

SHROPSHIRE WILDLIFE TRUST, SHROPSHIRE ORNITHOLOGICAL SOCIETY  
& UPPER CLUN COMMUNITY WILDLIFE GROUP



**SAVE OUR CURLEWS CAMPAIGN**

**CURLEW NEST PROTECTION PROJECT 2018**

**BACKGROUND**

The Curlew breeding population in Shropshire is estimated to have declined by 77% in the last 20 years. Upper Clun Community Wildlife Group (UCCWG) has been surveying Curlew in the Upper Clun since 2007: the population estimate was then 20 - 22 pairs; by 2017 it was 8 - 9, a fall of around 60% in 11 years. It is also clear that local productivity is far below the 0.5 fledged young per pair per year needed to sustain the population. Survey results from 2011 onwards suggest that most breeding attempts ended by early July; only in the odd case did activity persist beyond that. This suggests an entrenched problem with chick survival, leading to the abandonment of traditional territories through lack of recruitment. Unless this is addressed the Curlew faces extinction in this area within a few years.

In 2017, Shropshire Wildlife Trust and Shropshire Ornithological Society launched an appeal to raise funds for a county-wide Curlew Recovery Project, starting in 2018 in the Upper Clun and Clee Hill CWG areas. Its aim is to find Curlew nests, using a combination of local volunteers and professional fieldworkers, and drawing on the knowledge already accumulated by each group. The nests are then protected with electric fencing, monitored to hatching, and the chicks ringed and radio-tagged to track their movements and status. The data collected will inform decisions about future strategies.

**PLANNING AND PREPARATION**

The project team (*see below*) met in April to discuss the programme for the season, covering:

- landowner liaison
- nest finding procedures and fencing
- timetable for maintenance and nest monitoring
- arrangements for ringing, tagging and tracking chicks
- lines of communication during fieldwork
- publicity and future fund-raising

Data from past years were used to identify likely nest sites. The owners were contacted before the breeding season and where possible briefed personally. All were given a leaflet (*Appendix 1*) laying out the aims and methods of the project, a clear timeline, and an introduction to key personnel with contact details. An accompanying factsheet (*Appendix 2*) outlined Curlew's local history and current threatened status. Landowners and tenants were assured that they would be consulted, and their wishes respected, at every stage, that sites would be kept confidential, and that they would be informed of the progress and outcome of any nest.

The work of UCCWG is well known in the area, but this was reinforced by local publicity including a mailing to the UCCWG membership, another to farmers and landowners through *Land, Life and Livelihoods*, an article in the *Clun Chronicle*, and posters throughout the area requesting Curlew records.

The UCCWG Curlew Survey Group was briefed on the project, with emphasis on the importance of its role in identifying territorial pairs early in the season, and alerted as soon as Curlews started arriving back. Regular contact was maintained through the season, with calls for information issued as necessary.

## NEST-FINDING AND PROTECTION

Eighty records of Curlew activity collected by the Curlew Survey Group by the end of April were used to brief the nest-finding team led by Martyn Owen. The team then searched sites where territorial behaviour had been observed. Three nests, each of four eggs, were found between 9th and 11th of May, soon after the clutches were complete. The landowners were contacted and consent to fence the nests was obtained in all cases. Each nest was fenced within a day of being found. Where the fences were on sites with public access warning notices were displayed.

Tim Lewis and other members of the project team erected the fences, 25 metre square enclosures centred on the nest. The nests were monitored during his routine maintenance visits, when batteries were changed and the grass below the wires strimmed to prevent shorting. Care was taken to avoid excessive disturbance, and the sitting bird was watched back onto the nest. All three nests survived intact. Towards the expected date the eggs were inspected regularly for signs of imminent hatching so that the chicks could be ringed and radio-tagged by Tony Cross. This must be done very soon after the chicks hatch, before they leave the nest enclosure.

