



# WILDLIFE LIGHTING SCHEME

New Beach Holiday Park, Hythe Road,  
Dymchurch, TN29 0JX

## A REPORT FOR PARK HOLIDAYS UK

This report has been compiled to guide all construction and operational activities to facilitate development at the site

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**Table 0.1** - Document and Version Control

|           |                                        |                                        |            |
|-----------|----------------------------------------|----------------------------------------|------------|
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### Copyright and guidance

This report has been written to provide an objective assessment of the ecological constraints and opportunities that were considered to be present at the site at the time the survey/s were conducted and, should be used solely for the purpose for which it was designed. The copyright must be considered to rest with Co-ecology Ltd whilst use of the report is for the commissioning party and their client only, unless with the express and written consent of Co-ecology Ltd.

The surveys and assessment have been drafted to be in accordance with; Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition), British Standard for Biodiversity BS42020:2013, Biodiversity - Code for planning and development and; the Code of Professional Conduct published by the Chartered Institute of Ecology and Environmental management.

**N.B.** It must be noted that investigations of this sort provide only a snapshot in time of the ecological conditions of a site, are limited in extent and cannot capture the full picture of the biodiversity interests at the given location.

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# Introduction

## *Overview of the commission and the proposals*

- 1.1. Co-ecology Limited was commissioned by Park Holidays UK to compile a Wildlife Lighting Scheme in relation to the proposed development New Beach Holiday Park, Hythe Road, Dymchurch, TN29 0JX.
- 1.2. This document was conditioned as part of the decision for planning permission (Folkstone & Hythe District Council Planning Application Reference: 25/0310/FH) for the change land use to the stationing of six holiday lodges within a modified grassland field to the west of the existing New Beach Holiday Park.
- 1.3. Condition 7 of the planning decision requires:

*“Prior to first use of the caravans hereby permitted lighting design plan(s) for biodiversity shall be submitted to and approved in writing by the local planning authority. The plan(s) shall include the following and must be designed following current best practise guidance from the Bat Conservation Trust (BCT) and the Institute of Lighting Professionals (ILP)*

- i. The identification of areas/features on-site where disturbance could occur to biodiversity features such as invertebrates and bat roosting sites and/or foraging/commuting routes;*
- ii. The provision of appropriate, scaled plan(s) to show how and where external lighting shall be installed;*
- iii. The provision of technical specifications for the external lighting;*
- iv. The provision of lighting contour plans to show expected lux levels on both the horizontal and vertical planes, so that it can be clearly demonstrated that areas to be lit shall not disturb the activity of relevant ecological receptors.*

*All external lighting shall be installed prior to first occupation of the development in accordance with the specifications and locations set out in the plan(s), and these shall be maintained thereafter in accordance with the plan(s).”*

- 1.4. It is noted that this lighting scheme does not address point iv of Condition 7. Given the very small number of lighting bollards to be installed on site (totalling three) with a low lux and confined light spill, the recommendations set out in this report and are considered is sufficient to satisfy the condition as a whole.
- 1.5. This wildlife lighting scheme is provided to guide in the implementation of lighting around the site and it accompanies a CEMP (Co-ecology 2025a) and Biodiversity Enhancement Plan (Co-ecology 2025b).

## *Background*

- 1.6. In order to inform the proposals, the following survey/assessment work was produced:
  - A Preliminary Ecological Appraisal, water vole survey and River Condition Assessment (Co-ecology, 2024a)
  - A Biodiversity Net Gain Assessment and Design Report (Co-ecology, 2024b)
  - Construction Environment Management Plan (Co-ecology 2025a)
  - Biodiversity Enhancement Plan (Co-ecology, 2025b)

## *Purpose of Report*

- 1.7. This report provides a lighting scheme that will ensure dark areas are maintained throughout the construction and operational phase of the development, across the site, that important bat and bird foraging and commuting routes are maintained. All lighting will be limited to the intended areas and no spillage occurs.

