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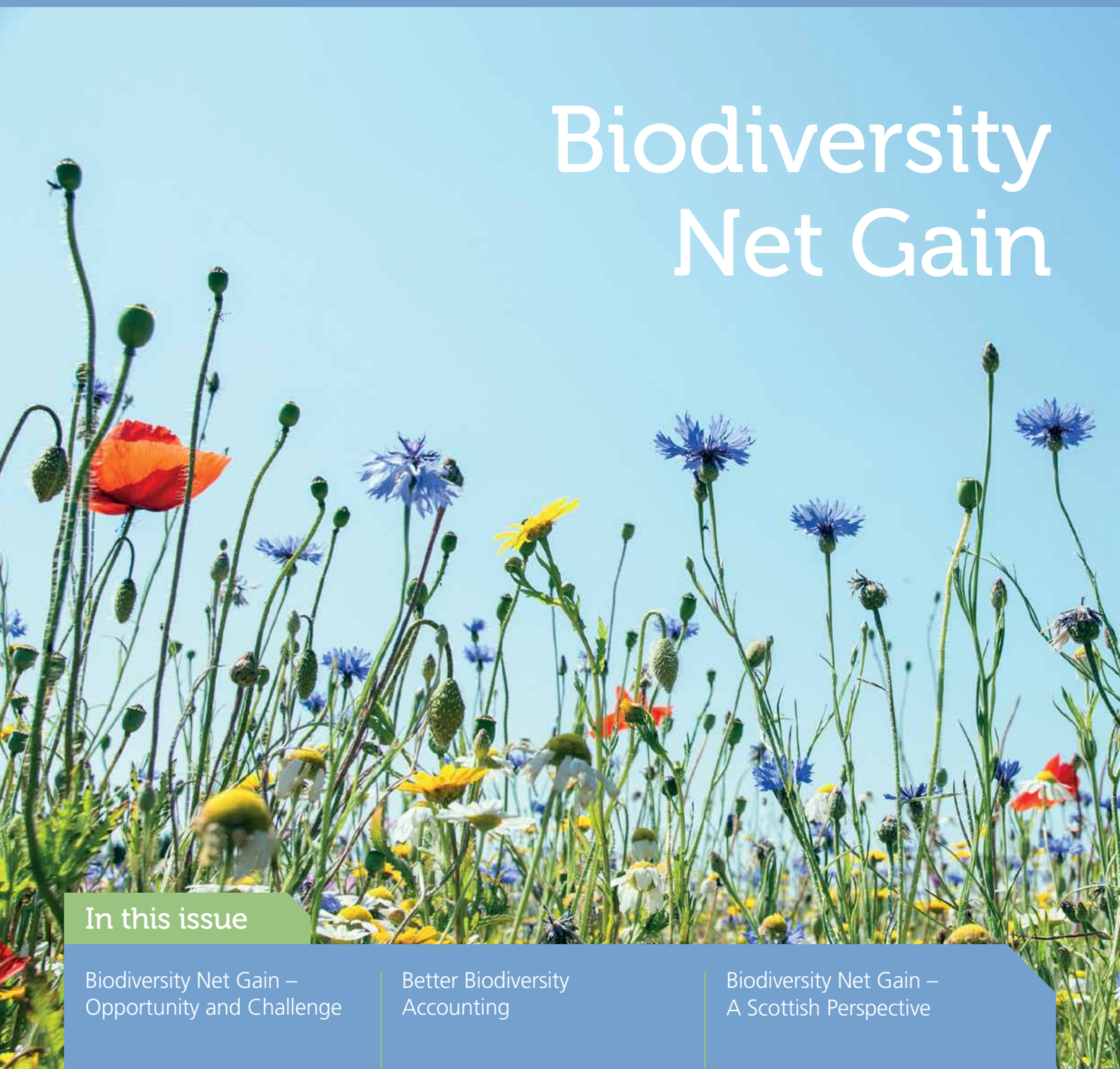
Biodiversity Net Gain



