound regulator of sleep and circadian rhythms, the biological impact of its loss can be severe. Excess outdoor lighting causes sky glow which reduces the ability to see the night sky. For millenia the night sky has been a focus of cultural values for all peoples. Humans place their stories and history into the night sky in the form of the constellations. It is a practice which binds us all together since we all share the same night sky. Metchosin still provides a reasonably dark night so that people can still tell their children the stories of the night. But we are losing it fast.

Metchosin has an opportunity to reverse this trend. Most people are well-intentioned but often not well-informed. Education rather than regulation can be a more effective tool for change. And establishing a goal for a community could well provide a rallying point for Metchosin residents and help with developing a unique identity. An external certification can provide access to educational materials, and would provide an objective measure of the community's efforts to reduce light pollution and also confer significant bragging rights...

Certifications Available:

The Royal Astronomical Society of Canada (RASC) offers three levels of certification:

- **Dark-Sky Preserve:** Sites with very dark skies with minimal sky glow, and that are generally far from urban centres and therefore somewhat less accessible to astronomers and the public. These usually do contain public campgrounds.
- **Nocturnal Preserve:** Some dark sites are remote with few resources for active outreach programs, and are designated more for the protection of the night for flora and fauna than for public amenities.
- **Urban Star Park:** These are sites within, or close to, urban areas that are not consider "dark", but provide good access to the public.

- DarkSky International (DSI, formerly the International Dark Sky Association) offers the following designations:
 - **Dark Sky Sanctuary.** Public or private land that has an exceptional or distinguished quality of starry nights and a nocturnal environment that is protected for its scientific, natural, or educational value, its cultural heritage, and/or public enjoyment.
 - **Dark Sky Reserve.** Public or private land possessing an exceptional or distinguished quality of starry nights and nocturnal environment that is specifically protected for its scientific, natural, or educational value, its cultural heritage, and/or public enjoyment.
 - **Dark Sky Park.** Land possessing an exceptional or distinguished quality of starry nights and a nocturnal environment that is specifically protected for its scientific, natural, or educational value, its cultural heritage, and/or public enjoyment.
 - **Dark Sky Community.** A town, city, municipality, or other legally organized community that has shown exceptional dedication to the preservation of the night sky through the implementation and enforcement of a quality outdoor lighting ordinance, dark sky education, and citizen support of dark skies.
 - **Urban Night Sky Place.** A municipal park, open space, observing site, or other similar property near or surrounded by large urban environs, and whose planning and design actively promote an authentic nighttime experience in the midst of significant artificial light.

Metchosin most likely would qualify as a RASC Urban Star Park, a DSI Dark Sky Community and/or a DSI Urban Night Sky Place. The Town of Bon Accord, Alberta is a DSI Dark Sky Community and Oak Bay has a RASC Urban Star Park at Cattle Point. Both municipalities would likely be willing to share their experiences.

General Requirements:

Requirements for certification vary but in general fit under the following headings:

- **Municipal Outdoor Lighting.** Municipal lights must comply with Canadian Guidelines for Outdoor Lighting (CGOL) or equivalent. Metchosin's existing Dark Sky Policy is based on CGOL so this requirement may already be met or significantly met.
- **Accessibility.** The core area must be accessible by the public after the end of twilight. Metchosin's core is already accessible,
- **Quality of the Night Environment.** CGOL requirements as above must be met. In addition, light measurements must be taken and reported, usually on an annual basis.
- **Public Outreach.** Public outreach is required for visitors and residents. It can consist of raising awareness of the connection of dark skies to night ecology and raising awareness of stargazing or other night-time activities. This can take several forms including information pamphlets, public presentations and planned activities.
- **Advocacy.** There is an expectation that the certified community would engage in advocating reduction in light pollution with surrounding communities.

Cost to Metchosin

Metchosin has already undertaken a significant effort to reduce light pollution via it's Dark Sky's policy. Compliance with the current CGOL and any additional requirements such as the RASC-CGOL qualification may need to be reviewed. Most programs permit upgrades to meet compliance to be spread out over a period such as five years to allow better integration with ongoing maintenance programs. Some signage will need to be erected to identify Metchosin as a Dark Sky Community and direct visitors to the core area. Outreach materials are available from DSI and perhaps RASC including pamphlets, posters and videos. Locally oriented materials (see attached "How Blue is Your Night?") can be developed by volunteers. Monitoring of light conditions and sky quality can also be done by volunteers. Volunteers can also assist with the preparation of any reporting requirements. Presentations and events can be held in conjunction with the Victoria Centre of the RASC, Pearson College's Astronomy Activity Group and Metchosin volunteers. Properly managed, the impact on the District's budget should be minimal.

Recommendations:

It is proposed that the District of Metchosin create a Dark Sky Select Advisory Committee. The terms of reference for this committee are as follows:

- Review the options for Dark Sky certification and make a recommendation to Council as to how to proceed.
- If Council directs an application to be prepared work with staff to prepare such an application.
- Provide resources to help guide the application process such as collecting required information, data such as light measurements and recommending implementation plans.
- Assist with ongoing compliance requirements such as public outreach, light measurements and reporting.
- Review and recommend on dark sky issues going forward.

T.B.(Ted) White

Attachments:

IDSC_2018 Guidelines_Updated Sept2023 (2).pdf

RASC_PRESERVE_APPLICATION_REQUIREMENTS_2020_0.pdf

How Blue is Your Night.docx

How Blue is Your Night?

Ted White, R.P. Bio Ret.

Have you ever sat around a fire and felt warm, comfortable, and relaxed? And have you ever stayed up too late working on your computer or watching TV, and felt dragged out and tired the next day? If this sounds familiar, then you have experienced the sensitivity of your eyes and brain to light and its colour.

The comfort of a campfire may date back more than a million years. Archaeologists have uncovered traces of campfires at least that ancient. Staring at the fire for that long, in evolutionary terms, has done things to the hominin brain. The production of melatonin, our major sleep-regulating hormone, is strongly associated with warm light colours such as firelight and the golden light of sunset. Blue light, such as daylight, suppresses melatonin production. This makes perfect sense, given human history. We need to be alert and active during the day, and we need to sleep during the night. Once we learned to control fire and gained the first artificial light at night, our brains likely evolved a response to such light to help put us gently to sleep.

But now the light has changed. Until recently, lighting was provided by making things hot like our friendly campfire. Torches, candles, oil lamps and even tungsten-filament light bulbs all produce light by heating. Fluorescent lights and LED's do not. They make light by forcing electrons to jump around inside atoms. It takes less heating for more light; hence, better energy efficiency. The designers of such devices get to choose what colours they produce by choosing which atoms (elements) to use. Their natural tendency was to mimic daylight. After all, don't we want to see things as well at night as we do during the day? Offices were filled with cool-white, cheap-to-run fluorescent fixtures. People who complained were not generally taken seriously. Today, it's the blue-white LED's turn. At night, inside and outside of our homes, we are increasingly bathed in light that is not very good for us. Blue-white light has been linked to several not-so-nice medical problems, in addition to sleep disruption. There is some evidence linking such light to cataracts, macular degeneration and even cancer. The research continues, but it doesn't look good. There is an extensive database – over 4,300 references – on Artificial Light at Night (ALAN) at this link: <https://www.zotero.org/groups/2913367/alan> db/library for those inclined to dig a little deeper.

One of the ironies is that LEDs are often touted as a cost saver, since they have a long life and use less energy. But our eyes are most sensitive to yellow-green light at about 555nm wavelength. All other factors being equal, we are about half as sensitive to blue light (around 450nm). So, if your light source is more yellow, you can see better. Again, this makes sense as there is lots of light during the day when there is more blue light. When there is overall less

light at night, but it's a warmer colour, that sensitivity is an advantage. Moreover, since eye response is non-linear, the energy required for yellow light is many times less than just half that of blue.

So how much light do we really need? Illumination engineers use published engineering standards to choose the appropriate amount of light in buildings and outdoors. Even as we learn more about the health effects of artificial light, these standards are still being increased. Earlier recommendations for normal activities fell in the 100 to 300 lux range. Today, it's 500 to 1,000 lux. But where I am sitting right now during the day, in a house with good natural light, I measure 120 lux reflected from our white walls and 55 lux from my computer screen. The dog and I can see just fine.