#### ***Light pollution:***

- 1.8. A night sky is considered to be impacted by light pollution when the ambient light is 10% higher than normal night sky brightness levels (Fabio *et al* 2001). This means that only a fifth of England now has 'pristine night skies' – that is skies 'completely free from light pollution' (CPRE 2016).
- 1.9. Concerns about the impacts of this have been expressed both in reference to human and ecosystem health (Gaston *et al*, 2015). It is known that artificial light impacts and changes the behaviour of many insects, mammals and birds.
- 1.10. Bright external lighting can have a detrimental impact upon foraging and commuting bats, on bat roosts, nocturnal mammal foraging, insect flight patterns and disrupt the circadian rhythms of birds and other diurnal species.
- 1.11. New lighting on any site, whether dark or currently illuminated to some extent, could potentially cause detrimental impacts on an individual, population and ecosystem level.
- 1.12. The development will enhance and create habitats on site to ensure an increase in biodiversity. The proposed avoidance and mitigation measures have been informed by the most recent publication from the Institution of Lighting Professionals (ILP) and Bat Conservation Trust (BCT) (ILP & BCT, 2023<sup>1</sup>).
- 1.13. To ensure that these new and existing habitats are not impacted by lighting, this document will set out suitable lighting options that will include:
  - Installing LED lighting with no UV present;
  - Ensuring hedgerows, ditches and adjacent buffer zones are maintained as a dark corridors and grassland areas are not illuminated;
  - All external lighting on caravans will be controlled by motion detectors;
  - Road lighting will be low level bollards that are directional and hooded to ensure no spillage on to surrounding areas; and
  - Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to wildlife.

#### ***Site Context***

- 1.14. The site, centred on Ordinance Survey National Grid Reference: TR 11701 31633, was approximately 0.53ha in area and comprised a single *g4 – modified grassland* field on the north-west edge of the New Beach Holiday Park in Dymchurch, Kent.

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<sup>1</sup> Institution of Lighting Professionals & Bat Conservation Trust (2023) Guidance Note GN08/23: Bats and Artificial Lighting At Night. Available from: [Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals \(theilp.org.uk\)](https://www.theilp.org.uk/Guidance%20Note%208%20Bats%20and%20Artificial%20Lighting%20At%20Night.pdf)

- 1.15. New Beach Holiday Park is situated along the east Kent coast, between Dymchurch and Hythe. The site parcel is bounded by Willop Sewer statutory main river on the western boundary, beyond which agricultural fields are present. The holiday park land holding lies to the east and south-east of the site boundary and an arable field with ditch system lies to the north of the site.
- 1.16. The wider landscape is dominated by agricultural fields to the north and residential development to the east and south. The coast lies approximately 530m south-east of the site.
- 1.17. The boundary of the Dungeness, Romney Marsh and Rye Bay Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) lies 560m to the south-east of the site boundary. This site is designated for the nationally important coastal habitats which supports an assemblage of wintering and breeding bird species.
- 1.18. The habitats present within the developable area include:
  - Modified grassland;
  - Sparsely vegetated land;
  - Artificial unvegetated unsealed surface;
  - Developed land sealed surface;
  - Boundary line of trees;
  - Boundary hedgerows

#### *Proposed Works*

- 1.19. The proposals comprise the expansion of an existing holiday park into an area of modified grassland with the construction of six new caravan bases, and access road within a field of modified grassland. The proposals include soft landscaping around the new caravan bases, a biodiverse grassland meadow with the creation of new hedgerows and planting of 29 new urban trees to provide visual screening from the west as well as benefits to wildlife.
- 1.20. Ecological enhancement areas for the site include:
  - 0.27ha g4 modified grassland in poor condition. Includes the retained and newly created habitat areas around proposed holiday lodges.
  - 0.12ha of g3c other neutral grassland in moderate condition. Newly created habitat of wildflower meadow along the western section of the site.
  - 29 small urban trees in poor condition to be planted adjacent to the wildflower meadow as a visual screen and for wildlife benefits.
  - 48m of native hedgerow enhanced from poor to moderate condition.
  - 122m of newly planted native hedgerow in poor condition along wildflower habitat.

#### *Relevant Legislation and Planning Policy*

- 1.21. The following key pieces of nature conservation legislation are relevant to this CEMP:
  - The Environment Act (2021)
  - The Conservation of Habitats and Species Regulations 2017 (as amended)
  - Wildlife and Countryside Act 1981 (as amended);
  - Natural Environment and Rural Communities Act 2006;
  - Protection of Badgers Act 1992;
  - The National Planning Policy Framework 2019
  - Biodiversity and geological conservation: circular 06/2005; and
  - Wild Mammals (Protection) Act 1996.

1.22. The following local policies are extracted from the Folkestone and Hythe Core Strategy Review (2022)<sup>2</sup> and the Places and Policies Local Plan (Folkestone and The District Council, 2020)<sup>3</sup>.

- *CO11 – Protection of Protected Species and their Habitats*
- *CSD4 – Green Infrastructure of Natural Networks, Open Spaces and Recreation*
- *Policy NE5 – Light Pollution and External Illumination*

1.23. An extract of the key relevant section of this policy is provided below whilst the full policy is reproduced in the appendices.