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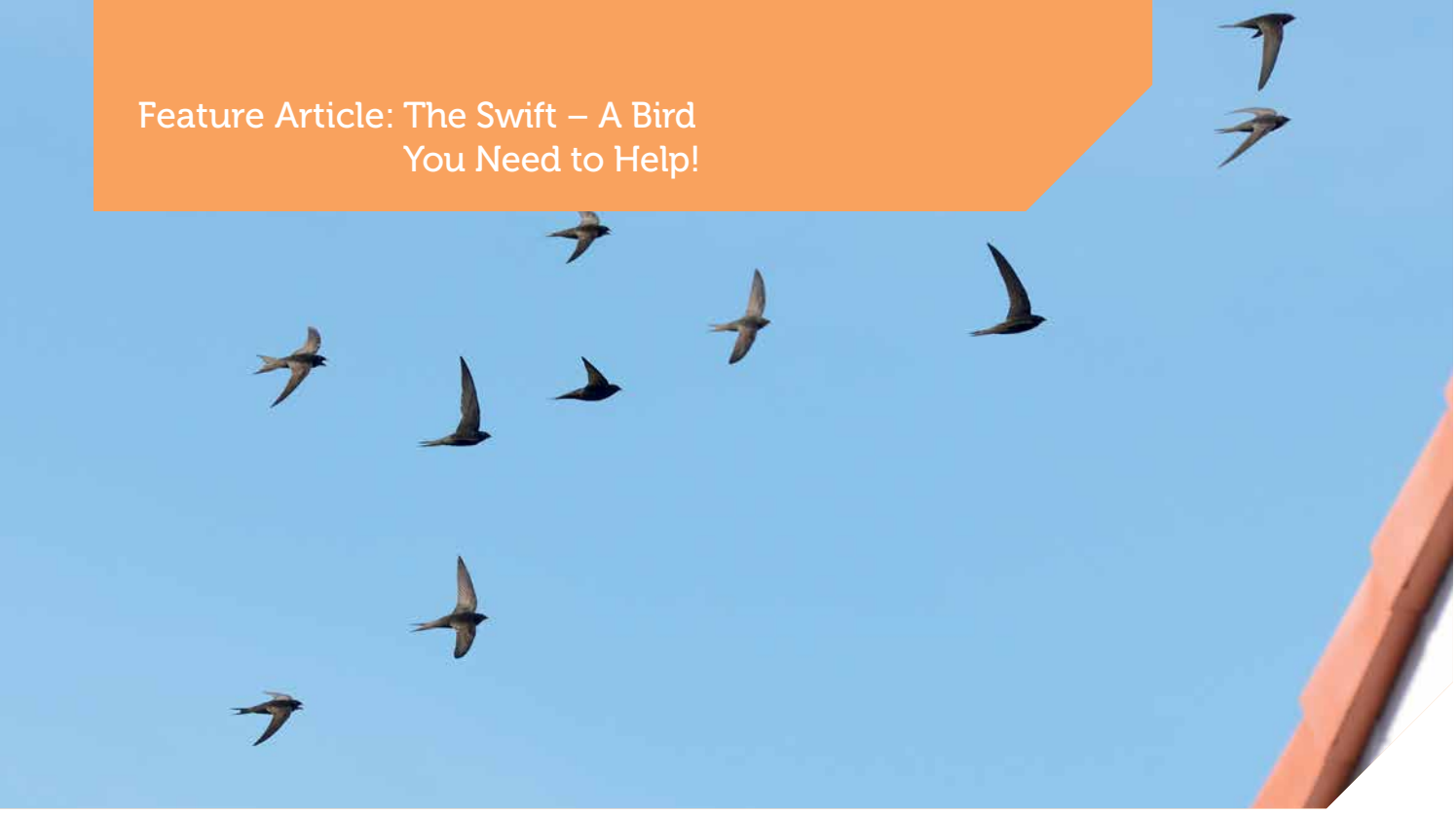

Figure 1. Swifts are a familiar sight above the rooftops of our villages, towns and cities. Photo credit RSPB-Images.