So, what can we do? Get better informed about your own light environment.

1. Check the colour temperature of your light sources. Your smart phone can do it with the right app. Look for something that measures in degrees Kelvin. I use Color Temperature Meter Kelvin (<https://kelvin-meter.contecity.com/>) on my Android phone. The free version works just fine. There are many others (photographers use this quite a bit). For guidance, campfires are around 1,500 K and daylight is 6,500 K. Avoid anything above 3,000 K.
2. Check how much light is around you. Again, you can get a free light meter app (<https://photoworkout.com/best-light-meter-apps/#5-lux-meter>). Get one that reads in lux. Try to stay with the low end of the old standards. I am very happy with 100 lux during the day indoors and prefer much less at night.
3. Check your screens. TV is the bad one, as the standard is 6,500 K and at least some units are not adjustable. But your phone and computers are. Somewhere in your display settings you should find something about light at night. Turn it on. I set mine to 1,500 K at night (I do like a good campfire...) and have it come on gradually at sunset and off at sunrise. On my phone, I use the app "Twilight" (<https://twilight.urbandroid.org/>). I like it better than the built-in one.
4. Don't let your house be smarter than you are. Smart homes with lighting controls were designed to engineering standards, not health standards. And architects place light fixtures for effect (or ego) as much as function. This is particularly true for exterior fixtures. There are houses in our neighborhood with up to thirty exterior fixtures that come on automatically, whether they are needed or not. Who knows what's also happening inside the house?
5. And finally, spare a thought for your Neighbours, both human and non-human. If you don't need the light on, turn it off -- particularly if it's an exterior fixture. We are all in this together.

DARKSKY INTERNATIONAL

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*TO PRESERVE AND PROTECT THE NIGHTTIME ENVIRONMENT AND OUR HERITAGE OF DARK SKIES THROUGH
ENVIRONMENTALLY RESPONSIBLE OUTDOOR LIGHTING*



DarkSky

International Dark Sky Community Program Guidelines

**2018 Version
Updated September 2023**

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DEFINITION OF AN INTERNATIONAL DARK SKY COMMUNITY

An International Dark Sky Community (IDSC) is town, city, municipality, or other similar political entity that has shown exceptional dedication to the preservation of the night sky through the implementation and enforcement of quality lighting policies, dark-sky education, and citizen support of the ideal of dark skies.

GOALS FOR IDSC CREATION

- To identify communities with exceptional commitment to and success in pursuing dark sky preservation and restoration, and their promotion of quality outdoor lighting
- To promote improved outdoor nighttime quality of life for residents and visitors
- To support protection of human health, nocturnal habitats, public enjoyment of the night sky and its heritage, and/or areas ideal for professional and amateur astronomy
- To provide local, national, and international recognition for such communities
- To promote the ideals of DarkSky by encouraging communities to identify dark skies as a valuable community asset and aspiration

DESIGNATION BENEFITS

Achieving this designation brings recognition of the efforts made by the Community government, residents, and public and private organizations to protect the night sky and the nocturnal environment dependent on it. The IDSC designation enhances awareness of dark sky matters on the part of Community residents and visitors.

Designation as an IDSC entitles the Community to display the International Dark Sky Community logo in official publications and promotions and on signs at entrances or within the Community, and to retain the use of this logo by other groups within the Community when identifying the area itself.¹ DarkSky will promote and highlight ongoing Community efforts to protect night skies, and will maintain pages identifying and describing all IDSCs on its website.

¹ For instance, a Community can identify itself as “Flagstaff, the world’s first International Dark Sky Community” or other words to the same effect, or an organization within the Community can state “located in Flagstaff, an International Dark Sky Community.”

ELIGIBILITY

The Community must have some type of legal organization that is officially recognized by outside groups. This can be in the form of a town, city, municipality, or other legally organized community (such as urban neighborhoods and subdivisions), but need not be an incorporated entity. Unincorporated or otherwise informally organized communities are eligible for IDSC status if their governing jurisdictions enact public policy consistent with the requirements of “Minimum Requirements for All Communities” (below) that are legally binding in at least the territory of the Community.

MINIMUM REQUIREMENTS FOR ALL COMMUNITIES

- 1) A quality comprehensive lighting policy like the IDA-IES Model Lighting Ordinance (MLO)² that includes all of the following minimum standards for permanent lighting installations^{3,4}:
 - A) Full shielding⁵ of all lighting fixtures over 1,000 initial lamp lumens⁶
 - B) A limit on the emission of short-wavelength light through one of the following restrictions:
 - i) The correlated color temperature (CCT) of lamps must not exceed 3000 kelvins; *or*
 - ii) Allowed lighting must not emit more than 25% of its total spectral power at wavelengths <550 nanometers; *or*
 - iii) The scotopic-to-photopic (S/P) ratio of allowed lighting must not exceed 1.3.
 - C) A restriction on the total amount of unshielded lighting, such as a limit on lumens per net acre or a total site lumen allowance in unshielded fixtures (or equivalent wattages)
 - D) A policy to address over-lighting. This may be accomplished by limiting the average illuminance for any outdoor application, over the entire task area, to no more than 10% over the light levels recommended by, for example, the Illuminating Engineering Society (North America), the Society of Light and Lighting (United Kingdom), or other similar organization.

² Online: <https://darksky.org/resources/guides-and-how-tos/model-lighting-ordinances/>. (Accessed 2023 Sep 25).

³ More information on developing a lighting policy may be found on the DarkSky website: <https://darksky.org/resources/guides-and-how-tos/outdoor-lighting-for-policy-makers/>. (Accessed 2023 Sep 25).

⁴ Lighting required by law under the authority of any legal jurisdiction higher than that of the Community may be formally exempted from the requirements of this section.

⁵ “Fully shielded” is defined as a light source screened and its light directed in such a way that none is emitted above the horizontal plane passing through its lowest light-emitting part.

⁶ “Initial lamp lumens” is defined as the number of lumens of light emitted by a lamp when new and not counting any depreciation of output due to the age of the lamp. This information can be found in manufacturer data sheets.

- E) Regulations of new installations of publicly owned outdoor lighting:
- i)** A provision that clearly indicates where, when, and under what circumstances new publicly owned outdoor lighting, including street lighting, is warranted, and will be permitted; *and*
 - ii)** A provision that requires that adaptive controls⁷ and/or curfews⁸ be employed in all future installations of public outdoor lighting
- F) There must be restrictions on the installation and operation of illuminated signs,⁹ including *all* of the following:
- i)** Luminance levels for operation between sunset and sunrise shall not exceed 100 nits (100 candelas per square meter, cd/m^2) as measured under conditions of a full white display; and
 - ii)** During the first hour after sunset and during the last hour immediately preceding sunrise, sign luminance shall not exceed 100 nits (100 candelas per square meter, cd/m^2); and
 - iii)** Signs may only be illuminated while the associated activity is taking place; for businesses, sign illumination must be extinguished completely during the hours the business is closed; and
 - iv)** The luminous or illuminated surface area of an individual sign must not exceed 18.6 square meters (200 square feet).
- G) Outdoor recreational and/or athletic field lighting may be exempted from the strict shielding and short-wavelength emission requirements above provided that *all* of the following conditions are met:
- i)** Illuminating Engineering Society (IES) lighting guidelines (RP-6) are followed according to the appropriate class of play
 - ii)** Field lighting is provided exclusively for illumination of the surface of play and viewing stands, and not for any other applications
 - iii)** Illuminance levels must be adjustable based on the task (e.g., active play vs. field maintenance)
 - iv)** Off-site impacts of the lighting will be limited to the greatest practical extent possible
 - v)** A strict curfew requirement (e.g., lights must be extinguished by 10 PM (2200 h) or one hour after the end of play, whichever is later) is observed
 - vi)** Timers must be installed to prevent lights being left on accidentally overnight by automatically extinguishing them

⁷ “Adaptive controls” is defined as devices such as timers, motion sensors, and light-sensitive switches used to actively regulate the emission of light from light fixtures.

