

Sark Dark Sky Community

A Dark Sky Island

Application to the
International Dark-skies Association



All-sky Image of Sark's Skies
© Steve Owens

Sark Dark Sky Community: A Dark Sky Island

This document, along with the Sark Lighting Management Plan, forms the basis of the Island of Sark's application to the International Dark-skies Association (IDA) to become a Dark Sky Community.

The application was written by Steve Owens M.Sci (Hon), FRAS on behalf of the Agriculture Committee (mandated for environmental responsibilities) of the Chief Pleas (government) of Sark.

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Accompanying this application is a full lighting management plan (LMP).

Contact Details

Queries about this application or the LMP should be addressed to both:

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Isle of Sark, Channel Islands

Sark is the smallest of the four main Channel Islands, located about 80 miles south of the English coast. Whilst only three miles long, and a mile and a half wide, the island boasts some 40 miles of what must be one of the most picturesque coastlines anywhere in the world. Sark is unspoilt by motor cars, and all the noise and bustle of modern day life.



Sark, by Peter Capper, used under Creative Commons license

Sark is the smallest self-governing island in Europe, and visiting there is like taking a step back in time. Most people come to Sark for peace and tranquillity and to appreciate the scenery and abundance of wildflowers and sea birds. There are no street lights or cars, giving Sark an enchantment which is quite unique.

With a coastline of some 40 miles, Sark stands approximately 350 feet above sea level. Dark caves indent into the cliffs and huge austere-looking perpendicular rocks lie in isolated and detached masses off-shore. The varied inlets and bays possess a wealth of sea and bird life. The island's isolated position affords it a large array of bird species, and many hours can be spent watching and admiring the abundance of wildlife.

Sark has a resident population of about 650 but last year attracted more than 40,000 visitors and Sark Tourism seeks to improve on this, especially during the quieter winter months.

The absence of street lighting and cars on Sark means that the skies are incredibly dark. Residents and visitors travel around the island on foot or by bicycle, and after sunset everyone carries a torch to see by. As a result, you cannot be on Sark without experiencing the wonder of a dark night, and the truly spectacular sky overhead, virtually unspoiled by light pollution.

This application is submitted to the International Dark-skies Association's Dark Sky Places program, in order for Sark to become a "Dark Sky Island" under the Dark Sky Community program.



Map of the Channel Islands



Map of Sark

The Government of Sark, the Chief Pleas

The Channel Islands have belonged to the Crown since the time of William the Conqueror when they formed part of the Duchy of Normandy. In the 13th Century, they were retained by King John when the rest of Normandy was lost to the French. In 1565, Queen Elizabeth I granted Sark to Helier de Carteret as a 'fief haubert' and the island's unique status has remained the same ever since. Today, Sark retains this independence but through a fully elected parliament (called the Chief Pleas); as a Crown Dependency Sark is neither part of the United Kingdom nor European Union, yet not a sovereign state either.



The Chief Pleas institutes committees to oversee governance on Sark. This application is being submitted on behalf of the Agriculture Committee (mandated for environmental responsibilities).

Sark Tourism

The Tourism Committee of the Chief Pleas operates Sark Tourism, to promote the island and attract visitors. Sark Tourism focuses on the peace and tranquillity of the island, drawing around 40,000 visitors a year to experience the secluded nature of the island. Dark, unlit skies are an essential part of the attraction of Sark, and Sark Tourism have long recognised the draw of true night-time darkness to visitors from mainland towns and cities.



La Société Sercquaise

La Société Sercquaise was founded in 1975 to study, preserve and enhance Sark's natural environment and cultural heritage. The society's Council has identified areas of great importance to the Sark way of life, hoping to find widespread community support.



La Société Sercquaise supports astronomy on Sark, and on their website front page they have a "Help Sark become the world's first Day Sky Island" link*, including a Dark Skies appeal, which to date has generated £2000 through donations from the community.

* <http://www.socsercq.sark.gg/darkskies.html>

The Sark Charter of Community Values

The Sark Charter of Community Values, instituted by La Société Sercquaise in 2008, contains the following statements:

...

4 Support protection of the coast and natural landscape from intrusive 'suburban' features (such as street lighting, kerbs, surveillance cameras, communication masts).

...

8 Support reduction of all forms of waste and pollution (including noise and light pollution) to land, air, and water.

9 Support the use of renewable energy sources and environmentally-friendly, sustainable economic activities.

10 Support policies to strengthen Sark's self-reliance and economic self-sufficiency.

To date 223 (about 40%) of the residents, 492 visitors and 1,271 on-line e-signatures have signed up to be in broad agreement with the Community Charter.



La Seigneurie ©2010 Chapel Studios

Sark: A Dark Sky Community

Dark night-time skies are an essential part of life on Sark, and the quality and value of these are recognised by the vast majority of residents.

Streetlights are absent from Sark, and the local community have resisted any attempts to fit street lighting. The absence of cars means that such night-time lighting is not needed in terms of safety, with most residents and visitors carrying torches as they walk or cycle the island at night.

The island community of Sark is therefore immersed in the dark skies overhead in a way that most communities these days are not, witnessing them whenever they venture outside after twilight.

There is also a very strong conservation ethos on Sark, and a recognition that they need to preserve and protect their rare and unique environment of peace and tranquillity. Indeed these unique characteristics can attract tourists to the island, thus supporting local businesses and the community as a whole.

After seeing media coverage of Galloway Forest Dark Sky Park's successful bid in November 2009 to become the UK's first International Dark Sky Park through the IDA's Dark Sky Places programme, Jo Birch, of Sark Tourism and La Société Sercquaise, contacted Steve Owens who led, along with Keith Muir, the Galloway application.

Sark Tourism and La Société Sercquaise, and later the Chief Pleas, recognised the value in having Sark awarded Dark Sky Community Status, creating the world's first Dark Sky Island., and to this end worked with Steve Owens to construct a five-step plan for this process:

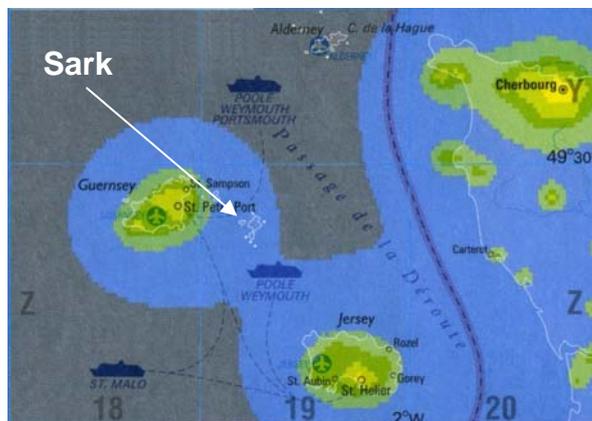
1. Carry out an initial dark sky survey of the skies above Sark, to quantify how dark they are.
2. Carry out a full lighting audit of all external lights on Sark, to estimate the percentage of lights that were compliant with good lighting practice
3. Commission a Lighting Management Plan from a member of the Institute of Lighting Engineers, such that the plan can be formally adopted by the Agriculture and Environment Committee of the Chief Pleas and used to ensure good lighting practice across the island
4. To identify those lighting fixtures that do not comply with good lighting practice and replace or modify them to ensure at least a 75% compliance rate
5. Produce and submit to the IDA an application pack to become a Dark Sky Community

Each of these steps has been completed* and have been verified by three members of the IDA (Steve Owens, Derek McNally, and Martin Taylor) on 10th – 13th September 2010.

