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It is our right to see the stars from our own back garden and to preserve the night sky for all living things

Dark Sky Friendly Lighting Guide

Your new building development whether upgrading, new building or extending will be an investment of time and money but it will also be an investment in your future and quite possibly your family's future. This guide has been compiled to help you through the maze of lighting guides and explain more about the importance of getting your outdoor lighting correct.

It is also worth considering the effects on our climate, whether you believe or not it is obvious that changes are occurring and we should do all we can to reduce the impact we make on this planet. Lighting and the power it uses is a massive contributor to the emissions we create. With a little thought everyone can make a difference to the planet and possibly reduce the impact on their finances. There is good reason that we say 'black landscapes are the new green'

With the award of the UK's first Dark Sky Park (DSP) here in Dumfries & Galloway in November 2009 it became apparent that the protection of our night sky must now take a higher priority than in the past. With this award came the realization that our lights and the poor use of them has led to intrusive lighting to our neighbours, the demise of many nocturnal habitats, and in some cases an increase in illegal activities. This guide does not ask you to stop using light, it asks you to use the correct lights in the correct way for a specific task. It also helps you to ask some simple questions before you decide upon any lights. You will read about night time environmental zones - these will be explained to you in simple terms so that you know which zone you are in and what that means. There will be guidance on what makes a good light and how you can install it correctly to give maximum effect.

Please consider others before installing any outdoor lighting. The owner of an intrusive light can be taken to court and prosecuted if deemed to affect other people's environment.

Galloway Forest Park is managed by Forestry Commission Scotland (FCS) and covers an area of 75,000 hectares of land. In November 2009 The Award of becoming the 5th Dark Sky Park in the world and the first in the UK became a reality. As a result of this award we are now far more aware of the importance of our night time environment. Forestry Commission Scotland (FCS) has no statutory right to uphold any lighting plans or designations, this duty lies with the local authority planning department. It is because of this that this lighting guidance note has been created to help people understand why good lighting is extremely important for you, your neighbours and just as importantly the environment.

Galloway Forest Dark Sky Park covers roughly the same area as the Galloway Forest Park with the exception of the Gate House of Fleet area. The core & Buffer Zones are entirely on FCS land and will be managed by FCS. Private property within the area of the DSP remains under the control of the local authority. However, the extensive lighting plan written for the DSP will be the bench mark taken for the purposes of lighting control within these areas and some surrounding countryside.

The Zones:

The zones come from the Institution of Lighting Professionals (ILP) the recognised body for lighting in the UK. Their zones cover the entire UK and are aimed at informing planning bodies and architects. Their code of practice and guides are there to assist, advise and ensure best practice is carried out.

ILP Indicator	Night time Environment	Typical Examples
E0	Designated Dark Sky Park	The core of the Galloway Forest Dark Sky Park
E1	Intrinsically dark landscapes	The majority of D&G, National Parks, national/regional scenic areas and special protected sites (eg Sites of special scientific interest) Dark Sky Park Buffer Zone
E2	Areas of low district brightness	Rural towns and villages (eg Newton Stewart, Dalry, Thornhill, Annan)
E3	Areas of medium district brightness	Urban Locations (eg Dumfries & Stranraer)
E4	Areas of high district brightness	Urban centres with high levels of night time activity (eg Glasgow)

E0: DSP Core – This area is presently unique to the Galloway Forest Dark Sky Park and relates to the very core of the Park where there are no lights currently and in to the future.

E1: DSP Buffer – This area is the buffer zone around the core of the Dark Sky Park and under the designation has to be protected by strict lighting controls. Fully cut-off lights must be used and there should be zero light at and above horizontal from any fitting. Reduction of light use after 2200hrs is strongly advised.