- at Nest 1 three chicks hatched around June 3rd; one egg failed to hatch
- all three were ringed and radio-tagged; tracking confirmed they were still alive on June 20th
- on June 21st a chick was found predated with ring and tag in place and a Buzzard nearby
- no signals were picked up from the remaining two on or after this date
  
- at Nest 2 four chicks hatched around June 7th
- all four were ringed and radio-tagged, and were still alive on June 12th
- on June 15th one was alive, one was found predated, and two were undetectable
- on June 28th a ring and tag, but not the carcass, of another chick were found a considerable distance from previous locations; the others remained undetectable

Nest 3 produced no viable young: on June 8th two eggs had failed to hatch, and two chicks had hatched but with congenital deformities of the legs and spine. A *post mortem* suggested nutritional osteodystrophy, a rickets-like condition affecting bone formation; the chicks were also found to have enlarged fatty livers. The symptoms are typical of B-vitamin deficiency, probably reflecting the nutritional or health status of the female during egg formation.

Three other Curlew pairs are likely to have produced hatched young, as territorial activity continued into June, though it too ended well before any young could have fledged. Two further territories were occupied at the start of the season but with no firm indications of a nest. Breeding may have taken place at two more sites, but the evidence was ambiguous as they were close to known nests. The population in the area is estimated at 8-9 pairs. A map showing their approximate location is attached (*Appendix 3*).

Tracking data confirmed that predation at the post-hatching stage is probably now the greatest threat to Curlew productivity in this area. No chicks were lost to agricultural operations this year. The three chicks whose remains were found had been predated; based on field signs, it is likely that the agents were a Buzzard, an unknown avian predator and a fox. The signals of the other four were lost in spite of extensive searches of the area; as the tags are reliable, it is likely that they had been carried out of range or underground, by avian or mammalian predators. If the latter, fox, although not the only possibility, is most likely. By early July all adult Curlew activity ceased, as would be expected if no chicks survived.

All nests were on pasture in rough vegetation, either rush or heath, and near damp springlines. After hatching, tracking indicated that each brood ranged within approximately 0.35 km<sup>2</sup>; the two recoveries beyond this had probably been carried there by the predators. Within four days of hatching the brood on heathland moved onto improved pasture, not far from the brood that had hatched there. There is no evidence that any of the chicks subsequently left these or the adjacent silage fields. They were growing well until predated, so it appears their nutrition was adequate.

The project was well supported by the local farming community. All landowners and farmers contacted by the project team consented to fencing and monitoring of the nests and granted access to their land to track the chicks. In two cases possible threats from farming operations were averted by good communication between farmers and the team. Several landowners and tenants actively contributed to the fieldwork by passing on their own Curlew observations.

### **COLOUR-RINGING**

Since 2016 Tony Cross of the Mid-Wales Ringing Group has colour-ringed over 160 adult Curlews at Dolydd Hafren near Welshpool. Each bird is identifiable by a unique pair of letters on a yellow ring on the left leg. Several have bred at nest sites in south-west Shropshire: one ringed in February 2016 was identified this year at a site near the Anchor. A male in the Llanfair Hill area was identified last year, but was not resighted this year.

### **DISCUSSION**

The project can be judged a success in several respects: in a difficult season when identification of territorial pairs was hampered by exceptionally poor weather in the pre-laying period, three nests were found and protected. All viable eggs survived to hatching; all healthy chicks were ringed and radio-tagged, and their movements and development tracked. The resulting data offered some interesting and unexpected insights:

- the heathland brood soon left its nesting habitat for improved pasture - did the latter provide better foraging this year, or the former worse? was the shorter sward easier for small chicks to navigate? was the threat of predation greater on the heath?
- each brood was lost within a short space of time - the brood that survived longer (c18 days) disappeared within 24 hours, the other probably within 3 days at most, suggesting that once detected a brood may be repeatedly targeted
- the survival times of the broods were different, the earlier-hatching one surviving for about 18 days, the one that hatched later for only about eight
- the proximity of two of the nests, 800m apart, suggested that where there is good habitat a reasonable density can be supported

The failure of all breeding attempts is disappointing, but hardly unexpected given the recent history of Curlew in the Upper Clun. This year's results confirm an impression that nest survival here may be higher than in some parts of the county, but that post-hatching predation is a major threat, so that it would have been unrealistic to expect nest protection to lead directly to improved breeding outcomes. It may be that conservation approaches need to be tailored to suit different areas, and the opportunity nest-monitoring and tracking provides to study the chick-rearing part of the breeding cycle will form an important part of the project in future years.