* The Chief Pleas meets next on 06 October 2010 and will formally adopt the LMP on that date

Sark: A Dark Sky Island

Sark's location in the Channel Island, relatively remote from the mainland UK and France means that it suffers from little light pollution from surrounding communities, as can be seen in this section of *Philip's Dark Skies Map*:

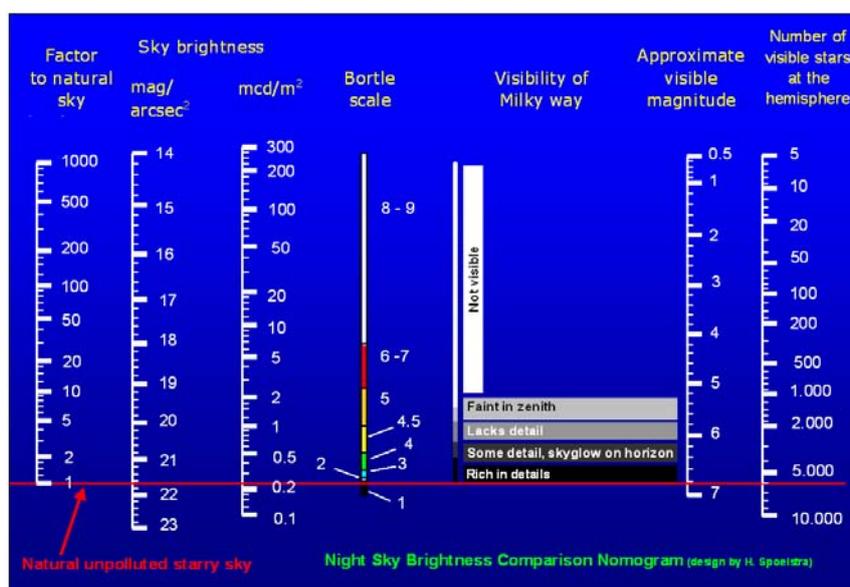


Key: blue = limiting magnitude 5.50 – 5.75

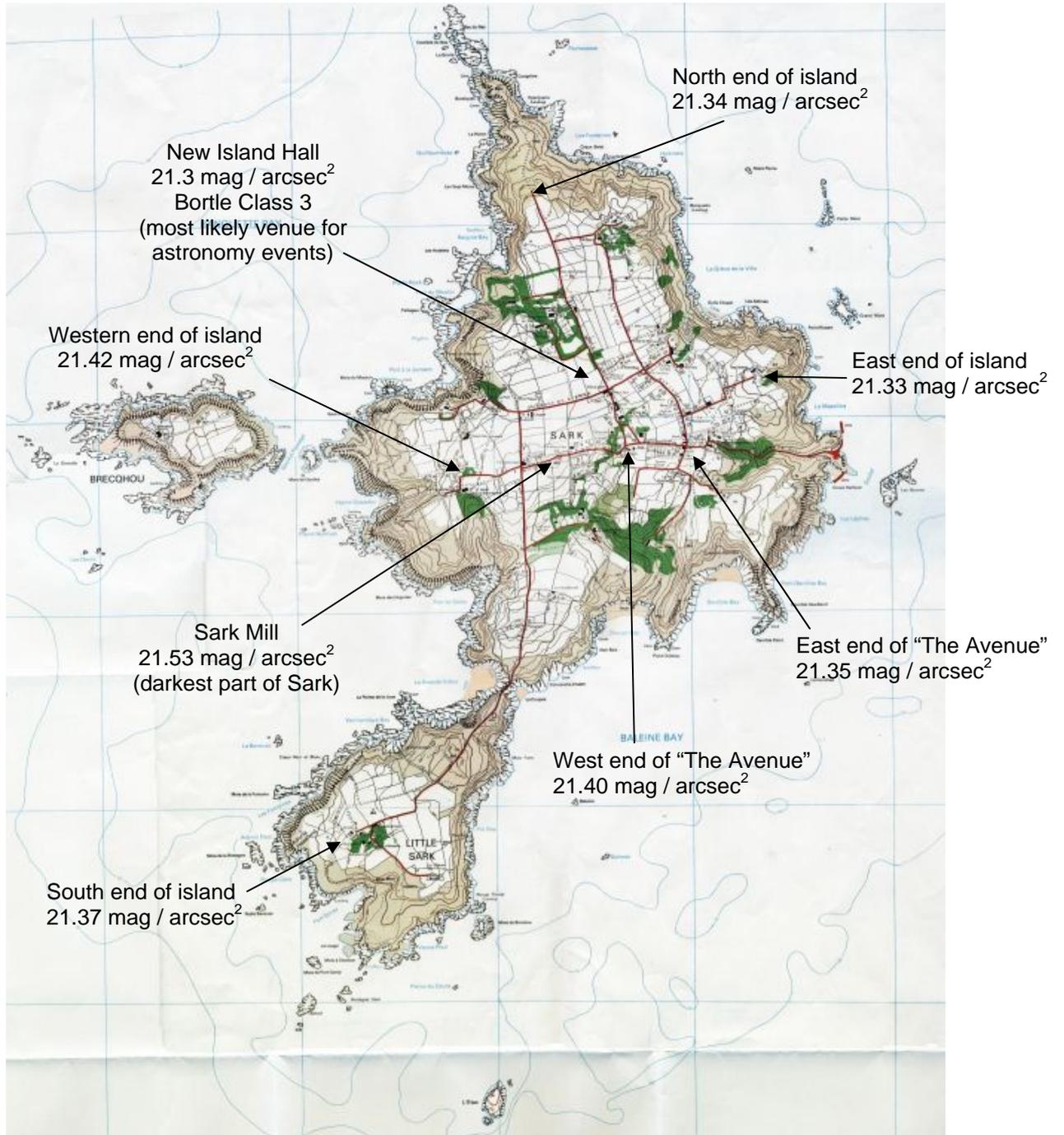
This map suggests a limiting magnitude of 5.5 - 5.75. However this map was produced using satellite data and gives an unfair impression of the darkness of Sark's skies as seen from the ground, shielded as they are from much of the local light pollution by the 350 foot cliffs that surround Sark on all sides.

In order to establish the true limiting magnitude of Sark's skies, a full and complete survey was carried out in April 2010 by astronomer Steve Owens, using a Sky Quality Meter (SQM-L) to measure magnitudes per square arcsecond of brightness of the night sky, and a 180° fisheye lens and camera to gather images.

The full SQM-L data is available in the Lighting Management Plan appended to this application, but **SQM-L readings varied between 21.3 and 21.5***, across the whole island, making for a very consistent set of readings. These readings translate to an approximate **limiting magnitude of ~6.5**, and a **Bortle Class of 3**, both of which were verified by observations on the night of 10th April 2010.



* Excepting a set of measurements taken on 11th April 2010 in conditions of slight mist



These readings demonstrate that Sark has a valuable dark sky resource that it is important to protect, and that might form a key part of Sark's developing tourism.