The Swift – A Bird You Need to Help!

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The Government's ambitious house building programme needs to be carried out in a way that protects and benefits all those species impacted by development. One bird directly in the line of fire is the swift *Apus apus*, with a reduction in suitable nest sites resulting in declining numbers across the country. This article reviews the worrying conservation status of the swift, the growing public interest and the urgent action needed to prevent further losses by providing suitable nest sites in new developments.

Introduction

The swift is a summer visitor, arriving back in the UK to nest in the eaves of houses, commercial buildings, churches and older buildings. They return to the same nest every year, establishing colonies that can last for centuries. They eat flying insects including aphids, gnats, mosquitoes, flea beetles, moths, hoverflies and flying ants as well as spiders floating in the air, and they spend most of their life on the wing. (Figure 1)

Despite a rapid 53% decline between 1995 and 2016 (Breeding Bird Survey – BBS, Harris *et al*. 2018), the swift is only amber-listed as a Bird of Conservation Concern (BoCC) (Eaton *et al*. 2015). This decline is greater than the '50% in 25 years' threshold required for a species to be placed on the BoCC red list. Therefore, the swift may well move from the amber to red list at the next BoCC revision in 2021. In addition, according to International Union for Conservation of Nature (IUCN) criteria the swift is classified as endangered in the UK (Stanbury *et al*. 2017).

The causes of decline may include a lack of insect food, but nest site loss is a particular problem and is an issue we can start to address. Swifts rely on nest sites in buildings but unfortunately many traditional sites disappear each year through renovation, insulation and demolition, while new buildings exclude them from the spaces they normally use.

Public perceptions

A recent MSc study investigated householder attitudes toward nest and roost bricks in houses. It questioned 142 people of whom 75% thought integral swift bricks were a good thing (Roberts 2017). Overall, 85% of respondents said their decision to buy a house is unlikely to be negatively influenced by the presence of an integral swift brick while the remaining 15% thought it might even increase their likelihood of buying a property. When asked, 73% of people would recommend a house with an integral swift brick to a friend; the remainder didn't know, and nobody said they wouldn't. The study found there were no discernible differences in the perceptions of people of different wealth (using the number of bedrooms as a proxy), age, gender or whether there were children in the house. Studies like this will help to allay concerns of developers that nesting birds compromise the saleability of houses.

Figure 2. An example of a Manthorpe brick. Photo credit John Day.

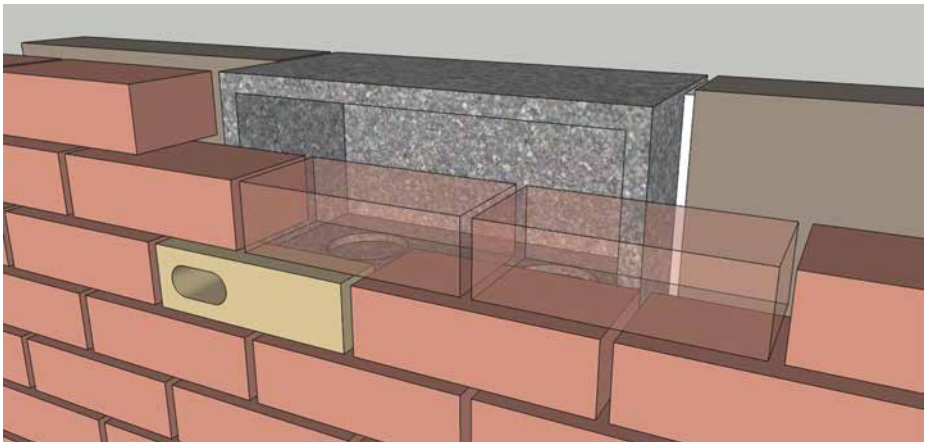

Figure 3. Cross section of Cambridge Brick system. Photo credit Dick Newell.