⁸ “Curfew” is defined as a period of time at night during which lighting must be significantly dimmed in output or extinguished in accordance with an expected decrease in human presence.

⁹ “Illuminated sign” is defined as any informational or advertising sign that is illuminated by either internal or external means. Descriptive terms are adjusted here according to the type of illumination.

- H) Affects an amortization period, applicable to *all* publicly *and* privately owned lighting, to end not more than 10 years from the effective date of the outdoor lighting policy, after which all non-conforming lighting extant at the time of enactment must be brought into compliance with the policy.
- 2) Community commitment to dark skies and quality lighting as shown by:
- A) City owned lighting conforming with, or committed to conforming with, the lighting policy (if the latter, a detailed plan with a timeline for completion in no more than five years); *and*
 - B) Municipal support of dark skies and quality lighting as demonstrated by city publications, flyers, public service announcements, funding of lighting upgrades, etc.
- 3) Broad support for dark skies from a wide range of community organizations such as chambers of commerce, local electrical utilities, DarkSky Chapters, lighting retailers, homeowners' associations, and others.
- 4) Community commitment to dark skies and education as shown by at least one of the following:
- A) Planning and execution of at least two community dark sky awareness events¹⁰ per year. This may be organized through a local astronomy club, municipality, school, etc.
 - B) Inclusion of dark sky awareness documents (DarkSky brochures or Community-created brochures) with other Community informational documents for residents and visitors.
 - C) Inclusion of dark sky education in Community schools and curriculum.
- 5) Success in light pollution control as demonstrated by at least one of the following:
- A) Examples of a number of construction projects appropriate to the Community population and amount of new construction and renovation activity, built under the lighting policy and demonstrating its effective application
 - B) Alternative evidence of success in light pollution control, to be discussed with the International Dark Sky Places Program Manager for compliance.
- 6) A sky brightness measurement program must be established and maintained either by the Community or by a public or private entity (e.g., university, research center, DarkSky Chapter, astronomy club) to follow the evolution of light pollution in the IDSC. Applicants are encouraged, but not required, to submit their measurements to the citizen science projects such as My Sky At Night (myskyatnight.com) and Globe At Night (globeatnight.org).
- 7) Once established, the Community must erect and maintain appropriate signage indicating the International Dark Sky Community designation along a roadway entrance, along a footpath entrance if no roadway exists, a public gathering place such as a square or common, or at a municipal government center such as a city or town hall. If

¹⁰ Note that astronomy education events such as star parties do *not* qualify as “community dark sky awareness events” unless the presentation explicitly includes a message relating to dark skies and outdoor lighting.

approved by DarkSky International, language as an alternative to “International Dark Sky Community” may appear on the signage and in Community communications regarding the IDSC status. Once the sign is erected, a photograph documenting it must be taken and sent to DarkSky International along with a description of its location.

PROVISIONAL STATUS

In some cases, a Community interested in the program may lack all of the resources required to achieve a designation outright. If resource unavailability otherwise hinders the progress of a Community’s application, that Community may apply for and be granted Provisional status at the discretion of the DarkSky Board of Directors. Provisional status recognizes the Community’s ongoing work to become an International Dark Sky Community and is intended as a leverage point to successfully enable actions such as lighting upgrades and retrofits.

Provisional status expires after three years. At any time before the end of this period, a Community may reapply for full status. Material submitted for the removal of Provisional status may be an addendum to the initial application as long as the material includes a current assessment of the goals, outreach efforts, and lighting policy listed in the original application and clearly demonstrates that any program requirements left unmet at receipt of the Provisional status have been satisfied.

To be considered for Provisional status, send a nomination package to DarkSky International that includes *all* of the following information:

- 1) Documented intent to create and support an International Dark Sky Community (IDSC)
- 2) An enacted and legally effective outdoor lighting policy, and summary of outreach efforts to date
- 3) A description of the circumstances that currently prevent the Community from meeting the minimum IDSC requirements
- 4) An action plan describing steps the aspiring Community will take to meet all program requirements in the specified Provisional status period

IDSC APPLICATION PROCESS

NOMINATION

The nomination may be initiated by a DarkSky qualified nominator¹¹ who has personally

¹¹ A “DarkSky qualified nominator” is defined here as an individual or organization holding a DarkSky membership in good standing at the time that the IDSC application is submitted. The Community itself may join DarkSky as an

reviewed a Community's outdoor lighting and commitment to night sky preservation. Nominators are encouraged to correspond with DarkSky International staff and the Community throughout this process. In addition, the application must include evidence, such as in the form of a letter of support, from the Community government (e.g., mayor, council) consenting to the nomination for IDSC status.

STEPS FOR APPLICANT

1. Make initial contact with DarkSky International by phone or email to discuss the process and receive recommendations, followed by continued communications to update DarkSky International staff on progress and receive continued assistance.
2. Designate a formal point of contact (POC) person, such as a project manager, and provide their telephone number, address, and email address to DarkSky International staff. Before and after designation, any changes to this POC, or their information, must be communicated to DarkSky International immediately in order to ensure accurate communication at all times.
3. Obtain a letter of nomination from a qualified DarkSky member nominator, as well as a supporting letter from elected representatives of the Community, such as the mayor and/or council of a municipality. Solicit additional letters of support from Community organizations, clubs, groups, universities, etc.
4. Upon completion, send the application to DarkSky International staff for review of the document at least one month before the chosen submission deadline date. DarkSky International staff will confirm that the application is complete and ready for submission or return it with suggestions for improvements.
5. Submit the final application packet electronically in PDF and/or Microsoft Word format to DarkSky International staff for formal review. Submit in plenty of time for staff to review and prepare your application to make the bi-monthly deadline that you prefer, as found on the DarkSky website. Requests to rush applications will *not* be honored; planning ahead is essential if the Community wishes to meet a specific deadline.

TO BE INCLUDED IN IDSC APPLICATION PACKAGE

1. Map of the Community clearly indicating its legal boundaries, and basic factual information about the Community; *and*
2. Letters of nomination support by DarkSky qualified nominator and elected representatives of the Community such as the mayor and/or council; *and*
3. The Community's lighting policy, meeting the minimum requirements as stated in the "Minimum Requirements for All Communities" section; *and*
4. Documentation of examples of Community commitment and construction or renovation projects demonstrating effective application of the lighting policy; *and*

organizational member and self-nominate.

5. Proposed alternative wording for the IDSC (e.g., Dark Sky Village, Starry Sky City), if desired, with a justification for the request.

DARKSKY REVIEW PROCESS

Six application submission deadlines occur in each calendar year, commencing in January and continuing every other month. Before the Community's final application is submitted, it is highly recommended that the Community be in regular communication with the International Dark Sky Places Program Manager to perfect the application by the next application deadline.

The International Dark Sky Places Manager will forward applications to the International Dark Sky Places Committee (DSPC) for review. DSPC review lags the submission dates by one two-month cycle. The total elapsed time between deadline and final IDSC designation approval is approximately 10 weeks.

Endorsement of applications by the DSPC is by a 2/3 supermajority vote; otherwise, the DSPC will return applications with reasons for denial of an endorsement and specific recommendations for improvement. If endorsed, the applicants will be notified, and the International Dark Sky Places Program Manager will present the application to the DarkSky Board of Directors (BOD) for final review and approval. A waiting period of 10 calendar days then commences during which the Board of Directors has the right to deny IDSC status should it determine that any problems with the application exist.

If the BOD registers no objection within the waiting period, the IDSC designation is considered immediately awarded by DarkSky. The Community has the right to choose when the designation is made public, but it must organize the announcement to be made at the same time as the DarkSky public notice unless otherwise agreed by both parties. Along with the announcement notice, DarkSky will publish the Community's application on its website; by submitting the application, the Community acknowledges in advance that the application will be made publicly available. If an application is denied final approval by the DarkSky BOD, a letter will be sent to the applicant outlining elements of the application that need improvement along with specific recommendations for ways to remedy any problems the BOD identifies. Applications may be resubmitted for future consideration after remediation is complete. Resubmitted applications will be considered without prejudice.