Dark Sky Community Status

Why does Sark want to become a Dark Sky Community?

1. Sark is a unique island, with no street lighting and no paved roads and as a result has very little light pollution, and therefore very dark skies
2. Sark Tourism wishes to use this dark sky resource to promote astro-tourism, especially within winter months, and so support the island economy
3. The presence of a stunningly beautiful night sky is a natural phenomenon that could be lost through new developments if action is not taken now to foster the dark sky ethos already present within the community
4. Sark community are planning a renovation of the island mill to convert it into an observatory. Tree trimming has already occurred, and two island residents have already come forward from within the community with money towards the cost of the renovation.
5. Sark astronomy group (led by Jeremy Bateman) intend to develop a programme of astronomy events for residents and visitors to Sark over this and future winter seasons
6. The publicity generated in the UK and world press as a result of Galloway Forest Dark Sky Park's award in November 2009 show how much media interest can be generated, for the island of Sark, the IDA, and the notion of dark skies in general



Sark Mill, the future Sark Mill Observatory, at the darkest spot on the island

Commitments

As a result of the work that has been carried out in preparation for this application, awareness has raised amongst the community on Sark so that astronomy and the ethos of dark skies are now well known to virtually all residents. The Chief Pleas as committed to adopting the Lighting Management Plan, and abiding by its seven policy statements:

1: Luminaires using lamps greater than 1000 lumens should be installed as a “Fully Shielded” example

2: Residents of Sark are to be encouraged to limit the overspill light at their property boundary to no more than 0.1 lux

3: All new lighting within Sark Island Core Zone should be designed and installed to provide lower glare or intensity values than that recommended by the ILP for an E1 night time Environmental Zone

4: All design submissions for new lighting in the Island Core Zone should be encouraged to show evidence of compliance with the zero candela intensity at 900 and above and encourage domestic luminaires to be selected from units having some form of upward light control

5: The Island Buffer Zone (the English Channel), with the exclusion of the inhabited islands, to be maintained as Environmental Zone E0 for a distance of 20 miles beyond the Island Core Zone boundary

6: Through this LMP it will be possible for the Chief Pleas to provide a basis for discussion with its neighbours on various options to help reduce upward light transmission

7: All residential and business occupiers in the Island Core Zone should be encouraged to switch off or reduce their exterior lighting quantity at 22.00 hours (except when the commercial licence allows an opening time of 23.00 hours)

The Chief Pleas will ensure that all Island Properties (within their governance) will comply to these exacting policy statements, and encourage the occupiers of all other private buildings to do the same.

The commitment shown by the community as a whole has been demonstrated by the donation of £2000 to date to the “Help Sark Become a Dark Sky Island” fund of La Societe Sercquaise, plus £3250 from the Chief Pleas to support the development of the Dark Sky Community application, including the lighting audit, dark sky survey, and application pack..

Sark Tourism have also committed to sending copies of the “Keeping Sark Dark Sky Friendly” two-page leaflet, and the longer 8-page “Property Self Audit Guidelines” to all residents on Sark to further foster the dark sky ethos on the island.

Letters of Support

The following few pages include a selection of letters of support for the Dark Sky Community project, from residents of Sark and others.

These letters are from:

1. Michael Beaumont, Seigneur ("lord") of Sark
2. Lt Col RJ Guille, Seneschal ("magistrate") of Sark
3. Paul Williams, chair of the Sark Agricultural Committee of the Chief Pleas
4. Sandra Williams, chair of Sark Tourism Committee of the Chief Pleas
5. Peter Tonks, President of Sark Chamber of Commerce
6. Charles Maitland, chair of General Purpose and Advisory Committee of the Chief Pleas
7. Bob Mizon, Co-ordinator of the Campaign for Dark Skies
8. J.M.E. Harris, Jersey Climate Action Network
9. Bob Parsons, Editor, *The Sark Scribe*
10. Dr Richard Axton, Director of La Société Sercquaise Museum
11. Sarah Cottle, Headteacher, Sark School
12. Dr Felicity Belfield, Local Amateur Astronomer, Sark
13. Jeremy La Trobe-Bateman, Chair of the Sark Astronomy Group
14. Rosanne Guille, Sark artist, La Maison Rouge Gallery
15. Paul Armorgie, Director of Stocks Hotel, Sark
16. Linda Adams, La Vallete Camp Site Owner, Sark
17. Sally and Peter Hutchins, Guest House Owners, Sark

LA PETITE SEIGNEURIE, SARK, GUERNSEY, C.I. GY9 0SF

Tel: 01481 832017. Email: beaumontsark@cwgsy.net

19th August 2010

Mr Steve Owens
0/1, 12 Ailsa Drive
Glasgow
G42 9UL

Dear Mr Owens

Dark Skies – Sark

Thank for your interest in the Dark Skies project for Sark. We have always accepted that the lack of street lights and complete lack of any requirement for shops or offices to keep lights on at night as a fact of life here. However I do appreciate that there would be many advantages to be linked to the International Dark-skies Association.

It would enable us to reinforce and improve our current excellent quality of the dark skies here and more importantly, in this day and age, help to ensure the quality improves and remains high. It has always been a joy to see the night sky in particular whenever there is some special event such as the passing of Hale-Bopp which many in the UK never saw.

We are endeavouring to make our ecological credentials more widely known. A couple of years ago we had one of our cave systems declared a Ramsar Site. To be a Dark Skies Community as well would certainly help benefit tourism and would also give encouragement to a local group considering mounting a telescope on the top of the old stone windmill.

Yours sincerely



J M Beaumont OBE

Seigneur of Sark

OFFICE OF THE SENESCHAL
Chief Pleas Offices
La Chasse Marette
Sark GY9 0SB
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22nd August 2010

Mr Steve Owens
0/1, 12 Ailsa Drive
Glasgow
G42 9UL

Dear Steve

Sark - Dark Sky Island

I am Reginald John Guille MBE, the Seneschal of Sark (Lay Judge/Magistrate), and am the 26th person to have held that appointment since it was instituted by Royal Decree in 1675; I was appointed in the year 2000. I am a Sark born man whose ancestors colonised Sark in 1565 under the leadership of the first Seigneur, Helier De Carteret.

Sark's dark skies were something that I grew up with and thought that everyone else saw the wonders of the heavens as I did. However, when I left Sark to forge out my career in the Army at the age of 15 I then realised that all I had taken for granted was not something shared by many of my fellow soldiers who had been brought up in or near the great cities of the United Kingdom.

Over the years there have been many calls, mainly from new residents and visitors, to have street lighting installed in the central part (the village) of the Island; fortunately for us our predecessors resisted those calls as those that are in Sark's government today continue to resist the same calls from a small minority of residents and visitors alike.

I whole heartily support the current initiative to protect and preserve the night skies of this Island by use of appropriate lighting and will be quite happy to change my two outside lights (used very infrequently) should they not be of the best design. I am confident that our current lighting in Sark does not detract from our vision of the stars and other celestial bodies to any great extent but that with some small changes to conform to any lighting study we will be even better placed to see the night skies more clearly.