Nest provision

Great advances have been made in the UK over the last decade in our understanding of swift nest requirements, both for the protection of existing nests and provision of new nests. Options are now available for most situations, either 'off-the-shelf' or bespoke. Provision of artificial nest sites has secured or created many local swift colonies both in the UK and in Europe.

Swift boxes can be mounted externally or fitted internally, either flush with an external wall or inside a roof space. Externally mounted nest boxes can more easily be fitted to existing buildings but it can also be cost effective to retrofit integral swift bricks. These are more secure and eliminate future maintenance requirements. Details and case studies of these techniques appear on the *Action for Swifts* and the *Swift Conservation* websites (see Further Resources below).

For new houses, be it one, several hundred units or a small two-storey extension, internal swift bricks are the preferred option. They leave a neat, tidy finish, last the lifetime of the building and require no maintenance (Figure 2). An integral swift brick is a self-contained unit and prevents access to anywhere else in the roof space.

It has been around 30 years since the ornithologist Chris Mead worked with Schwegler to design integral swift bricks. Since then many companies have joined the market. An impartial booklet, Facts about Swift Bricks (Newell 2019a), listing many brands and suppliers can be downloaded from the *Action for Swifts* website (tinyurl.com/swiftbricks). Unit costs range from £25 to £160 or more. It is preferable to choose a product compatible with UK brick sizes; many imported products are not. There are cement-based products, for example the CJ Cambridge System and Schwegler, as well as products made of lighter materials including plastic, for example from Manthorpe and Birdbrickhouses (see Newell 2019b or visit https://www.nhbs.com/equipment) (Figures 2, 3).

Other species are known to use swift bricks, including starlings *Sturnus vulgaris*, house sparrows *Passer domesticus*, great tits *Parus major* and blue tits *Cyanistes caeruleus*. Whilst numbers of starlings and house sparrows are also declining and will benefit from artificial nest sites, there is the potential for conflict with homeowners because starlings often leave droppings. Starlings can also displace swifts from a nest site, but they can be excluded by ensuring nest entrance holes are no larger than 65 x 28 mm. It is best to consider providing external starling boxes on trees adjacent to open areas of grassland where they can easily find their insect food.

House sparrows and tits will happily use swift bricks (Figure 4) as well as sparrow bricks or external sparrow terraces, which swifts cannot use. Sparrows and tits will not generally exclude swifts from a nest

Figure 4. House sparrows also use swift nest bricks and can attract swifts to nest. Photo credit John Day.

site, and their presence in a swift brick may even attract prospecting swifts to use that nest site in future years. Therefore, other species can be accommodated by providing more swift bricks in a building without this being detrimental to swifts. However, provision of suitable cover in the form of hedges and large shrubs in the vicinity of the nest boxes is of equal importance to house sparrows.

How many swift bricks? And where?

As swifts and sparrows nest in groups, nest bricks should be clustered in suitable areas of the development, two to four bricks per dwelling, resulting in an equal number overall of nest sites and residential units (Gunnel *et al*. 2013). On larger commercial buildings, one swift brick per 6 m^2 of wall, mounted near the roof, in clusters of three or more, is recommended (Figure 5a,b).

Swift boxes can be placed on any aspect of an existing building, ideally under shade-casting eaves. However, nest boxes exposed to the sun need to be constructed of thick enough material and possibly painted white to prevent overheating. Avoid locating nest boxes and bricks above doors and windows. There is no upper limit for the height of a swift nest but nest boxes installed 5 m or more from the ground should lead to higher occupancy rates. Ensure a clear flyway of at least 5 m in front of the nest box avoiding obstructions such as trees, including any trees planted in new landscaping that may cause obstruction when mature (Newell 2019b) (Figure 5a,b).

Swifts are long-lived birds and may take several years to find a new nest site. Playing recordings of swift calls can encourage swifts to investigate a site and accelerate the process. Advice on this well-proven technique is available from actionforswifts@gmail.com or mail@swift-conservation.org.