## **Acknowledgements**

### **The Project Team**

Tony Cross, consultant ornithologist  
Michelle Frater, survey co-ordinator  
Tim Lewis, consultant ecologist  
Jan Mckelvey (representing SWT)  
Martyn Owen and Richard Moores, BIOME Consulting  
Leo Smith (co-ordinator, and representing SOS)

Michelle Frater and Fiona Gomersall liaised with landowners prior to the breeding season

### **The Curlew Survey Group**

Brian Angell	Clive, Gill and Jeremy Lewis
Elizabeth and Steve Blackman	Tim Lewis
Geoff Clarke	John Lyden
Colin and Sheila Davies	Karen Mitchell
Chris Evans	Katie Steggles
Elizabeth Johnson	Richard Whateley

Twenty-nine other people who sent in Curlew observations are also warmly acknowledged.

### **The Farmers and Landowners**

The project would not have been possible without the support of the farmers and landowners who kindly allowed us access to their land to find and monitor the nests and chicks, especially those who agreed to the fencing of nests on their land. Their help and encouragement was greatly appreciated.

Andrew Beavan	Roy and Louise Lloyd
Richard Bright	Morton and Amanda Powell
Colin and Sheila Davies	Brian and Chris Roberts
Brenda Deakins	Keith Watkin
Roger and Annie Hughes	Trevor Wheeler
Clive, Gill and Jeremy Lewis	

The time and effort put in by all those mentioned above is a measure of the commitment of the local community to reversing the decline of the Curlew and restoring it to its former status.

Special thanks are due to Jason Waine, who conducted the *post mortem* examinations of the chicks.

Michelle Frater  
on behalf of the Project Team

November 2018

## THE NEST SITES



Two nests were on heathland sites with rough, tussocky grasses and sedges, the third on improved pasture with rushes.

The nest on pasture hatched first and the chicks survived longest, about eighteen days.

One brood that hatched on heathland moved to adjacent pasture soon after hatching.

## THE NESTS



Curlews nest in scrapes 3 - 12 cm deep lined with dry grass and a few feathers. They're often on a tussock with some protection to one side, but can be completely exposed.

Clutches range between two and five eggs, but four is by far the most frequent number.

## THE CHICKS

These chicks from Nest 2 were ringed and tagged on 8th June within a day of hatching.

The radio tags can just be seen on their backs. They're glued to the down and are shed as the down is replaced by feathers before fledging.

The tags weigh 1.2g, about 2% of the weight of a newly-hatched chick, and one-third that of a 1p coin.



## TRACKING



At any sign of danger the chicks instinctively burrow into the nearest cover and freeze. They are then almost invisible to predators, but also to the tracker, who must approach the source of the radio signal with great caution.

## CHICK DEVELOPMENT



From left to right: a day or so old, just ringed; about nine days old; about two and a half weeks. The bill lengthens, the legs grow long and robust and the head pattern becomes much more pronounced. In the last photo the flight feathers are just beginning to emerge, and feathers are starting to replace down across the back.

## THE OUTCOME



This ring and radio tag were found 14 days after the last chick from one brood was known to be alive, at a considerable distance from its final location. How long they had been there is not known. Their removal is typical of fox predation.

The two other confirmed predations were by birds, one almost certainly a Buzzard, the other of unknown identity.

Predation may seem brutal, but the victim is generally dispatched quickly; many birds face worse deaths. For the Curlew population, however, unless action can be taken, its role in breeding failure is likely to result in local extinction within a very few years.

All photos reproduced here were taken by Tim Lewis, who kindly agreed to their use.

## UPPER CLUN COMMUNITY WILDLIFE GROUP CURLEW RECOVERY PLAN



### CURLEWS NEED FARMERS

Farmers in the Upper Clun who still have Curlews on their land are the lucky few. We know from talking to you how much you value them, and that you already make efforts to protect their nests. In spite of these their breeding success is very poor, and unless this is reversed Curlew will soon die out in the area. Thanks to all of you who allowed us access to your land in 2017, we now know more about our local Curlews than ever before, and that gives us a good start.

