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# Rémi Boucher Scientific coordinator

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International Dark Sky Place Name Mont-Mégantic International Dark Sky Reserve

International Dark Sky Place Category International Dark Sky Reserve

Designation Year 2007

Guidelines Version 2007

Your Name Rémi Boucher Scientific coordinator

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Primary Contact Phone Number



Secondary Contact Mélina Dubois-Verret Conservation and Partnerships Manager

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Secondary Contact Phone Number



Place Manager Name (if different from above) Dany Gareau

Management Agency (if applicable)

Parc national du Mont-Mégantic

What is the physical address of the Place?

189 route du parc  
Notre-Dame-des-Bois, Qc, J0B2E0  
Canada

Is the site currently under Provisional Status?

No

Are you a DarkSky Delegate, Affiliate, or Chapter Representative?

No

Total average or typical zenith night sky brightness reading for this reporting period:

21.85

Upload your night sky quality raw data documents for this reporting period:



MontMégantic\_SkyQuality\_Additionall...docx  
93.5 KB

Upload a map (PDF or image) that shows the locations and names of the places that were used to take SQM measurements. If you provided a map last year and your sites have not changed, you may skip to the next section:



MontMégantic\_SkyQuality\_Map.png  
2.14 MB

Describe any changes detected in night sky quality from receiving your certification to the present:

See attached file "MontMégantic\_SkyQuality\_AdditionalInfo 2023.docx" for all the details on our monitoring of the night sky quality.

Reserves, please fill out the applicable row to describe your lighting compliance rate (%) with your Lighting Management Plan (whole numbers only):

	Year of Certification	Compliance % in Original Application	Current Compliance %	Anticipated % for Next Reporting Period
Core	2007	100	100	100
Periphery	2007	75	100	100

What actions have you taken to meet the requirements of your Lighting Management Plan/Policy during this reporting period? Include a summary of any actions taken with privately owned lighting that helped improve your night sky quality as well:

In 2023, we continued our large campaign of door-to-door evaluation of privately-owned outdoor lighting. We are very pleased with the positive impact of these visits. This year, East Angus, Ascot Corner, Frontenac and Lac-Mégantic were targeted. Approximately 900 non-compliant light fixtures, at 230 different places, were evaluated. Personalized door-hangers about their outdoor lighting are left at each property. A second visit is done a few months later, to document any changes. The information is then transferred to the municipal inspectors.

In Lac-Mégantic and Frontenac, respectively 45% and 42% of properties visited improved their outdoor lighting to reduce light pollution. In East-Angus and Ascot Corner, we saw respectively 13% and 23% of improvements.

With many types of private properties, the improvements vary a lot: from home owners switching to warmer light bulbs, to large department stores lighting their parking with 1800K amber LED. The Canadian Tire and Maxi stores in Lac-Mégantic are good examples of this. The Ultramar diesel

cardlock in Ascot Corner and Energex in Lac-Mégantic are other examples now using amber LED (tilting of a few luminaires at Energex still need to be corrected).

In Sherbrooke, we continued our “Objectif Ciel Étoilé” campaign along King Ouest street. You can see our 2021 annual report for more details on this project, where we approach the biggest emitters of light pollution and give them personalized guidance. The rate of improvement is lower compared to our other campaign mentioned above, but we are starting to see some impact. For example, the Subaru car dealership that we visited in 2021 is now lit with 3000K LED. Luckily, we do see a high rate of good lighting for new building projects in Sherbrooke.

We are also constantly providing technical and regulatory support to municipal inspectors, electricians, citizens and lighting distributors when requested.