DarkSky realizes that certain circumstances surrounding an IDSC application may cause some potential authors of letters of support (or opposition) to feel uneasy about publicly declaring their opinions about the IDSC designation. In the interest of providing the DSPC with as full a picture of Community sentiment about applications as possible, certain letters may be suppressed from online publication if it is felt that making the letters publicly available will subject their authors to retaliation or harassment. A prospective IDSC seeking this protection for letter-writers must make a formal written request. The International Dark Sky Places Program Manager must approve suppression of publication of any part of an application. Note that suppression of online publication does not prevent either the DSPC or the DarkSky BOD from reading all submitted letters.

POST-DESIGNATION REVIEW AND MAINTENANCE

The IDSC designation is not awarded in perpetuity. Rather, it is subject to regular review by DarkSky and possible revocation if the minimum program requirements are not maintained. More details may be found in the “Reassessment of IDSC Designation” section below.

To ensure that Communities remain exemplary in their protection and restoration of natural nighttime darkness, DarkSky will periodically reevaluate each site in the International Dark Sky Places Program. This is done to confirm that the Community continues to meet the minimum requirements and is making adequate progress toward LMP compliance goals outlined in this document.

Each designated IDSC must submit to DarkSky International a written report of its activities related to the maintenance of its designation on or before 1 October of each calendar year. The report is a short (typically less than 10-page) synopsis of the Community’s activities and initiatives during the intervening year.¹² The report should include dates and brief descriptions of any interpretive events, lighting retrofit projects, outreach efforts, etc. Samples of printed materials and press articles should also be included, if available.

Annual reports should not be burdensome to produce, as they are intended as a compilation of information accumulated throughout the year. Annual reports and supporting documentation must be submitted electronically to the International Dark Sky Places Program Manager in either PDF or Microsoft Word format. If the annual report is not received by DarkSky International in a timely fashion, DarkSky may suspend the site’s IDSC status until the annual reporting requirement has been met (see the following section). On or about 1 August and 1 September of each year, the International Dark Sky Places Program Manager will remind local contacts at each IDSC of the pending 1 October annual report submission deadline.

A designated IDSC is exempt from the annual reporting requirement in the calendar year in which the IDSC designation was awarded. If the designation is received after 1 October of a given calendar year, the IDSC’s first annual report to DarkSky International will be due on 1 October of the following calendar year.

REASSESSMENT OF IDSC DESIGNATIONS

From time to time, DarkSky receives comments from visitors to Communities that raise concerns about the veracity and timeliness of information provided to DarkSky by site administrators. DarkSky may, at its discretion, investigate claims in which it is alleged that IDSCs are not adhering to commitments made to DarkSky and to the public in their applications to the Program. This section details the DarkSky procedure for carrying out such investigations, and the rights of IDSCs in such matters.

An allegation of impropriety concerning any of the elements of participation in the Program outlined in this document is subject to DarkSky investigation and potential remedial action

¹² Examples of acceptable annual reports are available on the individual IDSC pages on the DarkSky website.

including temporary suspension and/or permanent revocation of the IDSC designation. DarkSky International staff shall perform due diligence in gathering facts concerning such allegations it deems credible, and will prepare a report of its findings for consideration by the DSPC. The DSPC commits to weighing the evidence fairly and impartially, and to seek to resolve disputes whenever possible through dialog. A Community subject to an investigation shall be notified in a timely manner and solicited for evidence contrary to the specifics of the allegation at hand. The Community will be given an opportunity to correct any deficiencies with regard to the Program guidelines established by the DarkSky investigation within a reasonable time period to be prescribed by the DSPC.

Failure to achieve consensus through these means risks a DSPC recommendation for suspension or revocation of the IDSC designation. If made, such a recommendation will be forwarded to the DarkSky Board of Directors for formal ratification before coming into force. The Board's decision on any disciplinary matters involving an IDSC shall be considered definitive and binding.

Any IDSC so investigated has the right to review the allegations against it and all factual information collected by DarkSky pertinent to the allegations.

REINSTATEMENT FOLLOWING SUSPENSION

If the DSPC recommends a suspension of a Community's IDSC designation and the Board ratifies the suspension, the Community administration shall be immediately notified. The status of a suspended IDSC shall be changed to "Provisional" in all DarkSky communications until the designation is reinstated or revoked; however, the process of obtaining reinstatement of a designation is not the same as that outlined in the "Provisional Status" section of these guidelines.

To obtain reinstatement of a suspended designation, the IDSC must provide evidence to the DSPC's satisfaction that the specific issues identified by the DSPC as grounds for the suspension have been corrected and that all Program guidelines are once again met. The DSPC will consider the evidence presented by the IDSC and render a judgment to:

- Accept the reinstatement petition; *or*
- Reject the petition and recommend revocation; *or*
- Return the petition with further instructions and a defined deadline for an IDSC response.

REVOCATION

A suspension left unresolved after one year from the date of the Board's assent to the suspension automatically becomes a permanent revocation. Revocation entails removal of the IDSC from DarkSky's roll of approved International Dark Sky Places, and from mention on the DarkSky website and in member and external communications. DarkSky reserves the right to take legal action against any former IDSC whose designation is duly revoked but continues to use the DarkSky name or logo in advertising, communications, and/or signage.

Royal Astronomical Society of Canada

**Dark-Sky Site
Application Requirements**

Adopted by the RASC

March 2008

Revised Autumn 2018

Revised Summer 2020

Edited by

Robert Dick

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1.0 SCOPE

This document provides the information necessary to assess the suitability of a site for a Preserve Designation. It describes the application procedure and states the contents of the Application.

The RASC recognizes the value of volunteers in establishing a Preserve. These Application Requirements will minimize administrative work for Park managers, local astronomy groups and the RASC.

The Royal Astronomical Society of Canada (RASC) is a national astronomy organization established in 1868 devoted to the promotion of astronomy and allied sciences. In this capacity, the RASC encourages the protection of the quality of the night sky by minimizing light pollution.

The goal of the RASC Dark-Sky Program is to promote the reduction in light pollution, to demonstrate low-impact lighting practices, to improve the nocturnal environment for plants & wildlife, to protect and expand dark observing sites for astronomy and to provide accessible locations for naturalists and the general public to experience the naturally dark night sky.

Currently, both urban and rural sites are contaminated to different levels by sky glow from artificial lighting. We thus distinguish levels of dark sky sites as follows, though the distinction is not always clear between the categories:

Dark-sky Preserve: Sites with very dark skies with minimal sky glow are generally far from urban centres and are therefore less accessible to astronomers and the public, though these usually do contain public campgrounds.

Nocturnal Preserve: Some dark sites are remote with few resources for active outreach programs, and are designated more for the protection of the night for flora and fauna than for public amenities.

Urban Star Park: These are sites within, or close to, urban areas that are not consider "dark", but provide good access to the public.

All three designations are herein referred to as Preserves.

By promoting the use of these protected areas after dark, Preserves should see increased support from the public and usage during non-peak hours.

2.0 BACKGROUND

There is a growing need to identify and protect accessible areas that permit the public, naturalists, novice stargazers and astronomers to enjoy the night sky. There is also a growing need to identify these areas and protect them from light pollution.

The goal of this RASC Dark-sky Preserve Program is to maintain or increase the quality and accessibility of dark observing sites and preserve the ecology.

Preserves shall be accessible to the public and all lighting fixtures within its borders are to comply with the RASC Guidelines for Outdoor Lighting (https://rasc.ca/dark-sky-site-guidelines/RASC-CGOL_2020.PDF). In some cases, where desired by the Applicant for special considerations and strict preservation, public access may be limited or denied within some portion of the Preserve.

Humans and wildlife are affected by light pollution. Many living creatures have evolved to require a day-night contrast to synchronize their biological rhythms. These organisms have adapted to variations in night illumination from a dark sky to the brightness of a full Moon. In contrast, illumination levels in typical urban areas far exceed the brightness of the Moon. Unfortunately public parks are usually illuminated based on "best practice" for urban areas.

The environmental impact of artificial lighting has been studied for many years. This research concludes that light can pollute the environment and fundamentally change the ecosystem and impact the health and survival of wildlife.

