



Gwent Levels Bird Nest Box Project: Final Report

Richard M. Clarke, Goldcliff Ringing Group, October 2021

Introduction

1. This is the final report of the Gwent Levels Bird Nest Box Project. It provides a summary of the outputs and outcomes of the project to the end of September 2021 and expands upon and updates details provided previously to the RSPB in an Interim Report (October 2020) and map and oral update (April 2021).

Background

2. The project is led by the Goldcliff Ringing Group, working in close association with the RSPB and in collaboration with local landowners and third sector groups. Funding was provided by the Welsh Government's sustainable management scheme and was linked to the Living Levels Landscape Partnership.
3. The Gwent Levels continues to provide suitable feeding habitat for the key bird species targeted by the project – Tree Sparrow, Barn Owl, Little Owl and Kestrel. However, a loss of suitable nesting sites is believed to have had a limiting impact on populations. Historical land management practices such as maintaining and pollarding willow along the reen system and the existence of orchards, previously provided nesting opportunities especially cavities in old trees (used by all key species) and dense regrowth of pollarded willow, used especially by Tree Sparrows.
4. The project aims to help maintain and where possible, increase the population of key bird species on the Gwent Levels and to do this by:
 - providing nest boxes for the key species in areas of suitable habitat where existing nest sites are at a premium – providing a bridge to enable time to re-establish pollarding and orchard maintenance that is being funded through other aspects of the scheme and partnership;
 - monitoring and reporting on breeding success; and,
 - raising wider awareness amongst local communities about key bird species.
5. An additional benefit of the project was to empower volunteers by providing new transferable skills.

Outputs and outcomes

6. The pandemic has had a significant impact on the timing of the project with nest box production and installation being delayed and the monitoring of boxes being prevented, at least in part.
7. Despite the challenges presented by the pandemic, the project has progressed well, albeit at a slightly slower pace than originally planned.

The nest box project was carried out through the Sustainable Management Scheme Sustaining the Gwent Levels project, funded through the Welsh Government Rural Communities - Rural Development Programme 2014-2020, which is funded by the European Agricultural Fund for Rural Development and the Welsh Government.

In partnership with Living Levels programme on the Gwent Levels funded by National Heritage Lottery Fund

Nest box provision

8. The full complement of 259 nest boxes for the key species was successfully built by October 2020 comprising: Tree Sparrow (200 boxes); Barn Owl (25 boxes); Kestrel (10 boxes); and, Little Owl (24 boxes).



9. Box designs used followed those advised by the Barn Owl Trust (indoor and external use) and the British Trust for Ornithology. Boxes were subsequently installed across the Caldicot Levels between Uskmouth and Magor – see Annex for location details.

*Little Owl box near Uskmouth:
Richard M. Clarke ©*

10. In locating boxes, consideration was given to various aspects including the suitability of habitat for each species.
11. Tree Sparrow boxes were positioned mostly in hedgerows along reens in the Whitson/Porton/Redwick area of the Caldicot Levels where the species has historically been present and where the presence of invertebrates for feeding nestlings was likely to be at a premium.
12. Barn Owl boxes were installed in locations with suitable feeding habitat nearby, but away from roads with high-volume traffic, which would present a significant risk to the species. A variety of situations have been used including buildings (barns/church) and trees.
13. Little Owl boxes were installed mostly in old orchards and along hedgerows, where the species has been known to favour.
14. Kestrel boxes have been installed in high trees, mainly in hedgerows.



*Installing a Barn Owl box at
Sampson Court: Richard M.
Clarke ©*

Monitoring and reporting

15. The pandemic seriously impacted upon the Group's ability to fully monitor all nest boxes during both the 2020 and 2021 breeding seasons. Nevertheless, some monitoring was achieved and details by species is set out below.
16. Barn Owl: due to the species' extended breeding season some limited monitoring was possible late in the 2020 breeding season. Similarly, targeted monitoring during 2021 was undertaken when permitted during the pandemic. The results for both years are shown in table 1.

Table 1: Barn Owl nest box monitoring results for 2020/2021

	Boxes used for roosting	Boxes used for nesting	Successful breeding outcome	Unsuccessful breeding outcome	Unknown breeding outcome	Boxes not visited
2020	2	6	4	1	1	4
2021	2	11	7	3	1	2 ⁽¹⁾

(1) A bee's nest below one box prevented monitoring

17. Under Schedule 1 (WCA) licensing, nests were monitored and adult birds and broods of owlets were ringed. All data collected were submitted to the British Trust for Ornithology.