Mapping for swifts

There are several local or county-level recording systems for swifts. Currently, two systems operate across the whole of the UK: the RSPB Swift Survey and the Swift Mapper phone app. Data from these systems can be used by local authority planners, architects, ecologists and developers to identify swift hotspots. This should enable adequate mitigation to be incorporated into development projects to protect breeding swifts and to provide swift nest sites as part of building works.

The RSPB Swift Survey was created to collect data on nesting swifts from the public. It allows users to enter or search for records of swift nest sites or parties of 'screaming' swifts in flight and provides details about the nest sites. It also allows the absence of swifts to be recorded from previously occupied sites.

The Swift Mapper phone app, launched in the autumn of 2018, is available for both

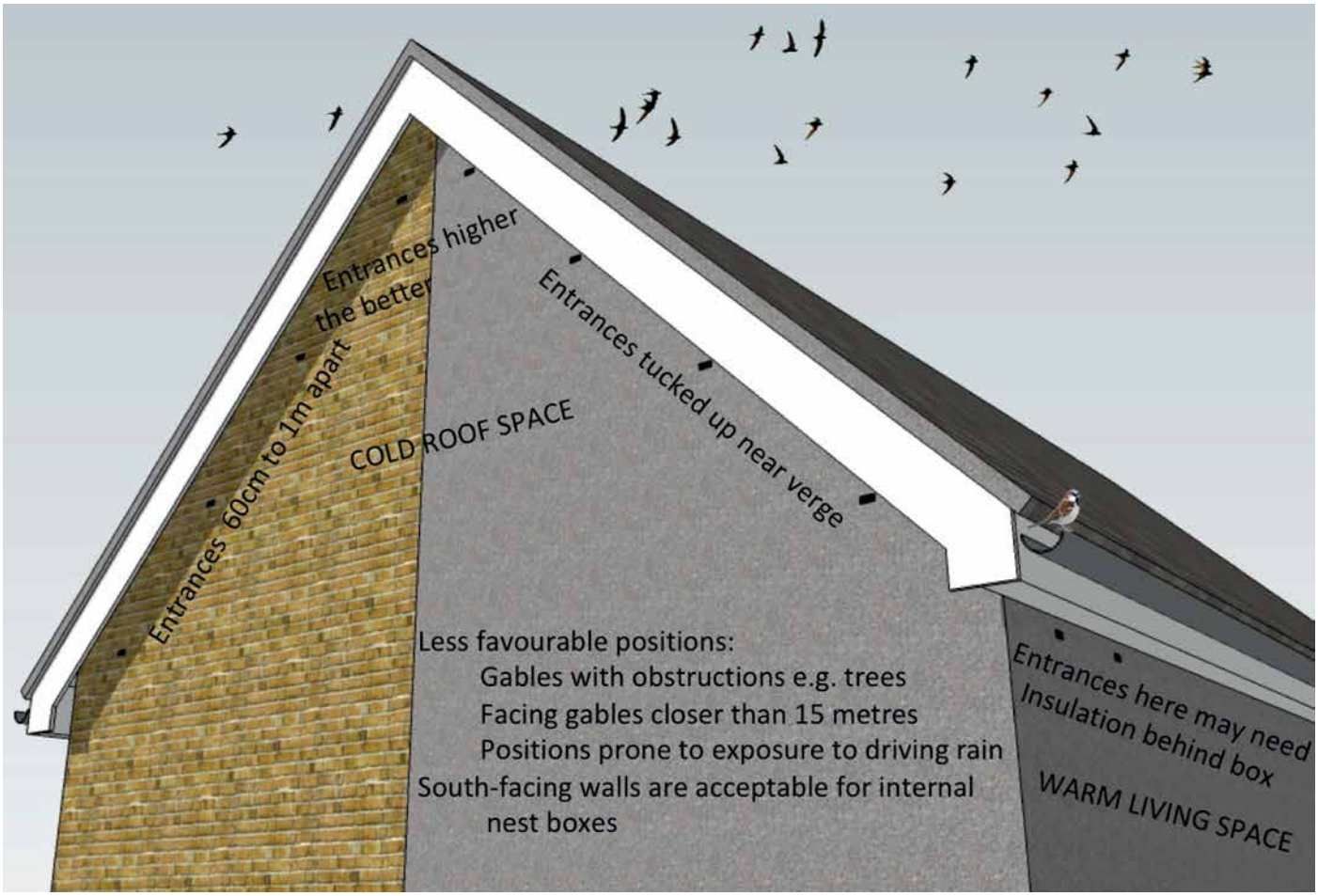

Figure 5a. Recommended positions of internal nest boxes for swifts and house sparrows. Other possibilities include holes in soffits and fascias. Photo credit Dick Newell.

Figure 5b. Recommended positions of internal nest boxes for swifts and house sparrows. Photo credit Dick Newell.

Apple and Android phones. It has the same objectives as the RSPB survey but with the added flexibility of recording sightings in the field. Records from the app may be exported into other systems such as the RSPB Swift Survey.

In some areas, RSPB data are transferred to local biodiversity records centres for ease of local access. The value of these datasets increases over time, for example the RSPB Swift Survey now contains tens of thousands of records. Gaps in coverage still exist, of course, and lack of records from any individual area does not mean swifts are absent. The imperative is to provide new nests to compensate for the gradual loss of established sites, help maintain and expand existing colonies and start new colonies elsewhere. (See also Further Resources below.)

Planning policy and the role of ecologists

Under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, public bodies have a duty to protect and enhance all biodiversity. This is supported by the National Planning Policy Framework (NPPF) 2018 in paragraph 175d: *When determining planning applications, local planning authorities should apply the following principles:..... opportunities to incorporate biodiversity improvements in and around developments should be encouraged*.

Many local authorities now include swift nest site provision in Local Plans and Supplementary Planning Guidance documents. One of the first to do so was Exeter City Council (Exeter City Council 2010) and other authorities around the country have followed suit, for example the Local Plans for the London Boroughs of Hackney and Islington require swift bricks to be used in many new developments.