Upload any relevant documentation showing examples of lighting changes made during this reporting period:



MontMegantic\_Lighting\_1800KCanadian....jpg

1.1 MB



MontMegantic\_Lighting\_1800KEnergex.jpg

1.25 MB



MontMegantic\_Lighting\_1800KTafisa.jpg

1.35 MB



MontMegantic\_Lighting\_2022-2023inte....png

2.17 MB



MontMegantic\_Lighting\_3000KSubaru.jpeg

2.42 MB



MontMegantic\_Lighting\_AscotCorner1.png

2.01 MB



MontMegantic\_Lighting\_LMP-Complia....docx

13.41 KB



MontMegantic\_Lighting\_LacMegantic1.png

1.47 MB



MontMegantic\_Lighting\_LacMegantic2.png

1.35 MB



MontMegantic\_Lighting\_LacMegantic3.png

1.05 MB



MontMegantic\_Lighting\_StickerAmi.jpeg

2.13 MB

Have you used any fixtures from the IDA Fixture Seal of Approval (FSA) Program?

No

For International Dark Sky Communities and Reserves, have there been any changes to your local outdoor lighting ordinances? If yes, please describe and provide a link to the updated policy if available:

Sherbrooke's ordinance was updated this year. The main goal was to include new provisions for greenhouses to use blackout curtains.

The measures are similar to those implemented in the Haut-Saint-François and Granit RCMs, but with some slight differences: the curtains must cover at least 96% of the combined surface of the walls and rooftop, and the luminaires don't need to be fully-shielded in the specific case of intracanopy lighting since it would miss the point of this type of lighting and because the foliage will act as a shield.

A big change in Sherbrooke's regulation is also the addition of CCT as a way to measure the colour of light sources. Previously, the % of blue light was the only method acceptable. While imperfect as a metric, CCT is more easily available and a good proxy for the amount of blue light and the impact on skyglow. We believe that the benefits of providing a simpler method to identify proper lighting products far outweighs the slight imprecisions that can come with it.

Max CCT (or blue%) of light sources used for building entrances was also reduced to 3000K (and 20% of blue), meaning that white light is now only permitted for gas pumps (4000K max), sports fields and architectural lighting.

Some figures and diagrams were also updated or corrected.

<https://contenu.maruche.ca/Fichiers/3337a882-4a53-e611-80ea-00155d09650f/Sites/333dd3d3-915d-e611-80ea-00155d09650f/Documents/Reglements%20municipaux/Urbanisme/Reglement-1200-texte.pdf>

Configurable list

Name of Event/Program	# of Times Offered	Estimated # of Attendees
Vive la nuit! (in-class outreach sessions in elementary school - 2 visits for each class)	87 visits	920 students
Daytime visits of the ASTROLab+Observatories	78 days	11627 visitors
Astronomy evenings at ASTROLab	70 nights	5765 visitors
Astronomy evenings at Popular Observatory	47 nights, 94 sessions	4085 visitors
Astronomy Festival	3 nights	364 visitors
Perseid meteor shower annual event	4 nights	1031 visitors
School groups	N/A	4275 students

Name of Event/Program	# of Times Offered	Estimated # of Attendees
Social groups	N/A	305 visitors
Tele-groups (video-conference with elementary and high school classes)	353 classes	8331
Kiosk at night walk event (Westbury)	1	200

Did you promote DarkSky and its mission during your outreach programs/events? If so, describe:

It depends on the specific event, but DarkSky International is often mentioned in a way or another. The DarkSky Logo can sometimes be used, most often when mentioning the certification of the IDSR or showing the network of IDSRs.

Is there any programming, ongoing or planned, blending the arts and/or culture with dark skies? If so, describe:

We met and gave insights to a duo of artists that are working on something that should be presented at the end 2024 in Sherbrooke.

What have you noticed about your visitors' experiences? For example, is attendance/visitation of dark-sky programs consistent, growing, or dropping off? Have visitors provided any feedback on their experiences at your site? Please describe:

Compared to 2022, the number of visitors for astronomy activities at the Mont-Mégantic National Park, slightly increased in 2023, by 3%. While this increase is not very high, it is important to know that many of the nighttime activities were already almost fully-booked and that there was also a reduction in the offering in the fall season.

Our website also showed an increase of 11% in traffic compared to last year. Unfortunately, a new privacy law in Québec will prevent us from obtaining good analytics for our website in the future.