E1: – This zone covers the majority of the rural landscape of Dumfries & Galloway as well as parts of South and East Ayrshire and allows for domestic lights and industry lights with controls. It is designated E1, as the area is lightly populated and already has a good nocturnal night time dark habitat which should not be diminished. Predominantly rural low populated areas with the inclusion of some smaller villages without street lighting. Large industry buildings such as factories, farms, isolated barns etc must protect the night sky against intrusive light. Fully cut-off lights must be used and there should be zero light at and above horizontal from any fitting. A recognition that light from buildings in the rural setting no matter how low the wattage can be seen for many miles even with fully cut off fittings. If lights require to be on for significant periods the use of additional shielding may be required. Reduction of light use after 2200hrs is strongly advised. Farms should not use unshielded dusk to dawn sodium lights or halogen lights. PIR or time delay on/off switches should be the commonly used control system. Outlying properties should also avoid flood lights to light up their properties and domestic lights should also use PIR systems or on off switches.

E2: - This covers the built up areas of villages and towns where there is a recognition that light is required for day to day business and life. E2 zone ends where the street lighting ends. Restrictions still apply and certain lights should not be used.

Most of the towns and villages of Dumfries & Galloway will fit in to this zone. There should be a recognition that any new extensions to the area adjacent to the E2 zone should meet the same lighting standards - where reasonably practicable - of E1 to ensure that the E2 does not slip in to E3 conditions.

E3 & E4: - These zones are reserved for large inhabited areas such as Glasgow, Edinburgh and Stranraer and Dumfries, However, these zones should not increase but decrease in Dumfries & Galloway.

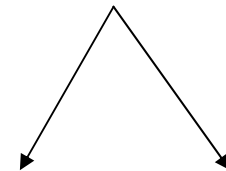
It is important to realise that zones do not necessarily flow together. You might not have to transit from zone E1 via zone E2 to reach zone E3. The built up area of Stranraer is designated as Zone E3 but the countryside immediately out with the town is Zone E1. An E1 zone may exist within an E3 zone.

Regardless of the zone the lights you choose and then how you install them is of critical importance.



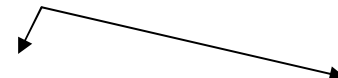
This spot light is what is known as a bisymmetric light and is commonly purchased from DIY stores. The light from this type of fixture, if not installed correctly, can be extremely intrusive. This type of light must be installed pointing directly downward. Any tilt above zero degrees will result in intrusive light heading uselessly into the sky. Due to it having to be installed pointing downward the usefulness of this flood light is extremely limited.

The light fall can be illustrated when installed at zero degrees upward tilt as:



This spot light is what is known as an asymmetric light which is less commonly used but is the preferred option in all cases. If installed correctly with zero degrees of upward tilt then there will be no upward light at all and the light is forced outwards across the area that you wish to be lit. The glass cover is completely flat with no ridging or curve.

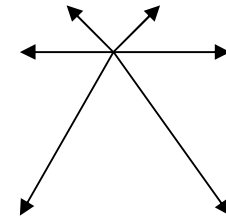
The light fall can be illustrated when installed at zero degrees upward tilt as:





Many rural properties such as barns, milking parlours, yards and even houses have flood lights such as this and they often give off a bright orange light. The reflector unit held within the light fitting is bisymmetric and should be installed facing directly downward. However, the unit also has a curved glass panel on the front to aid with light spread which means even pointing directly down ward it will still have upward stray light. This is not acceptable.

The light fall can be illustrated when installed at zero degrees upward tilt as:



The flood light shown is wrongly installed with a 60 degree upward tilt which is Not acceptable.



A fully cut-off light fitting making a downward cone of light with no stray light. This fitting illuminates a doorway only. This light does not have additional shielding and therefore viewed light may be seen from a distance if in a rural setting.

Terms used to describe lights are quite confusing so here are some explanations.