- *CO11 - “The District Planning Authority will not give permission for development if it is likely to endanger plant or animal life (or its habitat) protected under law and/or identified as a UK Biodiversity Action Plan priority species or cause the loss of, or damage to, habitats and landscape features of importance for nature conservation, unless;*
  - i. There is a need for development which outweighs these nature conservation considerations and*
  - ii. Measures will be taken to minimise impacts and fully compensate for remaining adverse affects”.*
- *CSD4 – “The council will require development proposals over their lifetime:*
  - i. To provide net gains in biodiversity at least to comply with statutory and/or national policy requirements (assuming no residual loss);*
  - ii. To demonstrate that they protect and enhance valued landscapes, sites of biodiversity or geological value and soils, commensurate to their status and quality;*
  - iii. So far as possible, to deliver improvements in green infrastructure (GI) assets in the district and ensure positive management of areas of high landscape quality or high costal/recreational potential identified in the Green Infrastructure Report (2011) (or any updates to this report).”*
- *NE5 – “Applications for major development, and development including significant external lighting, will be approved if:*
  - i. The proposal does not materially alter light levels outside the development site;*
  - ii. The proposal does not adversely affect the use or enjoyment of nearby buildings or open spaces; and*
  - iii. The proposed lighting scheme accords with the best practice guidance provided by the Institution of Lighting Professionals (ILP) (2011) relevant to the particular Environmental Zone (see table below).*

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<sup>2</sup>[Folkestone & Hythe District Council Core Strategy Review 2022](#)

<sup>3</sup>[Places and Policies Local Plan Adopted September 2020](#)

## 2 Baseline ecological/biodiversity features

2.1. A Preliminary Ecological Appraisal (PEA) undertaken by Co-ecology (2024) assessed the habitats within the red line boundary (*g4 – modified grassland, u1b developed land sealed surface, u1c artificial unvegetated unsealed surface, u1f – sparsely vegetated urban land*) as being of low intrinsic ecological value. The *r2 – other rivers and streams (Willop Sewer), h2b – other hedgerow* along the northern boundary and the line of trees along the eastern boundary associated with a ditch were considered to be ecologically valuable. The site was considered to have some limited suitability to support foraging and roosting bats, breeding birds, great crested newts, common species of reptiles, water vole and otters within the adjacent river.

2.2. The main river located along the western boundary of the site, the Willop Sewer, connects the site to the wider landscape and provides suitable foraging, dispersal and some burrowing habitat for water vole. It could also lie within the territory of otters within the wider landscape.

### ***Preliminary Ecological Appraisal findings:***

#### ***Designated Sites***

2.3. Dungeness Romney Marsh and Rye Harbour Special Protection Area (SPA) and Site of Special Scientific Interest are located within 2km of the site boundary. The sites are approximately 560m south-east of the site boundary and are designated for the nationally important coastal habitats and found under Articles 4.1 and 4.2 of the EU Birds Directive for its support of bird populations of European importance.

2.4. Due to the distance from the site there are no detrimental impacts predicted and any new lighting on site will not directly impact the designated site.

#### ***Protected Species***

2.5. Birds – A wintering bird survey and assessment undertaken by Co-ecology (2022) for a previous planning application covering an extant permission for this area demonstrated that the landholding was not being used by SPA qualifying species. The site, which includes the land subject to survey within this report, is therefore not considered to fall under the concept of Functionally Linked Land and the scheme would not result in a likely significant effect to this SPA from construction related activities.

2.6. The site provides suitable foraging and nesting habitat for common species of birds. There is limited provision for ground nesting birds due to the field being used for dog walking for part of the year and sheep grazing.

2.7. Great crested newt – This species was confirmed to be present in the drainage ditch on the eastern boundary of the site and are therefore considered likely to be present within all on-site terrestrial habitats. A District Level License (DLL) for development works within the Park Holidays landholding is currently in place (licence number 2024-00643-EPS-DLL, valid from 12/04/2024 to 11/04/2026).

2.8. Bats – There was very limited provision for bats on site, however the line of trees and adjacent riverine habitats are likely to provide suitable commuting and foraging habitats for bats in the local area and should be protected during construction.

2.9. Reptiles – Slow worm and grass snake are known to be present within the wider Holiday Park habitats including grassland and hedgerow of the field adjacent to the eastern boundary (Co-ecology, 2023). The grassland on site provides similar opportunities for common species of reptiles to forage and take shelter and as such are considered likely to be impacted by construction.

2.10. Water vole – Water vole have historically been recorded within the wider Willop Sewer river habitat with the closest recorded approximately 630m south east of site. The water vole survey concluded that the short section of river had potential to provide suitable foraging and burrowing opportunities for water vole, however the high level of disturbance from dog walking will likely reduce activity.