Provide up to five photos of events you hosted this year:



MontMegantic\_OutreachKioskWestbury.png  
2.61 MB



MontMegantic\_Outreach\_School-ViveL....png  
2.02 MB

Provide social media handles or website links used to promote dark skies (these will be added to your Place's DarkSky page):

[meganticdarksky.org](http://meganticdarksky.org)  
[facebook.com/MontMegantic](https://facebook.com/MontMegantic)

Has your Place participated in any DarkSky-led initiatives such as International Dark Sky Week, the Under One Sky conference, or other relevant promotions during this reporting period?

Yes

If you answered yes to the previous question, please describe:

While we did not present ourselves during Dark Sky Week and Under One Sky, we did attend the presentations of others.

In addition, we also made 5 special Facebook posts to celebrate Dark Sky Week. These educational posts covered different interesting themes : the Milky way, fireflies, constellations, aurora borealis, and good lighting practices at home.

Has your site erected signage identifying your site as an International Dark Sky Place?

No

Briefly describe how educational materials are being dispersed/provided at your Place:

Our website, [meganticdarksky.org](http://meganticdarksky.org), is always our main hub. Information about the IDSR, how to visit, links to lighting regulations, lists of recommended luminaires, lighting guides, brochures and more can be found on it.

This year, also :

-We conceived a new lighting guide specifically made about sports fields lighting and the best strategies to minimize light pollution for this type installations. The guide is available on our website and was also sent to every municipalities of the IDSR and to every organizations and school that might operate outdoor sports fields (University, Colleges, high schools, etc.)

-We published 28 Facebook posts on the ASTROLab/Park/IDSR facebook page, on the theme of light pollution and dark skies (in addition to the 5 posts during Dark Sky Week).

-Educational articles about the night and light pollution were also made and published in municipal journals. These articles were also sent to environmental organizations in the region.

We distributed thousands of brochures about good lighting practices at home in municipal offices and in hardware store.

Upload examples of new (not developed/provided by the IDA) printed educational materials that have been created this reporting period. These may include brochures, handouts, policy-related materials such as utility notices, and/or informative messages distributed through utility companies:



MontMegantic\_Education\_Brochure.pdf  
4.55 MB



MontMegantic\_Education\_SportLightin... .pdf  
1.84 MB

Describe any permanent or temporary exhibits that have been created this reporting period (these may include trails, informative waysides, interpretation signs, gift shop items, etc.):

We helped and worked with some of the local hardware stores to have more dark sky lighting available and make them easily recognizable to the clients.

Upload photos showing any of the above items you are currently providing (limit 5 photographs):



MontMegantic\_Education\_HardwareSt... .png  
2.46 MB

Briefly describe any efforts undertaken to reach new audiences. If this was not part of your efforts last year, describe what you plan to do to engage new visitors in the 2024 reporting period:

-We gave a training formation about outdoor lighting and light pollution to master electricians of the region. The formation was officially recognized by the CMEQ (Quebec's master electricians corporation) and can be used for their required continuous training.

-We also gave an online webinar about light pollution to municipal engineers from everywhere in the Province of Québec.

-We were invited to talk during the conference of the Québec's Order of Urban Planners, where we gave 3 different presentations : a more general one about the Mont-Mégantic IDSR, one about enforcing regulation on outdoor lighting, and one about light pollution from greenhouses.

-We also took part in a meeting with Tourisme Durable Québec (Quebec's Sustainable Tourism) where we gave a presentation.

-Three municipalities outside of the IDSR asked us to give presentation about light pollution to their citizens. We gave a talk in both Frelighsburg and Bolton-Est, which are not too far outside the Reserve, and gave an online presentation for the city of Beloeil.

Have you worked with any external partners to promote the dark-sky movement within and outside of your Place's boundaries? If so, identify these partners and explain the result of this collaboration:

-This year, we took part in the ALAN 2023 conference in Calgary, Canada. In total, 3 presentations were given during the event : one covered our work in enforcing the regulation and raising awareness, a second one was about the growing threat of light pollution from greenhouses, and the third one was part of an evening public presentation where we talked about measuring light pollution.