Unfortunately, lack of resource in Planning Authorities means delivery can be 'hit and miss'. Officers do not have time to make checks and may not know the details of correct installation. Where measures come proposed as part of a planning application, a local authority may not have the knowledge to determine if those proposals are correct. There is therefore an extremely important role for ecologists to play here, ensuring they specify the right provision and that it is executed correctly on site by monitoring progress. Where swift bricks are not installed, we need to work with council officers in charge of planning conditions to ensure bricklayers return and fit them.

Recommendations

Biodiversity continues to decline in the UK and swifts are just one species suffering as a consequence. The UK Government's ambitious target to build 300,000 homes per year presents an opportunity for effective mitigation and compensation for the continual loss of existing swift nest sites. We propose the following key recommendations for all planning applications.

- Incorporate nest boxes into development projects. Nest boxes suitable for multiple species such as swift nest boxes will help more species. Although birds of any kind are good for people's health and wellbeing, budgets should be targeted at species that need help.
- Use data from the mapping tools together with ecological survey work to assess likely impacts on swifts; implement effective mitigation by installing enough swift boxes in the correct location and position.

- Wherever possible, incorporate swift bricks in new or restored buildings to increase the overall availability of nest sites for swifts and other species. Birds such as house sparrows can use swift bricks but swifts cannot use house sparrow nest bricks.
- Integral swift bricks are the preferred option on new housing developments (fitted in clusters of 2 to 4 on gables and near the roofline where swifts would naturally look for a potential nest site); on larger commercial buildings include one swift brick per 6 m^2 of wall, mounted near the roofline, in clusters of 3 or more, with approximately 1 m between entrance holes.
- Try to ensure swift bricks have a minimum of 5 m clearance beneath and in front, and avoid locating them above doors and windows.
- 'Tool-box' training and on-site supervision is essential to ensure swift bricks are fitted correctly and in the right places.
- If in doubt, ask for advice: the Swift Local Network (SLN) group, Swift Conservation, Action for Swifts or the RSPB are always available and happy to provide help. Check their respective websites and contact them for one-to-one advice on a project.