Certainly most of us extol the virtues of our skies to the many family, friends and visitors that come to Sark. Were we to be successful in our bid to become the first Dark Sky Island it could nothing but good to encourage visitors from far and wide to come to an island so close to the UK and Europe yet so far removed in the clarity of vision in the sky. The award would also help in the continued effort to protect our night skies into the future much as the RAMSAR status has for an area of sea and headland, and as the newly launched Artists for Nature project will do for our wildlife habitat both on land and in the seas surrounding our island.

The publicity afforded to Sark by the award will be much to the Islands benefit and counter some of those other more negative impressions that may be circulating in certain other areas of controlled media outlets. Sark is a beautiful, natural island that is not yet overdeveloped and all that we and the wider world can do to resist the pressure for change in Sark will be to the good of the future generations of island born Sarkees.

Yours sincerely



Lt Col RJ Guille MBE
Seneschal of Sark



SARK AGRICULTURE COMMITTEE

A Committee of the Chief Pleas of Sark
Committee Office, La Chasse Murette, Sark GY9 0SF
TEL: (01481) 832118 FAX: (01481) 833086
E-MAIL commsec@sark.gov.gg

Dear Steve,

You will be aware that Sark Agriculture is the Committee that handles environmental matters on the Island.

It is with enormous pleasure therefore, that we are Bringing this very important step forward for Sark to the attention of Chief Pleas.

We have been working closely with La Societe Sercquaise to move forward this project and wholeheartedly endorse and support all the hard work they have done.

Sark being the first dark skies Island will do an enormous amount of good for our tourism industry, and put another feather in our environmental cap. This can only enhance our appeal. We as a committee will do all we can to promote the furthering of this project.

Sark is a wonderful Island and endeavours like this will bring our uniqueness and beauty to a wider audience.

Thank you for all your effort so far

With best regards

Conseiller Paul Williams
Chairman Sark Agriculture Committee.



SARK TOURISM COMMITTEE

**A COMMITTEE OF THE CHIEF PLEAS OF SARK
COMMITTEE OFFICE, LA CHASSE MARETTE, SARK GY9 0SF**

Telephone: (01481) 832118 Facsimile: (01481) 833086 E-mail: commsec@gov.sark.gg

Tuesday 17th August 2010

Application for Dark Skies Island Status

Visitors to Sark have long recognised its magical night skies, unspoiled by the light or sound pollution which is now normal in many parts of the UK. The walk home on a cloudless night after an evening out, with the chance of gazing up at 1000s of stars is a real treat and one which visitors and locals never tire of.

It seems entirely logical therefore, that Sark's dark skies should be recognised and celebrated. As Chairman of the Sark Tourism Committee I am in full support of the application to the International Dark Skies Association for Sark to become the world's first Dark Skies Island.

There are wide implications for tourism on Sark if Dark Skies status is achieved. Currently, most visitors take their holiday on Sark between Easter and October and they tend to visit the island during the day, exploring the lovely beaches and the coastal footpaths lush with wildflowers and insects. However, if Sark is successful in becoming the world's first Dark Sky Island, it would also be able to promote itself as a night-time or winter destination. Furthermore, the world wide media interest which would follow a successful application would further promote Sark to those not already aware of its unique charms.

As well as recognition of Sark's dark skies, there must also be protection of them from potentially harmful lighting. I believe it is essential that an external lighting plan for Sark be embraced, so that we can preserve our peaceful and clear skies for future generations of star-gazers.

Yours sincerely,

**Conseiller Sandra Williams
Chairman, Tourism Committee**



Mr Steve Owen

24th August 2010

Dear Mr Owen

Ref: Application for Dark Skies Island Status

The council of Sark Chamber of Commerce fully support and encourage this application, recognising that Sark's dark skies are an important aspect of this island.

Many Chamber members are directly involved in the tourist industry and are very much aware of the value of our night sky as an attraction for tourism. The Chamber welcomes and encourages any initiatives that enhance the quality of holiday experience for visitors and that provides reasons or incentives for more people to come to Sark.

There appears to be universal agreement amongst business owners and investors in Sark that the charm and uniqueness must be preserved and enhanced – this, of course, includes the avoidance of light pollution.

In recent years, a number of hotels and other tourism related businesses have remained open all year and the Chamber believes this initiative could lead to many more visitors discovering the peace and tranquility of Sark outside of the main holiday season.

Sark is considered by many to be an ideal place for family holidays, some have described it as a 'Famous Five Island' – what better place for children from urban areas to get their first clear views of a sky full of stars!

We note that the application refers to 'persuading' rather than heavy legislation and commend the 'Sark way' of achieving results by agreement. We believe the achievement of Dark Skies Island recognition would be good for Sark businesses, good for employment and good for the whole island community.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Peter Tonks", with a long, sweeping flourish extending to the right.

Peter Tonks

President: Peter Ton
Avenue House, Sark, Channel Island 6Y8 0SB
Website: www.sarkchamber

Vice-Presidents: Paul Armorgie, Tony Le Lievre, Secretary: Bob Pars
Council Members: Simon Couldridge, Phil Falle, Eddie Glaba, David Gordon-Perree & Chen^M Tonks



GENERAL PURPOSES & ADVISORY COMMITTEE

A COMMITTEE OF THE CHIEF PLEAS OF SARK
COMMITTEE OFFICE, LA CHASSE MARETTE, SARK GY9 0SF
Telephone: (01481) 832118 Facsimile: (01481) 833086 E-mail:
commsec@gov.sark.gg

SARK – THE WORLD'S FIRST DARK SKY ISLAND

I am delighted to be able to support this very worthwhile initiative on behalf of this Committee; it is one of the delights of Sark to have so little background lighting and as a result we can all enjoy the stars and night sky to the full.

It is also very heartening that this quality of darkness, so rare these days, is appreciated by the community and that there is an island-wide wish to protect and preserve it.

We are also pleased to make a commitment to energy conservation by not using unnecessary lighting and we intend to ensure that all Island-owned properties are lit appropriately.

I am sure that the success of Sark's application will bring a much needed boost to tourism in Sark particularly in the more difficult months of the year and all publicity generated as a result will be greatly welcomed.

Charles Maitland
Chairman, General Purposes and Advisory Committee



The British Astronomical Association's Campaign for Dark Skies - working towards star-quality lighting

www.dark-skies.org

Bob Mizon MBE, FRAS

CfDS Co-ordinator

38 The Vineries, Colehill

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01202 887084

e-mail: bob@mizarastro.freeserve.co.uk

Mr Steven Owens

2010 August 19

Dear Mr Owens,

Sark's bid to become a dark sky community

As coordinator of the BAA Campaign for Dark Skies, I am writing to express its support of the current initiative on Sark to achieve the status of a dark-sky community.

Although the Campaign fights for the right of all to see the optimum night sky, the only part of our environment with no protection in law, it is heartening to see localised projects emphasising the value of our heritage above, and the more dark-sky preserves we have, the more we can call ourselves true friends of the environment.

I wish the proposers and organisers of this exciting initiative the greatest success, and the kind of unspoiled view of the night sky that all humans should enjoy.