Lantern/luminarie	The term given to the structure holding the lamp and optic reflector
Fully cut off	The lamp & reflector is well up in the fitting - the glass protection is completely flat and installed at with the glass horizontal
Shielded	The lantern is fully cut off but has additional shielding to ensure that the light is limited. only where the light is required and can not stray on to unwanted areas.
Lamp	The 'bulb' that gives of the light.
LED	Light emitting diode
ILP	Institution of Lighting Professionals
Cd/klm	Candela per kilolumen - the intensity of light in a particular direction

The Guidance –for new and replacement lighting

Location and ILP Indicator	Urban E3 Dumfries & Stranraer/E4 Centre of Dumfries	Out with DSP Rural Towns & Villages E2 Castle Douglas Newton Stewart, New Galloway, Thornhill, Annan etc	Out with DSP but with little light Dark Landscapes E1 Unlit countryside	Within dark sky park buffer zone E1	Within dark sky park Core E0
Agricultural buildings/historic buildings/Art structures		<ul style="list-style-type: none"> Fully Cut off lights. PIR systems or on/off switches. Always switch off after work complete. Follow good design practice check list. No up lighting of buildings or structures After 23:00hrs switch off or reduction in light illumination Maximum 35W halide/150W halogen after 23:00 hrs. No sky beams 	<ul style="list-style-type: none"> Fully Cut off lights. Additional shielding PIR systems or on/off switches. Always switch off after work complete. Follow good design practice check list. No up lighting of buildings or structures Max 35W halide/150W halogen after 22:00hrs After 22:00hrs switch off or reduction in light illumination No sky beams 	<ul style="list-style-type: none"> Fully Cut off lights. Additional shielding PIR systems or on/off switches. Switched off after work complete. Follow good design practice check list. No up lighting of buildings or structures or sky beams After 22:00hrs switch off 	No lights
New dwelling houses and extensions to dwelling houses	<p>See pages 12-13 for guidance on domestic illumination. No up-lighting of buildings</p> <p>Please have lights on PIR/off when you are not outside</p>	<ul style="list-style-type: none"> After 23:00hrs switch off or reduction in light illumination Lights to be on PIR/switched off when you are not outside, like lights inside the house No up lighting of buildings or structures See diagrammatic tables Page 12-13 for guidance on acceptable illumination. 	<ul style="list-style-type: none"> After 22:00hrs switch off or reduction in light illumination Lights to be on PIR/switched off when you are not outside, like lights inside the house No up lighting of buildings or structures See diagrammatic tables Page 12-13 for guidance on acceptable illumination.. 	<ul style="list-style-type: none"> After 22:00hrs switch off or reduction in light illumination No up lighting of buildings or structures Lights to be on PIR/switched off when you are not outside, like lights inside the house See diagrammatic tables Page 12-13 for guidance on acceptable illumination. 	No lights
Business & Sport development	<p>Follow Good Design Practice – 20 Point Checklist Only use required wattage to meet recognised standards. Consider infrared in preference to all night lighting only in areas where necessary and PIR in all others No uplighting or sky beams.</p>	<ul style="list-style-type: none"> Follow Good Design Practice – 20 Point Checklist Fully Cut off lights. PIR systems or on/off switches. Preferably no all-night lighting in villages Switched off after work complete. Follow good design practice check list. No up lighting of buildings or structures Max 35 watt halide after 23:00hrs In designated industrial area of Castle Douglas sized town can have 70W lights on all night if full cutoff. Only use higher wattages to meet published standards when work is being done outside No sky beams Use infrared if security is an issue 	<ul style="list-style-type: none"> Follow Good Design Practice – 20 Point Checklist Fully Cut off lights and additional shielding. PIR systems or on/off switches. Switched off after work complete. Max 35W halide/150W halogen after 22:00hrs Follow good design practice check list. No up lighting of buildings or structures No sky beams Use infrared if security is an issue 	<ul style="list-style-type: none"> Follow Good Design Practice – 20 Point Checklist Special Permit Zone Fully Cut off lights with additional shielding PIR systems or on/off switches. Switched off after work complete. Max 35W halide/150W halogen after 22:00hrs No up lighting of buildings or structures No sky beams Use infrared if security is an issue 	No lights