Further Resources

Distribution data:

RSPB Swift Survey is available at https://swiftsurvey.org/rspb/home/index

Swift Survey Data is used to provide GIS layers for administrative areas (email: dataunit@rspb.org.uk)

Advice and case studies:

http://www.rspb.org.uk/helpSwifts
http://swift-conservation.org
http://actionforSwifts.blogspot.com
Swift Local Network Groups near you – link from http://actionforswifts.blogspot.com

Training:

Swift-related training (on-site and CPE style) for ecologists, architects and planners is offered by Swift Conservation (mail@swift-conservation.org) and RSPB (Conservation-advice@rspb.org.uk)

References

Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R. (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, **108**: 708-746.

Exeter City Council (2010). *Biodiversity Requirements of the Exeter Residential Design Guide Supplementary Planning Document (section 9.28)*. Exeter City Council, Exeter. Available at https://drive.google.com/file/d/0B4CpCORtOQdTRTNYSENnUXdoNTQ/view. Accessed 19 March 2019.

Gunnel, K., Murphy, B. and Williams, C. (2013). *Designing for biodiversity: a technical guide for new and existing buildings (second edition)*. Bat Conservation Trust and RIBA Publishing, London. Available at: http://www.ribabookshops.com/item/designing-for-biodiversity-a-technical-guide-for-new-and-existing-buildings-2nd-edition/79859/. Accessed 19 March 2019.

Harris, S.J., Massimino, D., Gillings, S., Eaton, M.A., Noble, D.G., Balmer, D.E., Proctor, D., Pearce-Higgins, J.W. and Woodcock, P. (2018). *The Breeding Bird Survey 2017*. BTO Research Report 706, British Trust for Ornithology, Thetford. Available at https://www.bto.org/volunteer-surveys/bbs/bbs-publications/bbs-reports. Accessed 19 March 2019.

Newell, D. (2019a). *Facts about Swift bricks*. Action for Swifts, Swift Conservation, RSPB. Available at tinyurl.com/swiftbricks. Accessed 19 March 2019.

Newell, D. (2019b). *Guidance for including bird boxes in residential development*. Action for Swifts. Available at https://actionforswifts.blogspot.com/2019/02/guidance-for-including-bird-boxes-in.html. Accessed 19 March 2019.

Roberts, S. (2017). *The attitudes of housing occupants to integral bird and bat boxes*. Unpublished MSc thesis, University of Gloucestershire. Summary available at https://actionforswifts.blogspot.com/2018/06/the-attitudes-of-housing-occupants-to.html. Accessed 19 March 2019.

Stanbury, A., Brown, A., Eaton, M., Aebischer, N., Gillings, S., Hearn, R., Noble, D., Stroud, D. and Gregory, R. (2017). The risk of extinction for birds in Great Britain. *British Birds*, **110**: 502-517.

About the Authors

John Day is the RSPB's Urban Adviser. His work covers many aspects of the built environment, promoting the design and landscaping of climate-resilient towns and cities to green space managers and developers, and encouraging the provision of wildlife beneficial features.

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Dick Newell is an engineer who, since retirement, has focussed on solutions to the problem of a declining swift population. He was given a BTO Marsh Award for "Innovative Ornithology" in 2016. Several swift nest box designs on the market incorporate ideas resulting from bespoke projects by Action for Swifts.

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Edward Mayer runs Swift Conservation, a free online advice service for those wanting to help swifts. He gives talks on the conservation of swifts and enhancing urban biodiversity. His background in property and museum management gives him great credibility within the building profession.

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