2.1 Applicable Documents

IESNA RP-08

RASC Guidelines for Outdoor Lighting (RASC-CGOL)

2.2 Abbreviations

ALAN Artificial light at night

CGOL Canadian Guidelines for Outdoor Lighting

DSP Dark-Sky Preserve

IESNA Illumination Engineering Society of North America

NP Nocturnal Preserve

RASC The Royal Astronomical Society of Canada

USP Urban Star Park

2.3 Definitions

Application - the document submitted by the Management of the proposed Preserve

Applicant - the Management authority of the Preserve

Buffer Zone - the region within the Preserve under control of the Preserve Manager. The Buffer is designed to prevent glare and light trespass from shining into the Core area. There may be more than one buffer zone in the Preserve but the total buffer area shall be a small proportion of the total area of the Preserve (typically <5%).

Core - the region under control of the Preserve Manager surrounded by the Buffer Zone. There may be more than one core in the Preserve.

Dark Time – a period after which scheduled outdoor activity has ended and visitors are expected to minimize the use of light to permit other visitors to sleep.

Dark-Sky Preserve (DSP) - the region that includes the DSP Buffer Zone and DSP Core that is under a single management with authority over policy, outdoor lighting and land use.

Filter – material that removes the spectral components <500 nm from light to produce amber illumination

Glare Zone - sector between the horizon (90° from nadir) and 10° below the horizon.

Illumination - the amount of light that shines onto a surface area of 1square meter (lumens/m², or Lux)

LPA - light pollution abatement

Luminaire - the assembly of the enclosure, lamp, optics, power supply and controls

Luminance - the amount of emitted light from a light source (cd/m²)

Nadir – the point on the ground directly beneath a luminaire

Nocturnal Preserve (NP) - the region that includes the NP Buffer Zone and NP Core that is under a single management with authority over policy, outdoor lighting and land use.

Observing Site - an area promoted as a good place to observe the sky. There may be several observing sites.

Photobiology – the study of the effects of light on biological systems

Photopic Vision – vision based on cone cells that have evolved for daytime vision and high illumination levels. Their peak sensitivity is at 555 nm.

Preserve - an area under single management that is to be designated by the RASC as a Dark-Sky PreserveTM, Nocturnal PreserveTM or Urban Star ParkTM

Scotobiology – the study of the biological need for periods of darkness

Scotopic Vision - vision based on rod cells that have evolved for night vision and low illumination levels. Their peak sensitivity is at 505 nm.

Sky Quality Meter (SQM) – a light meter designed specifically to measure a value for the brightness of the night sky. These meters are available from Unihedron, Inc., or via a short-term loan from the RASC.

Urban Star Park (USP) - the region that includes the USP Buffer Zone and NP Core that is under a single management with authority over policy, outdoor lighting and land use.

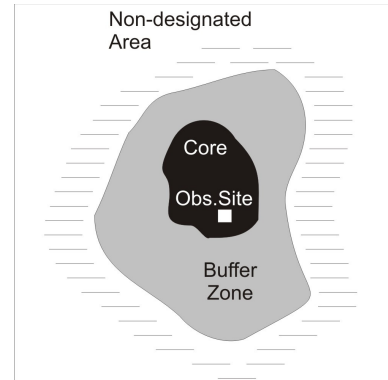
Zenith - a point directly overhead, or 90° up from the horizon.

3.0 MANAGEMENT REQUIREMENTS

The Preserve shall be under the management of a single entity to ensure full adherence to these Requirements and the RASC-CGOL.

A Preserve is a protected area with a Core and a Buffer Zone. The Buffer Zone prevents light from outside the Preserve from reaching the Core area. The Manager of the Preserve shall identify specific observing sites that will be accessible for night observing.

The establishment of a Preserve is a partnership between the Management, local stargazers and astronomers, and neighbouring municipalities, and it requires their active support. There are four principal requirements for a Preserve: compliance to the RASC-CGOL, accessibility, quality of the night sky and in the case of a DSP and USP, an active outreach program. NPs may not have the resources to provide an outreach program, but may do so if such resources can be provided by the park management.



3.1 Outdoor Lighting

The RASC-CGOL respects and protects the need for naturally dark nights, yet it allows sufficient lighting for safety and navigation within the Preserve.

These CGOL defines the spectrum (colour), brightness (illumination), shielding (extent of light) and the schedule (timing) for all artificial light that is used. These CGOL is free to be downloaded from the RASC website (https://rasc.ca/dark-sky-site-guidelines/RASC-CGOL_2020.PDF).

The Applicant shall ensure that all lighting in the Preserve complies with the RASC-CGOL. Compliant and non-compliant lighting shall be reported in the appropriate section of the Application. The Applicant shall also provide a schedule for all non-compliant luminaires to reach compliance.

If the Applicant believes specific luminaires cannot be compliant, an explanation shall be included in the Application. The RASC may choose to waive or amend any of these guidelines for a specific application provided that the integrity of the Preserve programme is not jeopardized.

3.2 Accessibility

The Applicant must ensure the core area remains accessible after the end of twilight. This will require that gates and parking lots remain open for visitors. If some areas are to be restricted from the public for reasons of ecological sensitivity, they should be identified in the Application.

There shall be appropriate signage to help visitors navigate the Core of the Preserve. This signage shall conform to the RASC-CGOL.

3.3 Quality of a Night Environment and Dark Sky

The illumination by artificial lighting in a Core and Buffer Zone shall comply with the RASC-CGOL (https://rasc.ca/dark-sky-site-guidelines/RASC-CGOL_2020.PDF).

All artificial lighting within the Core shall not affect the ecological integrity of the Preserve or the natural quality of the night sky in terms of diffuse sky glow, luminance (glare) and illumination (surface brightness). All luminaires shall be shielded to limit the extent of the luminance and illumination to only areas where needed for permitted human activity.

Photographic images of the horizon from the observing sites, and descriptions by experienced observers, shall be used to document the sky glow on the horizon and the impact of light fixtures. These data shall be recorded annually to assess and monitor the darkness of the sky above the Preserve (zenith) and shall be submitted to the RASC-LPA Committee every year approximately on the anniversary of the DSP Designation.

3.4 Outreach Programs

For, Management of Dark-Sky Preserves and Urban Star Parks shall develop and manage more than two outreach programs per year designed for public and municipal outreach.

Public outreach is for visitors to the Preserve and will consist of raising awareness of the connection of dark skies to night ecology and raising awareness of stargazing or other night-time activities. Knowledgeable staff or members of local astronomy clubs or other organizations may assist with these activities. Topics may include, but should not be limited to mythology, star tours, telescope observation, indoor presentations, walking tours after dark, experiencing sounds of the night and night wildlife and the explanation of how artificial lighting affects the ecology.

If volunteers are used by Management to assist in public outreach activities, a Memorandum of Understanding may be signed by all parties stating the terms of the voluntary service. See Appendix B for a suggested draft of a MOU. This may also may be regulated through normal programming contracts used by the park.

Management shall encourage the reduction the light pollution that is visible from the Preserve. Municipal outreach is to protect the Preserve from light pollution from neighbouring areas and municipalities by raising awareness of the Designation. This is an investment to protect the ecological integrity of the Preserve. In the course of this outreach, possible or planned development adjacent to the park that may degrade the quality of the night environment should be identified, and the Park shall promote properly designed and installed lighting that will minimize these impacts. Failure to reach some sort of mutual understanding of the effects of nearby development may effect certification or classification of the park and may require revision of the Buffer Zone boundaries and may cause the revoking of the Preserve designation.

3.5 Nomination Process

The Manager of the proposed Preserve may submit the Application for consideration to the RASC consisting of the documentation listed in Table 4.0 and defined within Chapter 4,

and other materials that may be requested by the RASC to help them judge the suitability of the proposed Preserve.

The RASC will acknowledge the receipt of the Application when it is received and will review it in a timely manner. Comments and questions will be transmitted to the Manager of the proposed Preserve. The decision of the RASC will be communicated to the Manager. The RASC will attempt to expedite their decision by a specific date if requested by the Applicant (i.e. for an official announcement).

Upon the award of the Designation, the Preserve should display a sign identifying it as a RASC DSP, USP or NP. The RASC will provide a logo graphic for use of the Preserve on their signage and communiqué, should the Applicant desire to use it.