-We were also invited to travel to the Pic du Midi IDSR, to take part in the very first France's IDSR Conference, where we gave a total of 4 presentations. The event went incredibly well and was very interesting. Mixing our own experiences with the ones of the IDSR of France brought many good ideas. We hope to follow with a better pairing with our colleagues overseas. You will certainly find more details about this event in the Pic du Midi IDSR annual report.

-Last year, we partnered with AtkinsRéalis (formerly SNC-Lavalin) and the Mercier-Hochelaga-Maisonneuve District of Montreal to assess light pollution in a large commercial and industrial zone. Following this report, the District asked us to build a practical lighting guide, in order to raise awareness with commercial and industrial sites in the area. We are very pleased with the resulting guide that we built, but also that more places like this are interested in mitigating the negative effects of light pollution. The guide will be officially presented at an event in March of 2024.

Were you awarded any grants or funding for projects during this reporting period? If yes, please describe:

The work of the Mont-Mégantic IDSR team is funded by the Mont-Mégantic National Park (SÉPAQ), Haut-Saint-François RCM, Granit RCM, city of Sherbrooke, and the Mont-Mégantic Observatory.

Projects outside of the IDSR received funding from those specific partners.

Are there any ongoing conservation and/or research programs at the site? If so, who runs them, and what are the goals?

The Mont-Mégantic national park has its own monitoring program on different species and anthropogenic impacts, but the only one related to dark skies is the monitoring of light pollution with the SQM and TESS-W photometers mentioned elsewhere in this report. That said, we are also responsible for the measurement and monitoring of light pollution in every SÉPAQ's national park in Québec with a large network of TESS-W photometers.

Briefly describe future plans (in 2023 and beyond) to engage with existing and new partners and how you will expand the dark-sky movement:

We are planning a light pollution conference to bring together different organizations and specialist. Our hope is not only to increase awareness about light pollution in those organizations and individuals, but also to work towards actions and regulations at the provincial level.

We also plan on being part of the board of the DarkSky-Quebec chapter in 2024, hoping we can help them to revitalize their efforts.

For Dark Sky Reserves, briefly describe any new (or ongoing) examples of night sky friendly installations on private sites and/or public spaces such as roadways or parks:

Some good examples of private installations were mentioned in this report under our door-to-door evaluations of outdoor lighting.

A great new example of a public space with night sky friendly installation is a baseball field in Sherbrooke which changed its lights this year. The light fixtures, from Musco Lighting, are incredibly effective to limit glare and light spill. We also documented at least two other sport fields in Sherbrooke with those same lights. Some pictures can be found in our Sports fields lighting guide: [https://www.cieletoilmontmegantic.org/\\_files/ugd/9ae552\\_7871d07b37e84285b2d2bcb8c9470daf.pdf](https://www.cieletoilmontmegantic.org/_files/ugd/9ae552_7871d07b37e84285b2d2bcb8c9470daf.pdf)

Have the "threats" identified in your application for certification:

Stayed the same

If the "threats" identified in your application for certification have increased or decreased, please provide a brief explanation of how they have changed (i.e., increased/decreased visibility of light domes, new sources of glare/problematic lighting,

No "threats" were specifically identified in our application for certification back in 2007.

new industry/development,  
etc.):

Provide a brief description of  
how you will continue to  
manage "threats" over the next  
year:

One threat that came to our attention a few years ago is the increasing number of greenhouses in the Province of Quebec. This is why we have updated all our outdoor lighting regulations in the last 2 years and have also been actively raising awareness about this issue in conferences and talks. We will continue to monitor the whole situation and will keep an eye on the construction of any new greenhouses inside or near the Dark Sky Reserve. We believe this is currently one of the biggest threat to dark sky places.

What is the total size of your  
Place (in square kilometers  
only)?

5260

For Dark Sky Communities and  
Reserves, what is the current  
population size?

220301

Have there been any changes  
to the size, access and/or  
boundaries of your Place (this  
could be property acquisition,  
sale, road  
development/closure,  
easement access, etc.)? If so,  
please describe:

No.

Thank you for completing your  
2023 Annual Report! Please  
provide us with any additional  
information that you would like  
us to know about your Place  
and/or your efforts to combat  
light pollution:

Please, increase the limit of words given to answer on this form.

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