18. There are two key things to consider when reviewing the results:

- (i) the impact of the pandemic on the ability of the Group to visit nest boxes at key stages in the breeding seasons has resulted in gaps in data; and,
- (ii) the fact that the number of nest boxes available between 2020 and 2021 increased as the project progressed and that this increase in nesting opportunities was clearly exploited by the species.

19. With the above points in mind, the take up of boxes by Barn Owls and the increase in breeding pairs between years is nevertheless very encouraging and already endorses the rationale for providing nest boxes across the Levels i.e. there has been an absence of suitable nesting sites in the area.

20. The Birds of Gwent (Venables *et al*, 2003¹) estimated the Gwent population as being between 50-100 pairs and therefore the eleven pairs recorded on the Caldicot Levels in 2021 is potentially significant at a county level in both number and density.



Juvenile
Barn Owls
Left male/right female
At Great Newra:
Richard M. Clarke ©

¹ Venables *et al*, 2003. *The Birds of Gwent*, Christopher Helm, London (A & C Black).

21. In addition to boxes being taken up by Barn Owls, one was used by a roosting Kestrel and a second box was used successfully by nesting Stock Doves (amber listed species).

22. The Group contributed to two University-led raptor studies:

(i) Nottingham Trent University: study into the effects of land use and climate on raptor breeding performance.

(ii) University of Nottingham: Lead in Barn Owls and Kestrels Project.

23. Tree Sparrow: disappointingly, at the time of writing, Tree Sparrows were absent from the area and therefore none of the nest boxes were used by the target species. The boxes were however taken up by other species with a good proportion used successfully by both Great Tits and Blue Tit. Other occupants of boxes included Wood Mice and Tree Bumblebee.



Tree Sparrow: Richard M. Clarke ©

24. There is evidence of recolonisation occurring after a period of absence (Clarke, 2010²) and therefore it remains to be seen if Tree Sparrows will return to the area in the future and whether they will take advantage of the nest boxes provided.



25. Little Owl and Kestrel: the majority of boxes were probably not in situ to allow sufficient time for them to be used. Nevertheless, one of the Little Owl boxes was used for roosting at an orchard location at Great Newra and encouragingly, Kestrels were seen in the vicinity of Kestrel boxes at Nash and at Grangefield, which bodes well for the 2022 season.

Kestrel: Richard M. Clarke ©

Raising awareness and engagement

25. This has been mostly achieved through discussions with landowners and collaborative partners and through working with volunteers. A summary of key events follows:

- Some 25 different landowners have been engaged during the course of the project.
- Two separate articles about the project have published in the Gwent Ornithological Society's newsletters.
- An on-line article about the project was published on the Living Levels partnership website.

² Clarke, R.M., 2010. *A history of breeding Tree Sparrows Passer montanus population at Porton & Redwick*. Gwent Bird Report 2009.

- A presentation about the Barn Owl aspect of the project was given to the inaugural meeting of the Monmouthshire & Newport Local Nature Partnership.

Empowering volunteers

26. Volunteers have been involved in the project in various ways, including:

- Two (tree sparrow) nest box making sessions held in conjunction with Natural Resources Wales at their workshop at Goldcliff, followed by three nest box erection events on the Caldicot Levels involving some 15 volunteers in the five events.
- Young adults being educated by Eli Training Ltd at Newport were involved in the project by building ten of the Barn Owl nest boxes.
- Various monitoring sessions were undertaken with volunteers, NRW and Gwent Wildlife Trust personnel taking part.
- Two group members attended training given by the Barn Owl Trust and as a result they have shared their knowledge and skills with others.



Volunteers at a nest box making event at Goldcliff: Richard M. Clarke ©

- As a consequence, a third member of the Group successfully applied for their Schedule 1 (Barn Owl) licence in 2021 after working with other Group members.
- To improve health and safety in box erection two group members undertook ladder safety training.

Next steps

21. Work continues on mapping and registering all nest box sites on the BTO DemOn database so that all future bird nests (whatever species) and their outcomes can be recorded as part of the National Nest Record Scheme.
22. New volunteers will be recruited to assist with future nest box maintenance and monitoring.
23. Trail cameras already provided for the project will be placed at key sites in readiness for the next breeding season.
24. Further training by the Barn Owl Trust of key Group personnel is planned, but is dependent upon the Trust reinstating the training programme and funding by the partnership being provided.

25. A supply of recycled plastic boxes suitable for Barn Owls and Kestrels have been funded as part of the wider project and these will be installed over the next 12-months in new areas, including possible sites on the Peterstone/Wentlooge Levels. Some boxes will also be retained as replacements for the plywood boxes, which have a relatively short shelf life.