Yours sincerely,

Bob Mizon

PP The CfDS committee:

Dr Chris Baddiley, Dr Darren Baskill, Graham Bryant, Stuart Hawkins, Martin Male, Dr John Mason, Martin Morgan-Taylor, David Paul, Mike Tabb, Tom Webster



Hérupe Farm,
Rue du Bouillon,
St. John
JE3 4FG

7th July 2009

Jo Birch,
Honorary Secretary,
La Société Sercquaise,
Petit Moie,
Sark
GY9 0SE

Dear Ms Birch,

I am writing on behalf of the Jersey Climate Action Network to express our support for your application to the International Dark-sky Association for Dark Sky Park status.

The Jersey Climate Action Network was established towards the end of 2008 to raise awareness of the issues of peak oil and climate change, and we are keen to support actions by other groups that, whether directly or indirectly, help to reduce the energy costs associated with lighting. Jersey is still a long way away from being able to apply for Dark Sky status, but a successful application on your part would certainly act as a spur for us in Jersey to draw attention to this issue and to encourage islanders to reduce light pollution.

As a regular visitor to Sark, I have found the clear night skies to be truly exceptional, and I do hope your application is successful.

We understand the Société Sercquaise will be incurring a number of costs in relation to this application, so please accept the attached donation from the Jersey Climate Action Network in support of your initiative.

Yours sincerely,

A handwritten signature in black ink that reads 'J.M.E. Harris'.

**J.M.E. Harris,
Secretary,
Jersey Climate Action Network**

A handwritten website address in black ink that reads 'j-can.org.je'.

The Sark Scribe

The Old Station, The Avenue, Sark . GY9 0SB

☎ 01481 832855 - 📞 07781 121773

✉ bob@sark4me.com - 🌐 www.sarkscribe.com

Mr. Steve Owen

24th August 2010

Dear Steve

I write in support of Sark's application for DarkSkies Island recognition. My wife and I edit and produce the independent monthly magazine for Sark and we also own and run a gift shop in the Avenue, Sark's shopping street.

It appears visitors and residents are very much in agreement that the uniqueness of Sark and that includes the 'Sark Dark' I know of no intention or even any suggestion that anyone would wish to introduce anything that is not entirely environmentally friendly here. Indeed there are clearly many here who wish to see a greater focus on the environment. For example 'Be seen to be Green' notices appear on a number of residents' bikes!

Tourism is essential to Sark and I believe most residents are delighted to share our tranquil yet ruggedly beautiful island with visitors. I am sure recognition of the 'Sark Dark' will help to foster an important niche market in our tourism industry.

The only note of caution that I have heard was concern that controlling legislation might be introduced! This is a tiny community where, up to now, much has been achieved by agreement and without the need for excessive governmental control.

Having read the draft application and noted the reference to 'persuading' I am happy to endorse the application with my support and to offer continued positive coverage in the Sark Scribe.

Yours sincerely



Bob Parsons
Editor - Sark Scribe



Dr Richard Axton
Mill Cottage
Sark
Hon Director, La Société Sercquaise Museum
Visitor Centre
Sark GY9 0SA
20 August 2010

Dark Skies Island Project

I am delighted to give enthusiastic support to our application for Sark to be recognised as the first 'Dark Skies Island'. It chimes well with the aims of La Société ('study and preservation of the natural history, environment and heritage of Sark') From a personal viewpoint, Sark's dark skies have been a source of wonder and delight to me since I started working and living here in 1979. For the past 12 years living at the highest point of the island I have been able to appreciate not only the extraordinary clarity of star light in the night sky, but also the fact that we have an unimpeded 360-degree horizon.

Sark has not yet an observatory. The Society has an Astronomy Group, among them a 4" and a 6" telescope. As an officer of the Society and as conservator of the old Mill I have in recent years received two separate offers to fund a conversion for astronomical viewing. It is only a matter of solving some technical problems.

Many of the visitors who come (and a high proportion are regulars) comment on the night sky, because in many cases it is their only experience in a suburbanised UK of vivid starlight. It is obvious we should do what we can to enhance the conditions for preserving this. Obvious, too that this is an aspect of Sark's natural beauty that has strong potential to attract visitors. Some of the best star-watching nights are in the 'off-season' and winter months. With the current widespread improvement of hotel comfort, one can easily envisage the tourist season expanding over the year. Astronomy and cultural events are likely to appeal to the same visitors.

'Dark Skies Island' status would be more than a feather in Sark's cap; the publicity would be huge – and it would be entirely wholesome, beneficial to the island as well as a pledge by the islanders to keep Sark as free from all forms of pollution as we can.

So I enthusiastically support Sark's application.

With best wishes

Richard



Sark School

Rue de la Seigneurie, Sark GY9 0SF
01481 832601 www.sarkschool.com

Statement in support of Sark's application to become a Dark Sky Island

Living in Sark, the staff and pupils of Sark School are aware that Sark is a special and unique place. However, until the visit of Steve Owens, we had not realised just how special! It was fascinating to learn about the qualities of the Sark sky. We knew that we were able to see many stars but had not appreciated just how dark our sky was in comparison with the majority of other places in the world.

By becoming a 'dark sky island', not only will the community's understanding and appreciation of their sky increase but also their commitment to ensuring that this is not eroded over time. Choices can be made in the light of this understanding so that our dark skies are protected. Educating the young of the island will be crucial in this and the school is absolutely committed to this. Exploring and learning about our dark sky provides an excellent learning opportunity for the pupils, especially when supported by experts.

There will obviously be other benefits to the island including increases in tourism, especially during the quieter winter season. This can only benefit the island and help provide a more secure future for Sark's young people. They will have the opportunity to not only support and protect Sark's dark sky status, but also become actively involved in promoting and educating others about it.

Designating Sark as a dark island, will bring many benefits to the island and its community as well as being a positive step in ensuring that the dark skies are protected for future generations. This is something the school and its staff whole heartedly support.

Sarah Cottle
Headteacher

Felicity Belfield
Beauchamp
Sark GY9 0SA
Channel Islands
20/08/2010

Dear Steve,

I am writing to you as a resident of Sark for the last 50 years.

I fully support the Dark Sky application for Sark. It has very little light pollution due to no street lights, and electricity being very expensive so residents tend not to use unnecessary lights. Also, as there are no cars and the island is often windy, the air quality is good.

If the Dark Sky status is awarded it will be a major accolade for Sark and could be used to advertise the island, especially to both professional and amateur astronomers, as a good place to visit. It will thus be in everyone's interest to make sure that light pollution does not destroy the clear night skies. Sark needs to attract more visitors in the winter months when the beaches are not an incentive to visit.

Considering the population of Sark; aprox 600, there are a lot of telescope owners and much interest in astronomy. For such a small island to become the first island in the world to be a Dark Sky island would obviously be a very exciting event for all the residents and our neighbouring channel islands who may consider if they could do more to reduce their light pollution.

Sark is a unique island with many very rare or unusual species of flora and fauna and also an interesting social history. Press from all over the world visited in December 2008 when Sark held it's first ever democratic election for seats in the Sark Parliament. I am sure there would be similar interest if this award were won.

Yours sincerely

Felicity Belfield

Jeremy la Trobe-Bateman
acting co-ordinator of Sark Astronomy Group

Hi Steve - we have taken the first steps to forming an Astronomical Group here – there has been plenty of interest.