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It is strongly advised that for full directions to lighting in and around the Dark Sky Park that the full lighting plan should be read. It can be obtained by downloading it from the Forestry Commission Scotland website at:

<http://www.forestry.gov.uk/darkskygalloway>

In conjunction with this the Campaign for Dark skies has produced a lighting guide which can be downloaded at:

<http://www.britastro.org/dark-skies/guidelines.html>

Scottish government links: www.scotland.gov.uk/Publications/2007/03/14164512/0 "Controlling Light pollution and Reducing Lighting energy consumption" (this contains the 20 point check list)

ILP web links on security: www.theilp.org.uk/index.php?page=environmental Domestic security lighting PDF

Maximum Allowable Wattages (metal Halide/discharge lamps) to meet ILP indicator guidance for commercial/farm properties						
	Fully Cut-off (flat glass)		Cut -off		Semi cut-off	
	Pre-curfew Max Wattage	Post Curfew Max Wattage	Pre-curfew Max Wattage	Post Curfew Max Wattage	Pre-curfew Max Wattage	Post Curfew Max Wattage
E0	0	0	0	0	0	0
E1*	100*	35*	0	0	0	0
E2	250*	35*	150*	25*	0	0
E2 designated industrial areas of Castle Douglas size town	400	70	150	50	0	0
E3	400	100	400	100	400	70
E4	1000	150**	1000	150	1000	150

* After work complete all lights to be switched off/on PIR

** Can be 400W with best light fitting possible with 0cd/klm at 90 degrees

Technical Data for lighting						
	Fully Cut-off (flat glass)		Cut-off (Low profile bowl)		Semi cut-off (deep clear bowl)	
Max upward light ratio*	0%		2.5%		5%	
Max source intensity at specific angle**	≥90°	0 cd/klm	≥95°	0 cd/klm	≥ 95°	20 cd/klm
	80°	100 cd/klm	90°	10 cd/klm	90°	25 cd/klm
	70°	350 cd/klm	80°	100 cd/klm	80°	150 cd/klm
			70°	350 cd/klm	70°	500 cd/klm
Allowable angle of tilt	0 degrees (bottom glass of lantern horizontal all light emitted downward)		10°		20°	
Accepted in Zones	E1 E2 E3 E4		E2 E3 E4		E3 E4	

* ULR is the percentage of light emitted directly in to the sky

** The brightness of light emitted from a lantern at a specific angle

Please avoid prismatic bowl lanterns in all zones e.g SOX/low-pressure sodium as their upward light ratio exceeds 5%.

Some additional Guidance for specific sites:

Farms

Where external work requires good levels of lighting to ensure safe working such as stockyards, dairy units etc - The use of up to 150W metal halide/1000Watt halogen - fully cut-off with additional shielding is acceptable. All lights must be switched off when work complete and every effort should be made to complete work before 22:00hrs.

For security please read the section titled 'Security' further on in this guidance. Low light (35W halide/150W halogen max) or low impact solutions should be used for general movement around a site. The use of PIR and domestic strength lights is the recommended practice. Also please use down-pointing lights inside buildings with large roof windows or open sides.

Quarries

Quarries do exist in and around D&G. This is an accepted industry. However the amount of stray light they sometimes cause is not acceptable. The use of 150Watt flat glass fully cut off with zero tilt, pre-curfew is acceptable. Post curfew any light required for operational working that is on continuously should have additional shielding to prevent any light entering the surrounding landscape.

The preferred option is that there is no 24 hour lighting in quarries. This is especially sensitive in or close to National /Regional Scenic Areas, sparsely populated moorland, hills, forestry, areas between the edge of buffer zone and nearest village/town . Any such working that requires operational lighting after 22:00hrs will be dealt with by the council on a case by case basis.

Existing quarries in industrial parts of towns e.g Dalbeattie see guidance on industrial development for E2.