3.6 Naming of the Preserve

The name of the Preserve shall be determined by the RASC in consultation with the Applicant. Generally, the Preserve will be named after the geographical region. In the case of existing Parks, the Preserve will be given the name of the park.

3.7 Annual Reporting

An Annual Report is required from the Manager of the Preserve to help the RASC monitor and promote the Preserve and it will help maintain communications between the RASC and the Park. It should document outstanding deficiencies from the Application or previous Report. The RASC will attempt to work with the Preserve Management to resolve these issues.

3.6 Revision to Designation

It may become necessary to review the Preserve designation due to changes in Park priorities, signatories of the MOU, or changes in the lighting within or beyond the Preserve boundaries.

If the Preserve is deemed to be no longer viable by the sponsors of the Park or the RASC, the Designation will be rescinded and a letter will notify the Manager. The Park will be required to remove signage referring to the Preserve Designation and the Park shall no longer promote itself as a Preserve.

4.0 APPLICATION REQUIREMENTS

This chapter presents the required content in the Preserve Application.

The designation as a Preserve is based on its current merits and the Application should reflect the current state of the site, not the future plan for the site. As such, the proposed Preserve should be compliant to the RASC-CGOL. The Preserve may be expanded, or reduced, as more area becomes compliant to the CGOL.

There are ten sections to the Application (see Table below). This information will help the RASC assess the status of the current property and will be used in promoting the Preserve to other organizations and the public. This information locates, defines, describes and documents the Preserve, including the sky quality and the state of the outdoor lighting. This information will also be used as a baseline to compare future state of the Preserve.

Preserve Nomination Documentation List

- 4.1) Statement of compliance to the RASC-CGOL
- 4.2) Location and description of the proposed Preserve
- 4.3) Zenith sky quality measurements (location of the reading marked on map)
- 4.4) Public outreach plan (education)
- 4.5) Municipal outreach plan
- 4.6) Existing light fixture inventory
- 4.7) Lighting plan
- 4.8) Images of the Preserve's observing sites taken during the for day and night
- 4.9) Memorandum of Understanding between all partners
- 4.10) Letters of support and commitment from neighbouring municipalities

4.1 Statement of Compliance to RASC-CGOL

This section assesses the Applicant's understanding of the RASC-CGOL and its readiness to become a Preserve. The CGOL was developed to minimize the contamination of the area by artificial lighting and addresses both the needs of wildlife and astronomers.

The Applicant must state whether the proposed Preserve is currently compliant to the CGOL. They should be specific about any non-compliances in their outdoor luminaire inventory. The basis for the acceptance will vary depending on the total application. The RASC may choose to waive or amend any sections of the CGOL for a specific application to ensure the integrity of the Preserve programme is not jeopardized.

4.2 Scale Map of Preserve and Surroundings

Where is the proposed Preserve? The RASC requires sufficiently detailed scaled and labelled maps and directions in order to promote the Preserve. These maps must show the regional context of the Preserve and the boundaries between the Buffer Zone and the Core. Applicants should plot the location of observing sites, including access roads, campgrounds (if any), and all other facilities that are mentioned in the Application. Additional larger scaled maps of areas within the Preserve may be used to provide more detail.

4.3 Zenith Sky Quality Measurements

The sky quality of the observing site(s) must be rated. The RASC or local experienced observers approved by the RASC, should report sky quality measurements, obtained with the Unihedron Sky Quality Meter, or equivalent. The locations where these readings were taken should be marked on a map of the Preserve. These readings should be listed in a table with cross-references to their location. Brightness readings shall be taken on clear nights after astronomical twilight ends, and with no Moon in the sky. The table will include dates and times when these readings were made since they will vary by time of night and season. These reading will also be used to benchmark sky glow in the area. Subsequent annual readings will document improvements over time.

4.4 Public Outreach

The RASC Preserve Program is designed to improve or restore a park to more natural darkness through appropriate use of outdoor light. This will improve the health and welfare of flora and fauna and will provide an improved visitor experience at night. This is achieved through changes in lighting practices and through educational programming. Visitors to the Preserve may not be aware of these topics and will benefit from the experience.

The DSP shall be open after dark so visitors can experience the night with stargazing, astronomy and night talks and night walks.

Literature should be made available to the public during these sessions and in kiosks (if available). Astronomy and light pollution information may be obtained from the RASC on a cost recovery basis.

There is a list of night programs the DSP may offer the public. It includes, but is not limited to the promotion of a healthy nocturnal environment and the relationship between the sky-lore of the First Nations and other cultures. Reference may be made to the new science of scotobiology and how it is changing our awareness of our need for periods of darkness. Management is encouraged to contact other DSPs for more ideas. Every Preserve is different, so some programs may be more appropriate than others.

4.5 Municipal Outreach

Urban growth outside Park boundaries can severely contaminate the night sky over the Preserve with artificial sky glow. An active Municipal Outreach Program should be attempted to protect the Preserve from increases in urban sky glow, and to improve the quality of the night sky into the future.

Managers, with the support and assistance of local astronomy groups environmentalists and scotobiologists, should give presentations to neighbouring municipalities to promote the use of CGOL-compliant fixtures with full cut-off shielding and low colour temperature lamps to protect and improve the quality of the night sky over the Preserve. These presentations will, as a minimum, inform surrounding municipalities of the pending Preserve and will register the request for the municipality to participate in active preservation efforts that will help retain the park as a Preserve. Advice and digital files of presentation materials may be obtained from the RASC.

Repeated reminders of the adverse impact of outdoor lighting on the environment and human health are more effective than a single-mention of it in the media. Therefore, Managers and local partners should regularly raise the issue of light pollution in the local and regional media and in the business community.

4.6 Existing Luminaire Inventory

This is perhaps the most time consuming part of the Application, but it is also one of the most important.

Light fixtures are regularly installed but rarely removed. They have been installed prior to any understanding of the impact they have on the night ecology. The site may have accumulated dozens or hundreds of outdoor lights - many of which are no longer necessary.

This inventory should be presented in tabular form (MS-Excel for example) that includes the location, quantity, wattage, shielding and lamp type (colour, HPS, LED, etc.) for all outdoor luminaires in the Buffer and Core areas of the Preserve. The luminaires should be plotted and referenced on supporting maps. This inventory must be updated and submitted to the RASC every one- to two-years.

4.7 Lighting Plan

This section presents the plan and schedule to make all luminaires compliant to the CGOL. It should schedule the removal, replacement and modification of all non-conforming lighting fixtures. This work should be scheduled and budgeted before the anniversary of the Preserve's designation. Explanations for the submitted schedule and any delayed compliance should be included in this section.

4.8 Images of Proposed Preserve

These images will be posted on the RASC Preserve Website to help promote the Preserve to potential visitors and will give them an indication of what to expect. There should be daytime and nighttime panoramas of the Observing Sites (stitched together from a series of images) showing the cardinal directions, tree line, bushes, buildings, etc. They should be presented with the same scale so they can be compared.

The night panorama will also document the existence of sky glow around the horizon. They will be used as a benchmark against which future images can be compared to show improvement or degradation of the site.

4.9 Memorandum of Understanding

The Applicant should obtain MoUs from all independent businesses or leasees operating within the Park who may have outdoor lighting. They should understand that they will also have to comply with the CGOL and perhaps other requirements of the Preserve.

An understanding from other park departments who supply buildings or lighting to the Park must also be informed that their lighting must also comply with the requirement of the Preserve. Furthermore, all electrical contractors or companies tendering work within the Preserve must be given a copy of the RASC-CGOL and required to comply.

Preserves with designations that pre-date the CGOL (2008) must upgrade their lights to the CGOL when replacing pre-2008 luminaires.

The Preserve should actively promote these outreach activities. If the Preserve staff are not familiar with stargazing or the nocturnal wildlife, the Management should reach out to local astronomy and wildlife groups to help in this endeavour. Letters of interest from partners should be included in the Application. A Memorandum of Understanding (MOU) between the Management of the Preserve and the volunteers may be used to clarify expectations and avoid disagreements (APPENDIX B).