Sark Astronomy Group

On the 11th. August I convened a meeting of Sark residents with an interest in astronomy, with the view of forming a club / society.

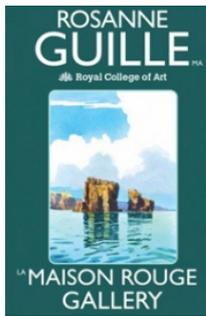
28 persons turned up and a lively discussion ensued! A further 10 persons registered an interest, but were unable to attend. Clearly there was ample interest and enthusiasm to proceed, and so we are putting together a list of aims (see below) and, inevitably, some formalities will be required.

Aims:-

- To promote interest in **Astronomy** and **Star gazing** in Sark.
- To support, encourage and promote Sark's "**Dark Sky Island**" initiative.
- To co-operate with **Sark Tourism** and **La Societe Serquiase** concerning the above.
- Ultimately, to provide and maintain **permanent astronomical facilities** (observatory, telescopes, etc.) on the Island for the benefit of **Members** and **Visitors**.
- To issue a **newsletter / info, sheet** to Members at stated intervals.

Some consideration will need to be given to the Constitution of the Group (membership, Treasurer, subscriptions, etc) and this will be the focus of the next meeting to be arranged before the end of August.

Jeremy La Trobe-Bateman, acting co-ordinator



Rosanne Guille
Royal College of Art
La Maison Rouge Art Gallery
Sark

I am a Sarkee, having lived all my life here on Sark and my father's family before me since 1565. I am a graduate of the Royal College of Art and have a Masters degree in natural history illustration and ecological studies.

To award Sark as the world's first Dark Sky Island would be such a fantastic recognition of a rare and deserving place. Sark is special, unique and very fragile, not only in terms of its diverse wildlife but also in its wonderful way of life which has changed very little in the four hundred and forty five years since it was colonised. It is as a direct result of this unique way of life that Sark can proudly boast the clearest skies. Where else can you cycle/walk home on a starlit night and really appreciate the dark at its very best?

Sark is in a time of huge and rapid change, not only politically but environmentally and we NEED to protect what we have so that we can keep Sark as a special place for our children and visitors to enjoy. Recognising Sark in this way would undoubtedly benefit our tourist industry, bringing much needed income to those such as myself who promote Sark as a destination for nature lovers and artists. Our clear night skies, especially in winter, are a big part of what makes Sark unique. People visiting Sark love the fact that we have no streetlights and that we can see the stars so well. It is very important that we continue to think carefully about the sort of lighting which is used here and having the status of Dark Sky Island would go a long way to preserving this.

I am currently working on the Artists for Nature Foundation Sark project and we now have a promotional film to attract sponsors, hope that next year we will have some fantastic paintings of our incredible night skies! More on this at <http://www.sarkpaintings.com>

Sincerely

Rosanne Guille

STOCKS HOTEL LIMITED

19th August 2010

Steve Owens Esq.
UK Co-ordinator
Beyond the International Year of Astronomy
0/1, 12 Ailsa Drive
Glasgow
G42 9UL

Dear Steve,

re: **SARK – DARK SKY ISLAND APPLICATION**

Thank-you for your email dated 16th August 2010.

We met with your colleague, James Patterson, when he visited Sark earlier this year. He advised and explained what we, as a small hotel business, could be doing to assist in Sark's bid to be recognised as a 'Dark Sky' island. During our current extensive renovation and refurbishment programme we have been able to incorporate many of his suggestions particularly with regards to our exterior lighting.

We are very supportive of this initiative from the following perspectives;

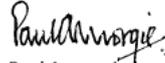
- ✓ Aesthetic – minimising the amount of light pollution
- ✓ Environmental – reducing carbon emissions from burning fewer fossil fuels
- ✓ Commercial – increased savings on energy bills
- ✓ Commercial – increased PR and sales by attracting more visitors to our unique island

Our only caveat is that, as a commercial hotel business, we do need to provide a minimum level of illumination after dark for our guests and staff to find their way safely between the various (five) buildings that comprise the hotel. We also need to provide some low level illumination for essential signage.

We have undertaken a lighting audit and will be installing special low-energy down lighters wherever possible on the exterior walls around the buildings. We will be installing three low-level LED underwater lights in our new swimming pool. This is for primarily for safety and insurance purposes but also for decorative effect. These will be manually switched and used conservatively. We also provide two outdoor function areas and we will ensure that we use low-energy down lighters wherever possible here.

We do hope that this will assist in Sark's bid to become a 'Dark Sky' island?

Yours sincerely,



Paul Armorgie MIB
Director

Management Office

Le Grand Dixcart
Sark
Channel Islands
GY9 0SD

Tel: +44 (0)1481 832444
Fax: +44 (0)1481 832394

Registered in Guernsey
Company number: 49958

Registered Office:
Dixcart House, Sir William Place,
St Peter Port
Guernsey,
GY1 4EZ

At La Vallette Campsite we have been promoting the idea of dark skies on our brochures since 2005. Only in the last few days have we had a visitor from Jersey who came to camp just for the night for the sole purpose of star gazing! Mother nature at its best! The Planetarium just outside our door! (brochure enclosed).



Come and make the most of our clear skies. Enjoy the fabulous night sky. Watch shooting stars and admire the constellations!

La Vallette campsite is situated on the East coast of the island with panoramic views towards Alderney, France and Jersey.

Fresh farm produce is available.



FACILITIES

Modern purpose-built toilets, heated pay showers, cubicle washrooms with shaver points. Dishwashing sink.

On arrival you call at the farmhouse where you are invited to sign the visitors' book, after which you are shown where to pitch your tent.

We ask that the site be left clean and tidy to welcome new arrivals.

SITE FEE

£7.00 per adult per day
£4.00 per child per day (10 & under)

Enquiries:- Mrs L. Adams,
La Vallette Farm,
Sark,
Channel Islands
Tel: 01481832202 Fax: 01481832636

Self-catering cottages are also available for holiday lets. Please ask for details

All groceries can be bought from the local shops.

TENTS FOR HIRE

FRAME TENTS—FULLY EQUIPPED
Including:- Airbeds, table & chairs,
Crockery, cutlery, pots & pans,
Water carrier and camping stove
(including gas)

5 PERSON £45.00 per night, £247.50 per week
4 PERSON £36.00 per night, £198.00 per week
3 PERSON £27.00 per night, £148.50 per week
2 PERSON £18.00 per night, £99.00 per week

- *Sleeping bags & lighting ARE NOT provided
- ***SITE FEE EXTRA**
- *Damage or loss of equipment will be charged for
- *All deposits are NON-REFUNDABLE
- ***YOU MUST HAVE HEALTH INSURANCE—THERE IS NO NHS IN SARK**
- *Please leave tents as you would wish to find them—CLEAN & TIDY!
- *Tents must be vacated by 11am
- *We DO NOT accept any credit cards
- Be aware that Sark has NO CASHPOINTS

Sally & Peter Hutchins
Vieux Clos Guest House
Sark

Dear Steve,

We are writing to you in support of Sark's application for designation and recognition as a Dark Skies Island. We have a guest house right in the middle of Sark in what we have been told is one of the darkest parts of the island and many of our guests have commented on the beauty of the night skies as we have no light pollution, no street lights or excessive outdoor lighting.