But we need to go further, and that will depend on you. We must try to ensure that eggs hatch, and chicks survive to fledging, and where they don't, we need to find out what's causing the failures. In order to build on last year's successful nest protection work, we've secured funding for professional help with nest-finding, nest protection and chick monitoring.

The plan will only work if it's a partnership that keeps everybody happy. We want to emphasise that agreeing to give it your support doesn't commit you to accepting every part of it. You'll be consulted at every step, and can call a halt at any time if it clashes with your plans, or you're unhappy with the way it's going.

If you agree, this is how it will work: ( → indicates there's an explanation overleaf)

#### STEP ONE (mid to late April)

- we'd like you to tell Michelle Frater (*see over*) about any Curlew activity on your land
- UCCWG members will also be looking out for Curlews, using roads and public footpaths
- if you agree, Michelle will visit promising sites to see if there is a nesting pair

#### STEP TWO (late April to early May)

- where it's likely there's a nest, Martyn Owen, an experienced nest-finder, will ask your permission to visit the site to try to find it →
- if a nest is found, you will be the first to know, and it will be kept strictly confidential

#### STEP THREE (early May to mid-June)

- we'll ask what your plans are for the nest field and talk over possible risks to the nest and chicks, such as predation, trampling by stock, or use of machinery
- we'll ask you to allow us to put a protective electric fence round the nest →

#### STEP FOUR (early June to mid-July)

- when the chicks hatch in early June, we'll ask permission for Tony Cross, an experienced ringer with the necessary licences, to ring and radio-tag the chicks →
- where chicks are radio-tagged, we'll ask further permission for Martyn, Tim or Tony to revisit the site every few days to track their movements with a receiver

**We'll keep you up to date with developments at your nest(s) up to the final outcome**

**PLEASE TURN OVER FOR MORE ABOUT THE PROJECT TEAM, AND ANSWERS  
TO SOME OF THE QUESTIONS YOU'LL HAVE**

## THE PROJECT TEAM

**Michelle Frater** is UCCWG Bird Recorder, and co-ordinates the volunteer Curlew surveys  
Contact: 01588 640909 email: [michellefrater@outlook.com](mailto:michellefrater@outlook.com)

**Martyn Owen** is an Ecological Consultant, until recently Shropshire County Bird Recorder  
Contact: mobile 07736 286675 email: [martyn@biomeconsulting.com](mailto:martyn@biomeconsulting.com)

**Tim Lewis** lives in the Upper Clun, and has experience of fencing Curlew nests  
Contact: 01588 640102 mobile: 07966 180289 email: [tim.p.lewis@gmail.com](mailto:tim.p.lewis@gmail.com)

**Tony Cross** is a Consultant Ornithologist with extensive experience of Curlew conservation  
Contact: mobile: 07837 521673

## QUESTIONS YOU'RE LIKELY TO HAVE

### What does nest finding involve?

A lot of quiet watching and waiting! Martyn may ask if he can take a 4x4 onto the land to use as a mobile hide - if you agree, of course he'll follow your instructions about where to go

### How much land does the electric fence enclose, and how long is it up for?

It's a 25m x 25m square, and will be up for at most five weeks between early May and mid-June, less if the nest fails

### Who's going to put it up and maintain it?

Electric fences will be put up and maintained by Tim Lewis, who has experience of this work; he'll visit them every few days to check them over and replace the batteries

### How are you going to get the equipment to the site?

Ideally, equipment will be taken as close as possible to the site by vehicle; when we ask for permission we'll also take note of your instructions about where to drive, and what to avoid

### Will I be liable for anything that happens on my land?

All people working on the project do so at their own risk, and where appropriate have the necessary insurance - you incur no potential liability in giving permission for access

### Isn't there a risk the disturbance will just make matters worse for the Curlews?

We're the very last people who would want to do that! All members of the project team are experienced in monitoring birds and their nests and know how to keep disturbance to an absolute minimum. The measures we're proposing are all strictly controlled by licence. Similar projects elsewhere have found no evidence that Curlews are harmed by anything we propose.