Historic Buildings, Golf Ranges and private dwellings

The use of up-lighting to make a feature of a building is becoming a trend. This is not acceptable and has no reasoning to back it up. If pre curfew there is a desire to feature a building then down lighting using appropriate fittings should be considered with all lights being switched off at 22:00 hrs. Golf ranges should invest in good fully shielded asymmetric light fittings and follow the good practice lighting plan, off after 22:00hrs and not in E1. There should be no large lit Golf ranges out with 2 miles from the edge of the E3 zones of Stranraer and Dumfries. Buildings of any stature should not have sky beams and should look for alternatives to highlight the buildings.

Caravan Parks

Caravan parks are the most popular form of holiday accommodation in D&G. There is currently a conflict with Quality assurance schemes and lighting guides which is being investigated. However, it should be noted that lighting is required to ensure people can see where they are going safely. It is not meant to have urban levels of street lighting. Caravan park operators should investigate means of lighting paths and driveways that do not require urban lighting structures and should have the ability to reduce if not switch off completely after 22:00 hrs. Many of the guests may welcome the chance to view the Milky Way from a rural setting such as a caravan park without leaving their site.

It is not compulsory to light caravan parks to the same standards of illumination as street lighting.

It is advised that sites should consider domestic levels of light with fully cut off and if required additional shielding. In and around the main reception areas the use of a maximum of two 35watt flat glass units dimmed after 22:00 hrs is acceptable. Please see the tables on pages 12 & 13

Sporting venues

All lighting must be designed using the 20 point check list and have fully cut-off lights that are switched off when game is completed & before curfew. These sites should be contained within major towns not village locations and not in E1.

Industrial/Commercial Development

Shops hotels pubs etc please see domestic guidance.

E1 – As per farms. Full cut-off with additional shielding max 150W pre-22:00hrs and 35W after. After work is complete all lights should be either switched off or switched to PIR system.

Wind turbines in E1 should not have lights on them and should therefore be built below the height where this becomes compulsory. For any buildings associated with a wind farm - flat glass, fully shielded, max 35W after curfew, and on PIR/switched off when outdoor work is not in progress. Any lights out with limits set for the DSP buffer zone only, will need a “special permit” authorised by Forestry Commission Scotland.

E2- In villages and small units and in new Greenfield sites please apply the E1 standards above but curfew can be 23:00 hrs. In villages the only all-night lighting should be public street lighting.

In existing designated industrial areas of towns Castle Douglas size or larger. See wattage table.

400W max full cut-off (150W for large supermarket) before 23:00hrs and if all night lighting is required 70W max after 23:00hrs. Please only use high wattage lighting if published standards require this and please consider PIR lighting for areas where there is not 24-hour working.

E3 Dumfries and Stranraer factories. See wattage limits in table and only use the higher values where published standards require this. Please consider 70W max after 23:00hrs or PIR lighting in areas without 24-hour working. Large supermarkets 150W max. Large industrial sites in Dumfries can be zoned E4 at the council's discretion.

There needs to be 24-hour lighting within the port area of Cairnryan. This should be the right wattage to meet the standards for a port of its size and should be full-cut off preferably with further shielding to meet the ILP guidelines to minimize light shinning out into the dark countryside immediately next to it.

NB: All industrial sites, new builds or improvement applications should provide planners with all the answers to: **The Good Design Practice – 20 Point Checklist**

Good Design Practice – 20 Point Checklist (items in bold blue are key factors but all are required)


1. Collection of client needs and interested parties' comments
2. **Survey of surrounding area environment**
3. **Identification of critical viewpoints or receptors**
4. Establish and calculate existing lighting conditions
5. Summarise baseline measurements and calculation results
6. **Analysis of task lighting level recommendations and game level if sports lighting application**
7. **Establish environmental light control limits**
8. **New lighting design quality objectives**
9. Iterative lighting design methodology
10. **Calculated measurement of Task working area(s) Overspill area(s)**
11. **Obtrusive light calculation of Property intrusion**
 - Viewed source intensities**
 - Nominal glare assessment**
 - Direct upward light ratio**
 - Building luminance**
 - Combined upward luminance grid**
12. **Compare design achievement with baseline values**
13. Designer's critique of final design constraints
14. Viewpoint Visualisation
15. Virtual walkthrough of illuminated site
16. Schedule of model reflection factors
17. **Schedule of luminaire types, mounting height and aiming angles**
18. Schedule of energy usage and distribution
19. **Schedule of luminaire profiles**
20. **Layout plan with beam orientation indication and site relationship with surrounding residential and commercial properties**

The **Special Permit Zone** will be deemed to include the Dark Sky Park Buffer Zone only.