- 2.11. Otters - Despite the proximity to the Willop Sewer, the site does not provide suitable holt building opportunities, and the site would likely only support dispersal for otters due to the size of the site and high frequency of disturbance by dogs.
- 2.12. Biodiversity objectives to be considered in this lighting scheme were determined through consideration of the information collated during the ecological surveys at the site. These are detailed in Table 2.1 below.

**Table 2.1** Biodiversity objectives in regards the design, control and management of any new artificial lighting

| Ecological Feature                                | Target                                                                                                                                                              |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Retained habitats: Hedgerow, line of trees, ditch | Maintain connectivity and ensure that light does not spill on to the existing hedgerows or the newly planted areas.                                                 |
| Buffer zones – Wildflower meadows and Grassland   | Allow foraging without interference from lighting.                                                                                                                  |
| Bats                                              | Enhancement of suitable bat foraging habitat and ensure neither ambient or direct source light influences foraging, commuting or roosting opportunities.            |
| Birds                                             | Ensure enhanced boundary hedgerows and dark corridors, ensuring connectivity is maintained and improving foraging opportunities.                                    |
| Great crested newts                               | Ensure enhanced boundary hedgerows and dark corridors, ensuring connectivity is maintained and improving foraging opportunities.                                    |
| Reptiles                                          | Ensure enhanced boundary hedgerows and dark corridors, ensuring connectivity is maintained and improving foraging opportunities.                                    |
| Water Voles                                       | Ensure wet ditches present around and on-site are not illuminated to avoid impacts to foraging and commuting water voles and maintain connectivity between ditches. |

### 3 Lighting Impacts and Prescriptions

3.1. This document will ensure that essential lighting for health and safety is sufficient yet will not impact or influence the local wildlife. It will ensure that nocturnal species are able to forage and commute along dark corridors as required without increased fear of predation or impacts associated with light pollution.

3.2. Artificial lighting can take two forms:

- *Ambient light level increase* – a general increase of light levels over the area as a whole; and
- *Direct Illumination* – lights directed at certain features or pathways.

3.3. Light impact has implications for nocturnal species in both forms of lighting and therefore all light sources need to be considered.

#### Internal lighting

3.4. Light emitting from windows will impact on habitats within proximity. If internal light position is not considered, habitats directly adjacent to the static holiday lodges could be influenced by increased ambient light levels. Therefore, internal light positions, Luminaire value and window coverings will be considered:

- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill;
- Window coverings will be considered to reduce light glare; and
- Ensure that habitats within proximity to the static holiday caravans are of low ecological value.

3.5. Positioning of the lodges will influence the amount of light spillage. Elevations with less light spillage should be angled towards sensitive habitats to avoid impacts of light spillage and direct illumination of any boundary features.

#### External lighting:

#### Bats and Lighting

3.6. The important habitats and ecological features on site that need to be considered and protected include:

- Foraging or commuting habitat supporting bats such as the river corridor, hedgerows, line of trees and ditches;
- Western grassland meadow and tree planting to be maintained as dark corridors to allow movement around the site.

#### Impacts

3.7. Lighting impacts bat species depending on their foraging behaviours. Only the faster-flying species, traditionally considered to be 'light opportunistic' are now found throughout our towns and cities (BCT 2023). The slower-flying and broad winged species have been shown to avoid commuting and foraging routes illuminated with a variety of different street luminaires – these species of bat include the *Myotis* sp.

3.8. Both of these lighting situations can have significant impacts on bats and will alter and influence their behaviour in the following ways;

- *Bat roost* – Direct and ambient light around a roost can cause disturbance which could result in the bats deserting the roost or even becoming entombed within it (Packman *et al* 2015).
- *Roost access point* – Direct light on an exit point could delay emerging time shortening available foraging time.

- *Flightpath to and from the access point* – Ambient and direct lighting of flightpaths can sever access points and routes to and from roosts.
- *Insect behaviour* - Many night-flying species of insect are attracted to light, especially those light sources that emit an ultraviolet component or have a high blue spectral content. This is particularly a problem if it is a single light source in a dark area. As well as moths (Wakefield *et al* 2015), a range of other insects can be attracted to light such as craneflies, midges and lacewings (Bruce-White *et al* 2011). Causing insects to cluster round a direct light source reduces the number of insects in the wider community.
- *Bat feeding behaviour* – being drawn to clusters of insects round a direct light source increase predation, bats that avoid lights have reduced feeding opportunities.
- *Predation* – increased ambient light levels allows predators, such as peregrine falcons, to prey on bats. Bats clustering around a direct light source increased predator risk.