**PLEASE SEE THE ACCOMPANYING FACT SHEET FOR MORE ABOUT CURLEW DECLINE, AND DO WHATEVER YOU CAN TO MAKE SURE THE HILLS DON'T FALL SILENT**

**This project is part of the SAVE OUR CURLEWS campaign funded from a joint appeal by SHROPSHIRE WILDLIFE TRUST and SHROPSHIRE ORNITHOLOGICAL SOCIETY**



## UPPER CLUN COMMUNITY WILDLIFE GROUP

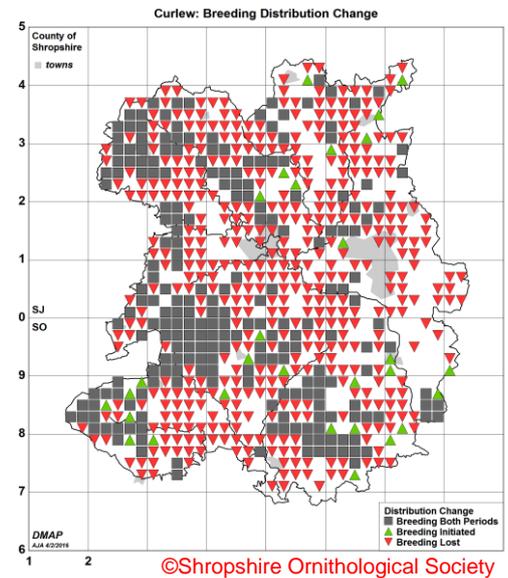
# CURLEW FACTSHEET

We've been surveying Curlews in the Upper Clun since 2007. In that time, the population has plummeted by more than half, from 20 - 22 breeding pairs in 2007, to only 8 - 9 pairs in 2017.

It's the same story across Shropshire. The red arrows on the map show where Curlew was breeding 25 years ago but is now gone. In 2010 the County population was estimated at 160 breeding pairs - we've lost another 30 pairs (20%) since then.

The black squares show where Curlews are holding on. Down there in the bottom left is the Clun Forest. We've been known as a Curlew stronghold since people began keeping records.

Curlew has disappeared from large areas of the UK. In 2015 it was put on the Red List of endangered birds, and described as the UK's 'most pressing bird conservation priority'.



## WHAT WENT WRONG?

- there's good evidence that the root cause of Curlew's decline is loss of nesting and feeding habitat over many decades
- they're waders, needing damp areas to feed, so land drainage has hit them particularly hard
- as ground-nesters they need vegetation long enough to hide the nest and incubating bird
- with less rush these days, Curlews often nest in hay or silage fields, where they're exposed to many risks - rolling and topping endangers nests, and they can be trampled by stock
- silage is cut earlier than hay - chicks too young to escape can be on fields when they're mown
- increased predation is another factor - conifer plantations shelter bird and mammal predators, while human activities such as roadkill and pheasant releases keep numbers artificially high

## WHAT CAN BE DONE?

- the long-term solution is habitat restoration on a substantial scale, but as Curlew face extinction long before that can happen, we need to improve breeding success to keep them going
- there are some things on our side - Curlews are long-lived birds, and don't need to produce many chicks each year for the population to survive
- nest protection has been shown greatly to increase the number of eggs that survive to hatch
- at the moment there's not much we can do to protect the chicks once they hatch, as they very quickly leave the nest area and wander around feeding themselves
- but if we can find out by tracking them what their greatest threats are in this area, we can start to look at measures to reduce them

## CURLEW BREEDING TIMETABLE

- eggs laid in nest on ground usually in early-mid May; incubation lasts for up to 29 days
- chicks hatch early to mid-June, and remain on the ground for around 32 - 38 days until fledging in mid to late July; so as eggs and chicks they're vulnerable for over two months in total

**WE MUSTN'T LET THE CURLEW DIE OUT - PLEASE DO WHATEVER YOU CAN**