To obtain a lighting permit, applicants shall demonstrate that the proposed lighting installation application:

- (a) Contains an analysis of all points in the 20 point Good Design Practice Checklist produced by the Scottish Executive
- (b) A statement that shows every reasonable effort to mitigate Sky Glow and Light Intrusion has been addressed and accompanied by a computer calculation indicating average task luminance, uniformity, horizontal values of overspill beyond the property line and vertical luminance values of light intrusion on adjacent properties.
- (c) Employs lighting controls to reduce the quantity of lighting at the project specific Curfew' time which has been established in the Special Permit.
- (d) Complies with all light limitation factors outlined in this Galloway Forest Dark Sky Park Lighting Management Plan.

Domestic use information on light types and illumination levels.

	Compact Fluorescent Bulbs				
	ILP Indicator Zone				
	E0	E1	E2	E3	E4
					
Fully cut-off Luminaires each lamp watts maximum	N/A	20 Watts	24 Watts	32 Watts	42 Watts
Part cut-off luminaires each lamp watts maximum	N/A	11 Watts	20 Watts	24 Watts	32 Watts
No light control luminaires each lamp watts maximum	N/A	9 Watts *	12 Watts*	12 Watts*	12 watts*

* Only for existing light fittings. No new lights of this type.

	Tungsten Halogen Bulbs				
	ILP Indicator Zone				
	E0	E1	E2	E3	E4
					
Fully cut-off Luminaires each lamp watts maximum	N/A	60 Watts	100 Watts	150 Watts	200 Watts
Part cut-off luminaires each lamp watts maximum	N/A	N/A	60 Watts	100 Watts	150 Watts
No light control luminaires each lamp watts maximum	N/A	N/A	N/A	N/A	N/A

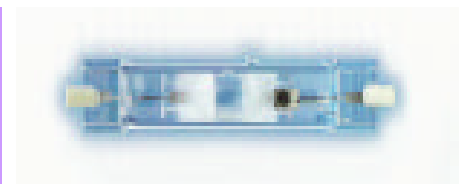


Light Bulbs

ILP Indicator Zone

	E0	E1	E2	E3	E4
Fully cut-off Luminaires each lamp watts maximum	N/A	2x35 Watts halostar	2x60 Watts capsule	100 Watts	100 Watts
Part cut-off luminaires each lamp watts maximum	N/A	60 Watts	60 Watts	100 Watts	100 Watts
No light control luminaires each lamp watts maximum	N/A	40 Watts candle*	40 Watts candle*	40 Watts candle*	40 Watts candle*

*Only for existing light fittings. No new lights of this type.



Ceramic or metal Halide

ILP Indicator Zone

	E0	E1	E2	E3	E4
Fully cut-off Luminaires each lamp watts maximum	N/A	1500lm 20 Watts	2000lm 25 Watts	3000lm 35 Watts	3000lm 35 Watts
Part cut-off luminaires each lamp watts maximum	N/A	N/A	N/A	N/A	N/A
No light control luminaires each lamp watts maximum	N/A	N/A	N/A	N/A	N/A

If you choose a light and it is either bisymmetric or asymmetric the protective glass should be completely flat. The bulb should be well up in to the light fitting and it should be installed with zero upward tilt.

There are good images of these different types of domestic luminaires on the Galloway Dark Sky Park lighting plan website.