### Avoidance

#### Construction phase

- 3.9. Ensure no artificial lighting is used during the construction phase to avoid impacts to foraging/commuting bats. This will be achieved by restricting work hours to between the hours of 07:30 and 18:00. Monday to Friday and 08:00 – 13:00 on Saturdays and at no time on a Sunday or bank holidays, unless in association with an emergency. Works carried out during the bat active season are therefore unlikely to impact foraging and/or commuting bats.
- 3.10. Further information relating to the Construction Phase of the development, including measures to avoid and mitigate impacts to habitats and species are detailed within the accompanying Construction and Environment Management Plan (CEMP) Report (Co-ecology, 2025).

#### Operational phase

- 3.11. To ensure that the above impacts are avoided the light fittings, direction and placement need to be considered. All newly created habitats, as well as established habitats will not be directly illuminated, and ambient lighting levels will be kept to a minimum.
- 3.12. All new lighting will be confined to the area for the proposed installation of the new holiday lodges, along access road into the site. There will be no lighting installed within any of the retained, newly planted or enhanced habitat areas.
- 3.13. In general, all light sources, internally and externally, will consider the following to ensure that light levels do not impact the on-site habitats or the wider landscape.
  - All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources will not be used,
  - LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability,
  - A warm white light source (2700 Kelvin or lower) will be adopted to reduce blue light component; and
  - Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- 3.14. When choosing external lighting their potential impact on key habitats and features will be considered (Institution of Lighting Professions 2023):
  - Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Appendix 1)
  - Column heights will be carefully considered to minimise light spill and glare visibility. This will be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards,

- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, will be considered;
- Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Where appropriate, all external lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1- or 2-minute timer is likely to be appropriate;
- The use of bollard or low-level downward-directional luminaires is discouraged due to high likelihood of glare, poor illumination efficiency, upward light output, increased upward light scatter from surfaces;
- If bollards are to be used on site then accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed;

3.15. The bollard selected for New Beach is the Fumagalli Square bollard 800mm in height. The average lux 15 and the bollard will be controlled via a timer set to the local dusk to dawn timings.

#### *Site specific lighting*

3.16. Lighting within this development will avoid the hedgerows, adjacent river, ditches, and buffer zones along the boundaries of the site to ensure that the dark corridors are maintained. Figure 1 below, shows areas that will be avoided. Therefore, no lighting will be directed at these features or within close proximity.

Figure 1 – Dark corridors to be established.



## References

- Institution of Lighting Professionals & Bat Conservation Trust (2023), *Bats and Artificial Lighting at Night*, BCT Guidance note GN08/23. Warwickshire.
- Boyes D.H., Evans D.M., Fox R., Parson M.S., Pocock M.J.O., (2021), *Street lighting has detrimental impacts on local insect populations*, Science Advances, Vol 7:35
- British Standards Institution (2012) *BS 5837:2012- Trees in relation to design, demolition, and construction*. BSI, London.
- British Standards Institution (2013). *Biodiversity – Code of practice for planning and development*. BS 42020:2013. BSI, London.
- Bruce-White, C., Shardlow M., (2011) *A review of the Impact of Artificial Light on Invertebrates*. Buglife - The Invertebrate Conservation Trust.
- CIEEM (2019) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine Version 1.1*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Co-ecology Ltd (2025a) *Construction Management Plan*. Unpublished
- Co-ecology Ltd (2025b) *Biodiversity Enhancement Plan*. Unpublished.
- Enzygo (2025). *External Lighting Plan*, Unpublished.
- Packman, C., Zeale, M., Harris, S. & Jones, G. (2015). *Management of bats in churches - a pilot*. English Heritage Research Project: 6199
- Stone, E.L., Jones, G., Harris, S. (2012). *Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats*. *Int. J. Change Biol.* 18, 2458-2465
- Wakefield, A., Stone, E.L., Jones, G., Harris, S. (2015). *Light-emitting diode streetlights reduce last-ditch evasive manoeuvres by moths to bat echolocation calls*. *R. Soc. Open Sci.* 2, 150291. <http://dx.doi.org/10.1098/rsos.150291>. xxiv *Environmental*

# Appendix 1

**Picture 1**

*Fumagalli bollard with LED lighting*



**Picture 2**

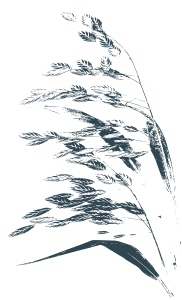
*Suitable bollards for LED lights*



**Picture 3**

*Examples of waymarkers*





**Co-ecology**