4.10 Letters of Support and Commitment

Future protection of the Preserve depends on the policies of neighbours. The Applicant should attempt to solicit letters of support and commitment to reducing the light pollution from neighbouring municipalities. They should agree to implement policies or bylaws to help protect the Preserve in the future with, as a minimum, full cut-off shielded lighting and <3000K CCT luminaires. Use of amber light and automatic will also be helpful.

5.0 ANNUAL REPORTING

The Manager of the Preserve shall submit this Report so that the RASC may monitor the site and outreach activities. It should be submitted to the RASC National Office on or about each anniversary of the designation.

The contents of the Report shall include the following.

- 1) Name, title and contact information of the following personnel if applicable.
Preserve Manager (Superintendent or Commercial Park owner),
Facilities Manager and User experience Coordinator.

Rationale: The management personnel may change as they continue along their career paths. The RASC requires the current contact person responsible for the Preserve for communication on matters concerning the Preserve.

- 2) The revised audit of outdoor luminaires in the Preserve.

Rationale: The original Application contained a table of all outdoor lighting in the Preserve. These luminaires, and any others that were added after the designation should be monitored. This table can be an edited version of the spreadsheet file that was submitted in the original application. Generally after two years from the Designation, all initially non-compliant luminaires should have been modified, removed or replaced with compliant luminaires. Luminaires that remain non-compliant should be highlighted with the reason for continued non-compliance with the plan to bring them into compliance.

- 3) Sky Quality Readings. The quality of the sky is measured with a Sky Quality Meter (SQM, Unihedron, Inc.).

The SQM measures the brightness of the sky at the zenith. If left uncontrolled this sky glow generally increases with brighter and more extensive light pollution within a Park and from neighbouring municipalities. Long-term measurements will show the success of the Preserve in protecting the night environment.

To allow direct comparisons over time, readings should be made at the same locations that were measured in the original Application.

- 4) List and describe of Public Outreach Activities for night ecology and astronomy.

This should include the nature of the outreach event(s) and an estimate of the number of visitors taking part in the event(s), and the dates. It should also name the volunteer groups that contributed in the outreach programs. If the event is regularly scheduled, then they may be collapsed into a single entry and identified as recurring. The RASC will use this information to help guide the development of outreach resources that could be made available to Preserves to assist in the user experience.

- 5) List and describe Municipal Outreach Activities that concern light pollution.

The Preserve Manager is required to meet with neighbours to ensure the protection of the night environment in the park. The report on these meetings should highlight the discussions on outdoor lighting that may shine into the Park (glare or light trespass) or over the park as sky glow. (If sky glow over the urban area is visible from the Preserve, then it is affecting both the ecology of the Preserve and the user experience of the wilderness area.)

Municipalities play a significant role in maintaining the ecological integrity of a Preserve. However this information about the Preserve, and its needs, may not be passed on during the turn over in municipal staff. Neighbouring municipalities may economically benefit from the Preserve, so it is in the best interests of both parties to have semi-regular communications and meetings.

6) Annual Reports

Include, or provide a link to the Park's preceding Annual Reports that was prepared for their provincial or federal agencies. These have more extensive information that will put their current and future policies and activities into perspective. Commercial parks should also provide a copy of their corporate annual report, if applicable.

6.0 REFERENCES

RASC Guidelines for Outdoor Lighting

https://rasc.ca/dark-sky-site-guidelines/RASC-CGOL_2020.PDF

RASC Preserve Applications Requirements

<https://rasc.ca/dark-sky-site-guidelines/>

RASC_PRESERVE_APPLICATION_REQUIREMENTS_2020.pdf

Illumination Engineering Society of North America (IESNA)

IESNA Lighting Handbook, 10th edition

APPENDIX A - Memorandum of Understanding

These are two samples for MOUs for use between partners.

MEMORANDUM OF UNDERSTANDING

This agreement is between:

_____	_____	_____
Responsible Authority for the Facility Provider	Organization	Date

and

_____	_____	_____
Responsible Authority for the Outreach Contributor	Organization	Date

The Outreach Contributor agrees to provide outreach assistance to Facility Provider at a mutually agreed upon schedule and location.

In return for providing public outreach assistance from Outreach Contributor, the Facility Provider agrees to provide free access to the facility and campgrounds to the Outreach Contributors providing outreach assistance for the duration of the activity plus at least one night to prevent the need for late night travel.

The Facility Provider agrees to compensate the Outreach Contributor for travel expenses (gas and food) accrued in the course of providing the outreach assistance.

This Memorandum of Understanding (MOU) shall remain in effect if one or both a managing officers are replaced. This MOU shall be dissolved with mutual consent of both organizations.

If this MOU is dissolved, the Royal Astronomical Society of Canada shall be notified within one month of the dissolution so they may re-assess the Preserve designation.

It is the responsibility of the Facility Provider to promote the outreach event, and provide the following:

- A suitable site,
- Electric power,
- Public facilities,

and to inform the Outreach contributor what items will be supplied for the event.

The volunteers may promote the RASC and provide handouts to the public.

MEMORANDUM OF UNDERSTANDING

MANAGING AUTHORITY OF DSP (FACILITY PROVIDER)

-and-

ASTRONOMY SERVICE PROVIDER (OUTREACH CONTRIBUTOR)

This agreement is made this _____ day of _____, 2017
 WHEREAS, The FACILITY PROVIDER has applied to become designated as a Dark-Sky Preserve (DSP) by the Royal Astronomical Society of Canada, and
 AND WHEREAS, a Memorandum of Understanding (MOU) between the FACILITY PROVIDER and the OUTREACH CONTRIBUTOR will outline the roles and responsibilities of the parties in order to become and maintain the DSP designation,
 NOW, THEREFORE, BE IT RESOLVED THAT the FACILITY PROVIDER and the OUTREACH CONTRIBUTOR, collectively referred to as the “parties”, agree as follows:

1. Purpose.

The purpose of this MOU is to articulate the role and responsibilities between the parties in the accomplishment of adhering to the protocols of the RASC’s DSP Program as laid out in the Guidelines for Outdoor Light in DSPs (RASC-DSP-CGOL) in order to maintain the OUTREACH CONTRIBUTOR’s designation of the FACILITY PROVIDER as a DSP.

2. Statement of Mutual Benefit and Interests.

The parties recognize the importance of an exceptional dedication to the preservation of the night sky through the implementation and enforcement of quality lighting codes, dark-sky education, and citizen support for dark skies, and that achieving designation as a DSP provides many benefits to wildlife and the community including preservation of the night sky and reductions in night time light pollution.

3. Duties of the Parties.

The parties agree to work together to maintain the DSP designation and to uphold the tenets of dark-sky policies as described by the RASC’s DSP Program as laid out in the Guidelines for Outdoor Light in DSPs (RASC-DSP-CGOL).

4. General Provisions.

The parties agree to the following:

- The parties will consult on all installations of new outdoor lighting fixtures, retrofit and replacement or relocation of all existing outdoor lighting fixtures or increases in light intensity of any existing outdoor lighting fixtures on FACILITY PROVIDER properties;
- The parties will consult with the RASC Light Pollution Abatement Committee when determining proper adaptive controls and curfews on outdoor lighting fixtures where appropriate.
- The parties will work together to support dark skies and good lighting in public communications promoting the concepts of dark skies and good lighting.

- The parties shall work together to maintain a commitment to providing dark-sky education programs by:
 - Planning and execution of at least two community dark sky awareness events per year;
 - Inclusion of dark-sky awareness documents with other community informational documents that are made available to FACILITY PROVIDER volunteers and visitors;
 - Developing and presenting dark-sky events with activities tailored for school groups visiting the FACILITY PROVIDER and within its outreach programs.
- The parties shall work together to investigate and the possibility of establishing and maintaining a sky-brightness measurement program which might include the installation of light monitoring devices.
- The parties shall work together to prepare an annual report with basic information on the effects of the DSP designation on wildlife on the FACILITY PROVIDER.

5. MOU Effective Date and Termination.

This MOU between the parties takes effect upon the signature of both parties. The parties agree that January 1 shall be considered the "Anniversary Date" of this MOU. The MOU should be renewed annually on the Anniversary Date unless either party provides notice of termination to the other by September 30 of the prior year.