Security: There are a number of questions over what helps to make your property secure and what does not. We have a very active neighbourhood watch scheme here in Dumfries & Galloway which does work. Also it should be noted that most crime now occurs in broad daylight. However, ask yourself this one simple question. If you leave your outside lights on all the time how will your neighbour know if someone is snooping around? If your lights are on a motion detection system it will be very obvious when there is movement around a property. This does not mean that leaving the lights on is the preferred option. An area that is very dark is extremely hard for an illegal entry to take place without the use of a torch and has been proven to reduce theft not increase it. Farms in rural areas have seen a noticeable increase in large equipment thefts and this can be partly attributed to lighting the way for the thieves. Keeping the place dark and secure is the preferred deterrent. If protection is an absolute requirement then investing in infrared detection cameras/PIR-activated CCTV /burglar alarms is an alternative which keeps the area completely dark. Getting equipment etched, stamped and protected using one of a number of new and traceable systems is also a good move by property owners. Speak to your local crime prevention officer for more details.

Lights that are installed incorrectly make CCTV or naked eye identification extremely difficult. Any bright light in a rural setting can be seen from many miles away. This should always be taken account of regardless of the light fitting.

Private houses & Guest accommodation increasingly have fancy lights lighting the way up driveways and in to the door. Some are simply solar lights that give off very little light and do not come under this guidance. However others are far more intrusive. Porch or exterior house lights are a major contributor to global warming and often have no shielding at all. The light from the lights also disperses with no directional control which often results in the use of over sized/powered bulbs to compensate for the poor light direction. If you wish your door and steps to be lit then invest in a downward fitted light that does just that. If you wish to light your path way then invest in a light that puts light on to your path or driveway not into your neighbours garden or house and not on to the main carriageway. Many modern well designed houses now come with small LED door down lighters that remain on all night but give off so little light that you can not see them from the neighbours property but give perfectly adequate light to unlock your door at night. All external house lights should be fully shielded, installed with zero upward tilt and be suitable for the task they are required to do. Most home owners will say that the external lights are for helping them to get form their car to the home. Most modern cars have that as a standard or optional extra that lights the car up and keeps headlights on when leaving the car at night. And all lights in a home environment have an off switch.