We feel that this situation needs protecting for residents and visitors alike. Any boost to tourism, such as happened at Galloway forest Park in Scotland, especially out of season would be welcome. We hope the application will be successful and we will then include it in our future advertising. We have a telescope and binoculars for use of guests

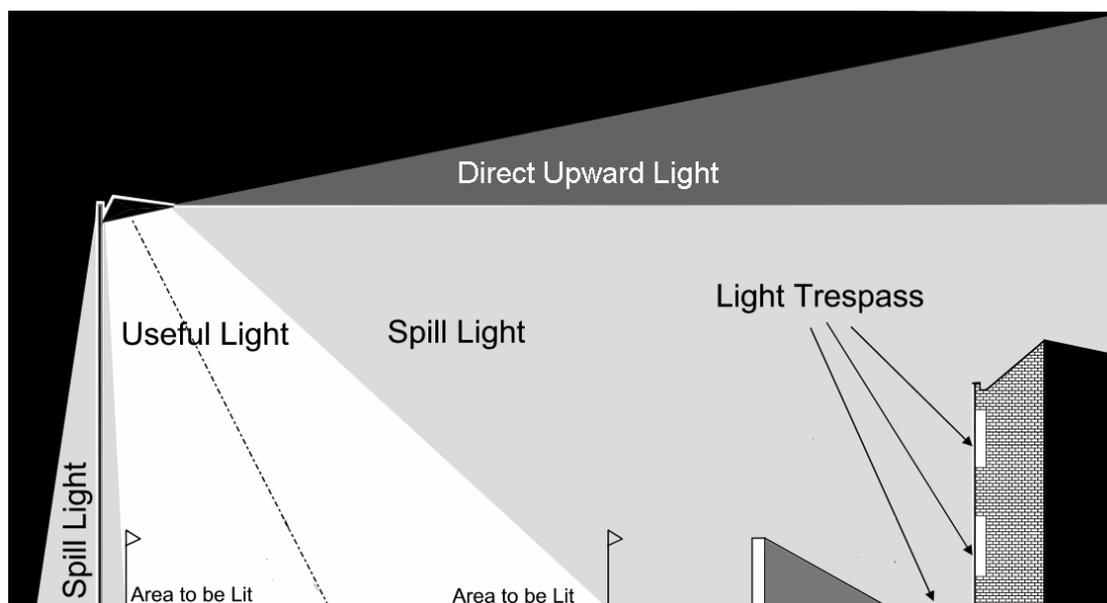
In closing I would like to say that we would like to see the darkness protected for us as well as it is part of the uniqueness of living on Sark!

Best Wishes,

Sally & Peter Hutchins

Keeping Sark Dark Sky Friendly

This leaflet is intended to give an introduction to lighting your property in a dark sky friendly way. Further information can be found in the Sark Dark Sky Island Lighting Management Plan, copies of which are available at the Sark Tourist Office.



When lighting your property you should consider ask yourself four questions:

1. Do I actually need a light outside?

You might not actually need a light at all. If you do feel you need a light for your own safety and comfort, then you should, of course, install one.

2. How bright does my light need to be?

Most lights can be fitted with a variety of different bulbs, and you should make sure that yours is as bright as it has to be, but no brighter.

3. Does my light have to be on all night?

Rather than leaving your light on all night, you can fit your lights with a sensor that switches them on only when someone is nearby, or with a timer switch that turns them off after a certain time.

3. Is my light shining somewhere that it isn't needed?

You should only light that area where light is needed, and fit your lamp so that it doesn't spill light elsewhere. In the diagram above the light from the poorly fitted lamp is shining into someone else's windows (light trespass), which might keep them awake at night, as well as up into the sky (direct upward light), which might spoil the view of the night sky.

Examples of Good Lighting



This light is sold as being “dark sky friendly”. It has a reflector that is shaped to direct the light downwards, and has a sensor which switches it on when someone is nearby. It should be fitted with a lamp of 150W or less. It also provides reduced illumination dusk to dawn for courtesy and full power on presence detection.

This double-light unit can direct light in two directions and the lamps are less than 100 watts. You should limit elevation angle to less than 45 degrees. It is available in various styles, and some are fitted with a sensor.



The “SILL 453 CityLiter” is designed to be mounted horizontally and available in a range of low wattage lamps. It has International Dark Sky Association *Dark Sky Friendly Fixture Award*.

These lights, while not perfect, are good examples of partially shielded lighting, so that the amount of spilled light is limited.



Examples of Bad Lighting

In this light, the lamp reflector and sensor point in same elevation and rotational direction, so the light always has to be fitted pointed out rather than down, causing light to be spilled into the sky and nearby ground. They are often fitted with 300W or 500W Tungsten Halogen lamps which provide too much light for use in rural settings.



Although this lamp has a low wattage bulb, it projects light upwards when mounted as shown and needs to be near horizontal to limit sky glow. However the bracket does not allow horizontal fixing!

These lights are all poor as they have no lighting control, spilling their light in all directions. Where possible, you should look to instead fit versions of these lights that are at least partially shielded.



Property Self-Audit Guidelines – The Next Step

This leaflet is intended to help you carry out a self-audit of the lighting on your property, and is taken from appendix F of the Sark Lighting Management Plan, copies of which are available at the Sark Tourist Office.

There are three simple steps to this self-audit:

1. Survey your property externally (all buildings and any free-standing lighting)
2. Make a note of all outside lighting, including the type of fixture, how it is angled, the brightness of the bulb, and whether it is on a sensor, timer, or switch. You should then confirm that this matches the inventory in the Sark Lighting Management Plan, and if not you should ask that the inventory is updated.
3. For all fittings which are **not fully shielded*** implement changes / upgrades as follows.

* fully shielded lights are ones that prevent any light from spilling above the horizontal.

For all external lighting

If your lights are on a timer, make sure that the time they are on is sensible, and conforms to the suggested lighting curfew (at 2200 local time) as set out in the lighting management plan (LMP).

If you have a sensor (normally a passive infrared (PIR) sensor) make sure that it is pointed in the right direction, so that it is not triggered by “false alarms”.

You might also consider installing a push button switch with short time delay facility. These switches allow you to turn lights on as normal, but automatically turn them off again after a certain time has elapsed.

Lights with no or minimal lighting control



Option 1 (preferred) – Replace your lights with better ones

Measure your building footprint in square metres (i.e. total area of house, garages, outbuildings, sheds etc) and use the table below to work out your total illumination allowance. You should replace your old fitting(s) with new fitting(s) having good light control, meeting the requirements of the Lighting Management Plan, and within these limits.

Total lumen (lm)** limit and individual lamp lumen limit per property	
Total Lumens for exterior lighting	750 lm + 4.5 lm / m ² of site structures
Fully shielded luminaires (each lamp lumen maximum)	1200 lm
Part shielded luminaires (each lamp lumen maximum)	750 lm
No light control luminaires (each lamp lumen maximum)	480 lm***

** Lamp lumens is a measure of lamp brightness, like wattage, and is a consistent value. Although difficult to find on some packaging, lumens may in the future supersede lamp wattage as the standard measure of brightness. See the table at the end of this document for lumen values for all types of lamp.