FACILITY PROVIDER
Management Authority

OUTREACH CONTRIBUTOR

CEO

CEO

APPENDIX B - Sample Table Current Luminaire Inventory

LOCATION	WATTAGE	No. UNITS	SHIELDING	LAMP	Comments
Administration					
Front door	125	3	Unshielded	HPS	To be replaced with FCO 2W Amber LED, 05/2013
Perimeter Lighting	3	5	FCO	amber LED	wallpacks (EcoLight) - Compliant
	35	2		LPS	not working
Maintenance Compound	100		Unshielded.	HPS	Replace with FCO in next maintenance cycle, 04/2014
Garage		1	Not shielded	Incandescent	To be replaced in next maintenance cycle, 04/2014
Campground	100	2	Not shielded	HPS	Replaced before this camping season, 05/2013
Showers	5	2	FCO	White LED	To be filtered this camping season, 05/2013
Toilet	2		FCO	Amber LED	Compliant
#1 Parking Lot	125	1		HPS	Currently burned out and will be replaced with FCO Amber LED
Access Roads	50			HPS	Use for special event only - safety
Gate Kiosk	35	1	FCO	HPS	Compliant

NOTES:

All shall be made to comply before the current camping season unless otherwise stated.

Current maintenance cycle - April 2013-November 2013

Next maintenance cycle - April 2014-November 2014

APPENDIX C - Scotobiology

STUDY OF THE BIOLOGICAL NEED FOR PERIODS OF DARKNESS

An outline for public information prepared by Dr. R.G.S. Bidwell, Wallace, NS, 2008

What is Scotobiology?

The concept of scotobiology as a science was developed at a conference on light pollution held in Muskoka, Ontario, in 2003. It was recognised that the underlying principle was the deleterious effect of light pollution on the operation of biological systems, ranging from their biochemistry and physiology to their social behaviour. Scotobiology is the study of biological systems that require nightly darkness for their effective performance; systems that are inhibited or prevented from operating by light.

Why is Scotobiology important?

Virtually all biological systems evolved in an environment of alternating light and darkness. Furthermore, the light/dark periods in temperate zones vary with the seasons. Organisms have evolved to use the variations in the length of day and night to integrate their physiological and social behaviour with the seasons. Many organisms measure specifically the length of the night, and light pollution may prevent them from determining the season, with serious or deadly consequences. For this reason light pollution is recognised as being a major component of global pollution, and scotobiology, the study of its specific effects on organisms, has now become an important branch of biological research.

Summary of specific scotobiological responses

Insects: Insects tend to fly towards light. Light pollution thus causes insects to concentrate around bright lights at night with several serious consequences. First, they become easy prey for birds and predacious insects. Insect numbers are reduced by their disorientation and death around lights, and also because they are concentrated where natural predators have an unnatural advantage to capture them. This reduction in insect populations has been found to affect the populations of animals not strongly attracted to light, including frogs, salamanders, bats, some birds and small mammals. In addition, the mating and breeding habits of some insects require darkness, so that light pollution can interfere or prohibit normal reproduction. Finally, the migration habits and paths of many insects are affected by light pollution with resulting population depletion. The huge piles of dead insects such as mayflies that are found under streetlights in springtime give some idea of the extent of damage such lights can cause.

Birds: Many birds are powerfully attracted to lights, and over a hundred million birds die from collisions with illuminated structures in North America alone every year. The actual loss of bird populations is hard to calculate, but it is significantly large. Furthermore, as with insects, bird migration patterns may be affected by light pollution because the birds may become disoriented and unable to follow their normal flight paths. Finally, the concentration of birds around lights also encourages animals and birds of prey that feed on smaller birds, resulting in still further reductions in the population numbers of migrating birds.

Animals: The behaviour of many animals is seriously affected by light pollution. Mating, hunting and feeding habits of wolves and other large animals are altered, with resulting decreases in population. Salamanders, frogs and other amphibians, many of which are already under serious threat from chemical pollution, are subject to impacts from even low levels of artificial night lighting on their physiology, ecology, behaviour and evolution. It is very likely that the behaviour of many if not most of our wild animals is similarly and negatively affected by even low levels of light pollution.

Plants: Plants are seriously affected by light pollution. Probably the most important aspects of a plant's reaction to and interpretation of darkness are expressed in its developmental behaviour: flowering, dormancy and the onset of senescence. The plant's ability to measure and respond to day length is crucial in enabling it to dovetail its developmental behaviour with the seasons. We are all aware of "long-day" and "short-day" plants. What is not so widely known is that plants do not measure or react to the length of the day. Instead, they measure and respond to night length, i.e. the duration of darkness. So short-day plants really require long nights, and should properly be called long-night plants. The problem for short-day/long-night plants arises from the fact that if they are illuminated briefly during a long night, they interpret the event as if they had experienced two short nights, rather than one long night with an interruption. As a result, their flowering and developmental patterns may be completely interrupted. Short-day plants normally bloom in the fall, as the days shorten, and they respond to the lengthening nights to initiate the onset of flowering. As the nights further lengthen, they begin a period of dormancy, which enables them to withstand the rigours of winter. Thus, if the nights are interrupted by light pollution, the consequences can be severe or deadly. Furthermore, the effect of successive experiences of nightly illumination is cumulative. It follows that light pollution, particularly if it is repetitive on a nightly basis, can seriously affect the development, flowering and dormancy – and so the very existence – of short-day (long-night) plants.

Human Health: Humans, like other animals, are affected by nightly light pollution, and human health is more severely affected by light pollution than is generally realised. Human hormone regulation, physiology and behaviour evolved in a diurnal pattern of day and night. The normal operation of wake/sleep cycles, hormone cycles, the immune system and other biochemical behaviour, depends on the daily alternation of light and dark, and may be severely damaged by nighttime illumination. It has been shown that the human immune system works more strongly during the day to produce antibodies that protect the body against microbial invasion, which is normally more likely to occur during the activities of the day. At night the immune system switches from a defensive to a repair mode, and killer cells then become more active in attacking tumours as well as infections that may not have been successfully prevented during the day. Light pollution may thus compromise the operation of human hormone and immune systems leading to increased incidence of cancer and other diseases, as well as to other physical as well as psychological disorders including mental illness, psychiatric instability, and such problems as seasonal depression (SAD). This means that even turning on a night-light or bedside lamp may have negative effects on a person's health. This may have little relevance to light pollution in parks, but it is important to note that bright lights in camp-sites may be unhealthy to humans as well as to the wildlife inhabitants of the park.

Sociology: Human sociology is affected by light pollution. It is now commonplace to be concerned by the fact that few people alive today have had the opportunity to experience the glory of the night sky. This is sad for citizens of “advanced” or wealthy countries, but it is a serious loss of the cultural heritage of aboriginal peoples and those who live (or lived) under natural and unpolluted conditions. The darkness of the night and the ability to commune with the natural beauty of the moon and stars and the glories of the aurora are necessary for the well-being and sociological wholeness of native peoples all over the world. Most of those who live in places like Canada and the United States of America can no longer experience the wholeness of dark skies. Parks that emphasise dark skies are thus an essential part of our human and environmental heritage.

Astronomy: It hardly needs to be mentioned that astronomy depends on dark skies and the virtual absence of light pollution. Both the importance and cost of astronomical research to our present society are very high, and are as important as environmental concerns for the control of light pollution.

Prospects for abatement of light pollution: the importance of public opinion

Public pressure is the surest way to reduce light pollution. This will assist releasing more funds for basic research in scotobiology, and for helping to develop legislation to control light pollution if that is found to be necessary. Light pollution can be controlled by reducing unnecessary lighting, focussing required lighting where needed rather than shining it in every direction, and the use of directional light shades where appropriate. Lower levels of illumination are often advantageous, and have been found to provide better safety and protection for pedestrians than the normally used bright streetlights. All these approaches are already being developed and put to use, but the continued application of public pressure is essential to reduce not only the actual light pollution and the cost in dollars for unnecessary lights, but also to reduce the environmental pollution that results from making the electricity to power them. Anything that can be done to stimulate public appreciation of the dangers and costs of light pollution will be well worth the effort.

If there are further questions about scotobiology, please contact:

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