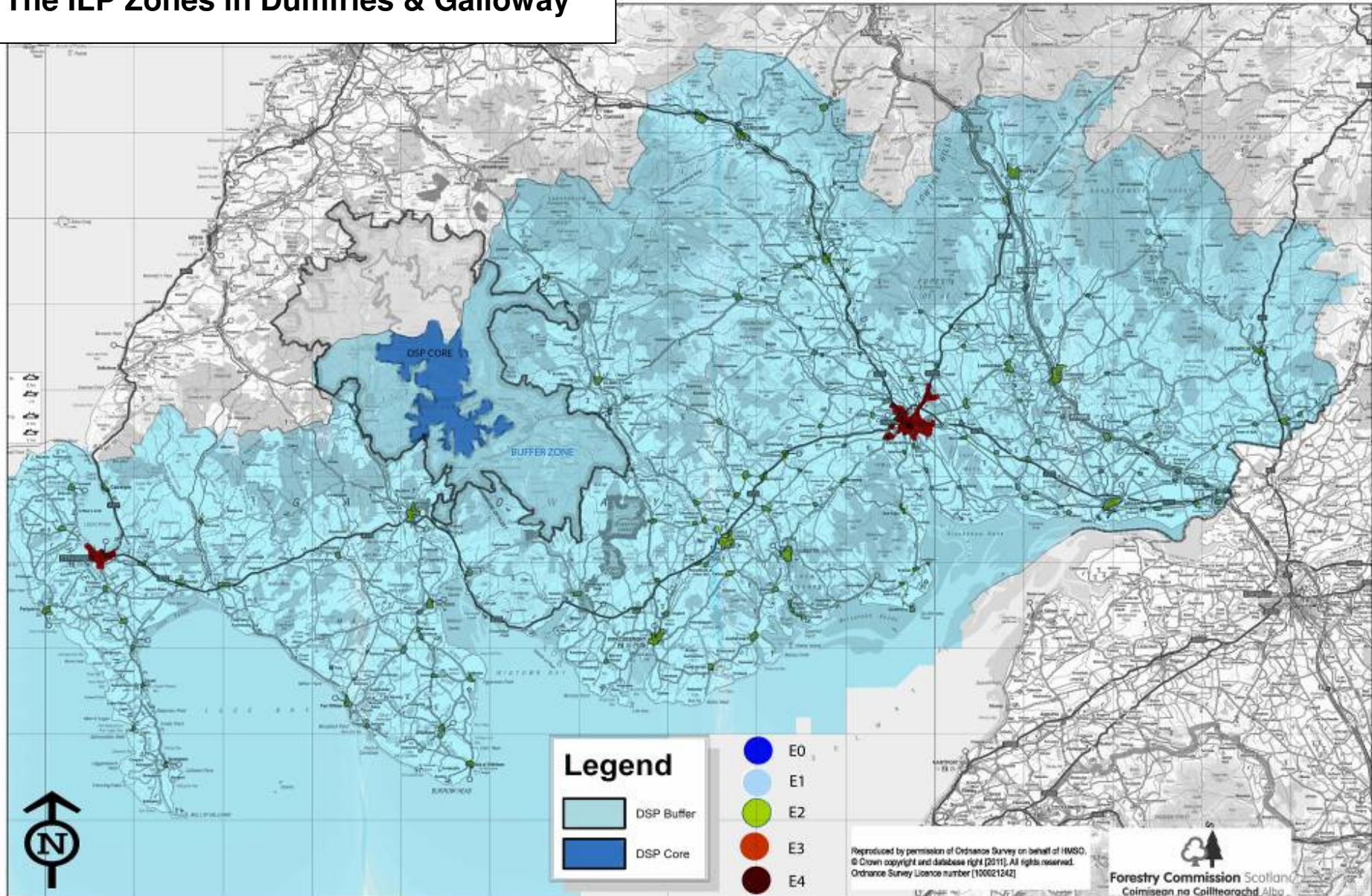
If you live on one of the many open moorland areas in Dumfries & Galloway one outside light which is not fully shielded can be seen up to 10 miles away please take this into account. There is also a myth that sodium and metal halide lamps can not be on an on-off or PIR system. This is not true. Both can be installed using PIR or simply turning them on and off as required.

Farm Yards and holding areas are also a common feature in our landscape. The use of sodium lighting in many of them is all too often taken for granted. Animals are more affected by man made light than humans and this should be taken account of. As has been stated earlier the use of sodium or metal halide lanterns should be strictly controlled and used on a PIR or on-off system only. If no animals are in the holding or barns then lights are not required. When no human intervention is required then the lights should be off. The installation of directional lighting to assist in nocturnal activities on farms will both save power and reduce intrusive light if chosen and installed correctly. Please consider mounting all external lights within the confines of your buildings so that no stray light can reach on to the dark landscape surrounding. Industrial areas often back on to domestic areas. Ensure that no stray light enters the domestic areas, use FCO and shielded lights.

If you live on one of the many open moorland areas in Dumfries & Galloway one outside light which is not fully shielded can be seen up to 10 miles away please take this into account. There is also a myth that sodium and metal halide lamps can not be on an on-off or PIR system. This is not true. Both can be installed using PIR or simply turning them on and off as required.

There are many manufacturers of good lighting. The look of your fitting is very important to you, but this guidance is to make sure you ask about the use of the lantern first. Take time to consider how the light from the fitting will be dispersed, what do you wish the light to do for you? How bright do you need the light? It is extremely rare that you need it to so bright you can read a book outside. There is no reason for any sodium or metal halide lamp to be over 35watts in power in the E1 zone.

The ILP Zones in Dumfries & Galloway



Core & Buffer areas extend in to Ayrshire. Areas Highlighted are for D&G only