*** The maximum lumens for each lamp with no light control relates to replacing lamps in existing lighting units only. No new lights with no light control should be considered

Option 2 (next best) – Shield your existing lights

You could fabricate your own shielding from aluminium or a similar material and securely fix it to the wall such that it prevents any light escaping above 90° (i.e. above the horizontal). You should also make sure that your new fully shielded lights have bulbs no brighter than 1200 lm. If you are unable to fully shield your lights, but can partially shield them (i.e. some light does escape above the horizon) then you should limit your bulb brightness to 750 lm.

Option 3 (minimum) – Replace your bulbs

If you're unable to replace or shield your lights then you should replace the bulb with one having less than 480 lumen output.

		
Fully shielded lights should have bulbs less than 1200 lm	Partially shielded lights should have bulbs less than 750 lm	Lights with no light control should not be installed. Existing lights should be fitted with bulbs less than 480 lm

Lights that are Partially Shielded



Option 1 (preferred) – Adjust lights so that they point straight down

Adjust tilt angle down to meet LMP requirements, so that the light points straight down and no light spills above 90° (i.e. above the horizontal). You should also make sure that the bulb is no brighter than 1200 lm.

Option 2 (next best) – Adjust lights so that they point down, and shield

Tilt down if adjustable, and if you cannot make them point straight down, then provide additional shielding to comply with LMP requirements. You could fabricate your own shielding from aluminium or a similar material and securely fix it to the wall such that it prevents any light escaping above 90° (i.e. above the horizontal). You should also make sure that your new fully shielded lights have bulbs no brighter than 1200 lm. If you are unable to fully shield your lights, but can partially shield them (i.e. some light does escape above the horizon) then you should limit your bulb to 750 lm.

Option 3 (next best) – Replace your lights with better ones

Measure your building footprint in square metres (i.e. total area of house, garages, outbuildings, sheds etc) and use the table below to work out your total illumination allowance. You should replace your old fitting(s) with new fitting(s) having good light control, meeting the requirements of the Lighting Management Plan, and within these limits.

Total lumen (lm)** limit and individual lamp lumen limit per property	
Total Lumens for exterior lighting	750 lm + 4.5 lm / m ² of site structures
Fully shielded luminaires (each lamp lumen maximum)	1200 lm
Part shielded luminaires (each lamp lumen maximum)	750 lm
No light control luminaires (each lamp lumen maximum)	480 lm***

** Lamp lumens is a measure of lamp brightness, like wattage, and is a consistent value. Although difficult to find on some packaging, lumens may in the future supersede lamp wattage as the standard measure of brightness. See the table at the end of this document for lumen values for all types of lamp.

*** The maximum lumens for each lamp with no light control relates to replacing lamps in existing lighting units only. No new lights with no light control should be considered

Option 4 (minimum) – Replace your bulbs

If you're unable to adjust, shield or replace your lights then you should replace the bulb with one having less than 480 lumen output.

Tungsten Halogen Floodlights



Option 1 (preferred) - Adjust lights so that they point straight down

Adjust so that the glass is pointing down and is horizontal (parallel to the ground), so that the light points straight down and no light spills above 90° (i.e. above the horizontal). You should also make sure that the bulb is no brighter than 1200 lm.

Option 2 (next best) - Replace your lights with better ones

Replace the tungsten halogen floodlights (which are generally considered to be poor lighting) with new lights having good light control & meeting LMP requirements. You should also make sure that the bulb is no brighter than 1200 lm.

Option 3 (minimum) - Adjust lights so that they point down, and shield

Tilt down if adjustable, and if you cannot make them point straight down, then provide additional shielding to comply with LMP requirements. You could fabricate your own shielding from aluminium or a similar material and securely fix it to the wall such that it prevents any light escaping above 90° (i.e. above the horizontal). You should also make sure that your new fully shielded lights have bulbs no brighter than 1200 lm. If you are unable to fully shield your lights, but can partially shield them (i.e. some light does escape above the horizon) then you should limit your bulb to 750 lm.

Illustration	Lamp Name	Lamp Type	Nominal Watts	Output Lumens
	Standard, clear bulb	Incandescent GLS	15W 25W 40W 60W 100W	90 220 420 710 1,100
	Standard, pearl frosted bulb	Incandescent GLS	15W 25W 40W 60W 75W	90 220 415 700 935
	Candle, clear bulb	Incandescent Tungsten	25W 40W 60W	200 400 660
	Candle, opal bulb	Incandescent Tungsten	25W 40W 60W	190 390 640
	Twisted Candle, clear bulb	Incandescent Tungsten	15W 25W 40W 60W	90 200 400 660
	Twisted Candle, opal bulb	Incandescent Tungsten	15W 25W 40W 60W	90 200 400 660
	GE Candle Lamp (B&Q)	Incandescent Tungsten	18W 30W 45W	170 415 710

	Round, clear bulb	Incandescent Tungsten	25W 40W 60W	200 400 660
	Round, opal bulb	Incandescent Tungsten	25W 40W 60W	200 400 660
	Superlux Krypton mushroom, opal Standard	Incandescent Tungsten	25W 40W 60W 75W	240 455 760 1,000
	Superlux Krypton mushroom, opal Any burning position	Incandescent Tungsten	25W 40W 60W	160 300 530
	Halolux halogen energy saver	Incandescent Tungsten Halogen	18W 30W 42W 45W 52W	170 415 630 710 840
	Haloline linear	Incandescent Tungsten Halogen	60W 100W 120W 130W 230W	840 1,900 2,400 4,650
	Halostar 12V	Incandescent Tungsten Halogen	10W 20W 35W 50W	140 320 600 925
	LED Parathom clear globe	Solid State	1.6W	70

		Light Emitting Diode	2W 3W	117 165
	Master LED opal globe	Solid State Light Emitting Diode	7W	230
	Master LED reflector	Solid State Light Emitting Diode	4W 7W	110 230
	Lumilux T2 tubular	Discharge Linear Fluorescent	6W 8W 11W 13W	330 540 750 940
	Energy Saver - short T5 tubular	Discharge Linear Fluorescent	4W 6W 8W 13W	130 270 385 830
	Lumilux T8 tubular	Discharge Linear Fluorescent	10W 15W	650 950
	Biax Extra Mini	Discharge Compact Fluorescent	9W 11W 15W	480 600 900
	Elegance Globe	Discharge Compact Fluorescent	7W 9W 11W 15W	286 405 580 799

	Elegance Candle	Discharge Compact Fluorescent	5W 7W 9W	177 286 405
	Elegance Spiral	Discharge Compact Fluorescent	8W 12W 15W 20W 23W	460 700 950 1152 1380
	2D	Discharge Compact Fluorescent	10W 16/14 21/19	650 1100 1350
	Biax S	Discharge Compact Fluorescent	5W 7W 9W 11W	250 400 600 900
	Biax S/E	Discharge Compact Fluorescent	5W 7W 9W 11W	265 425 600 900
	Biax D	Discharge Compact Fluorescent	10W 13W	600 900
	Biax T	Discharge Compact Fluorescent	13W 18W 32W 42W	900 1,200 3,200