



Hen Harrier LIFE Project

2014 — 2019

LAYPERSON'S REPORT

Conserving the hen harrier (*Circus cyaneus*)
in northern England and southern and
eastern Scotland

LIFE13 NAT/UK/000258



THE PROJECT

Conserving the hen harrier (*Circus cyaneus*) in northern England and southern and eastern Scotland

LIFE13 NAT/UK/000258

www.rspb.org.uk/henharrierlife

Short name: Hen Harrier LIFE Project

Beneficiary: Royal Society for the Protection of Birds

Project partners: Northern England Raptor Forum and Scottish Raptor Study Groups

Project duration: 5.5 years, 01/07/2014 – 31/12/2019

Budget: €2,269,932: 50% (€1,134,966) funded by the LIFE Programme of the European Commission

Co-financing: Royal Society for the Protection of Birds, LUSH, Scottish and Southern Energy, National Lottery Heritage Fund, plus a range of smaller donors

Special Protection Areas: Bowland Fells, North Pennine Moors, Langholm-Newcastleton Hills, Forest of Clunie, Muirkirk and North Lowther Uplands, Glen App and Galloway Moors, and Glen Tanar.

Project Manager: Dr Cathleen Thomas

Project Team: Project Officers - Ashleigh Atkinson and Roisin Beck Taylor, Assistant Investigations Officers - Jack Ashton-Booth, Tom Grose and John McMahon.

Acknowledgements: The project team listed above were supported by over 100 people including RSPB staff, raptor workers, volunteers, landowners and managers, government employees and law enforcement officers, some of whom are identified on our 'hen harrier heroes' pages. The project team would like to extend a huge vote of thanks to every single person involved in the resounding success of this project - it has only been possible with your help and support.

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OUR MISSION

Hen harriers are one of the most persecuted birds of prey in the British Isles. The population is declining and currently stands at just 575 pairs¹. Estimates based on habitat and food availability suggest there is the potential for a population of around 2,650 pairs².

The RSPB's Hen Harrier LIFE project aimed to provide the conditions in which the hen harrier's population and range could recover, particularly in areas where the species was most threatened.

In the British Isles, hen harriers nest and roost in heather on open, upland moors. They feed on small mammals and birds such as meadow pipits, voles and occasionally young grouse³. Many upland areas are managed for grouse shooting. This requires high numbers of grouse, which leads to human-wildlife conflict through legal and illegal control of predator populations.

A growing body of scientific evidence shows illegal killing associated with management of moorlands to intensively rear high numbers of grouse for driven grouse shooting is the main factor limiting the recovery of hen harrier populations across the UK.

Most driven grouse shooting occurs in northern England and southern and eastern Scotland, so this project focused on seven Special Protection Areas (SPAs) within this region: Bowland Fells, North Pennine Moors, Glen App and Galloway Moors, Muirkirk and North Lowther Uplands, Langholm-Newcastleton Hills, Forest of Clunie and Glen Tanar. These sites were all designated

during the creation of the Natura 2000 network, to be managed in such a way as to be suitable for breeding hen harriers. At the time, 98 pairs of hen harriers were found across all seven sites, though the population was already declining at this stage so this number does not represent the full capacity of the habitat. By 2016, the total number of birds found in these SPAs declined by 86% to just 14 pairs. This is part of the national decline across the British Isles, leaving populations heading towards local extinction.

To address these issues, this project combined:

- on-the-ground protection and monitoring of birds at nest and roost sites
- using tags to follow the birds' journeys across the country
- examining habitat usage, movement patterns and causes of mortality
- investigating the scale of illegal killing
- raising awareness of hen harriers amongst landowners and local communities.

Images on the opposite page show the life cycle of a hen harrier. The female usually lays 3-5 eggs, one every 48 hours, and she incubates them for around 30 days. After hatching, chicks fledge from the nest at around 35 days old.



THREATS ADDRESSED

1. Loss of hen harriers at nest sites

Ground-nesting birds are vulnerable to predators such as foxes, stoats and weasels. Hen harriers have adapted their behaviour to reduce nest predation. When approaching the nest with food, the male will call to the female on approach and the pair will pass food between them in mid-air before the camouflaged female takes the food to the young in the nest. If the male returned directly to the nest with food, this would reveal its location.

Parent birds and offspring are killed and injured by people at nest sites⁴, including traps being set around the nest to catch and kill returning birds and liquid nitrogen being poured on eggs to kill developing chicks.

With such high risks for the birds, we must understand the causes of nest failures and identify vulnerable sites to protect the next generation of hen harriers.

2. Loss of hen harriers at roost sites

Hen harriers can roost alone or in larger numbers, with or without other species present. Our current knowledge of wintering areas must be improved, as well as the intensity and nature of persecution at roosts.

A large gathering of birds can be more visible in the landscape and as a result can be an easy target for people wishing to illegally kill birds. Birds can repeatedly use the same historic roost sites, making them more vulnerable. Monitoring and protecting roost sites can increase overwinter survival.

3. Illegal killing of hen harriers

Hen harriers have the highest level of legal protection afforded under UK law, listed on Schedule 1 of the Wildlife and Countryside Act, 1981.

Despite this, hen harriers are still being illegally killed and injured through shooting, trapping and poisoning. Whilst there is evidence to suggest that incidences of poisoning are in decline⁵, there are still high incidences of other types of raptor persecution across the UK⁶.

Regular scientific surveys across the British Isles show a significant decline in the hen harrier population (figure 1). A growing body of independent scientific evidence shows the main cause of this is illegal persecution. In a recent study, 72% of tagged hen harriers were confirmed or considered likely to have been illegally killed, and this was ten times more likely to occur over areas of land managed for grouse shooting relative to other land uses⁷.

Tackling raptor crime is challenging. Due to the remote environments of the upland landscape, the likelihood of observing criminal activity is low, and so the number of recorded incidents only reflects the tip of the iceberg of illegal activities in our countryside.

We need to understand the scale of criminal activity and work with partners in crime prevention and law enforcement.

4. Lack of awareness of hen harriers

Public awareness of hen harriers is low, particularly in SPAs, principally because sightings of the birds are becoming increasingly rare as the population declines. These birds should be commonly observed on SPAs.

The lack of awareness of crimes committed against hen harriers means evidence of criminal activity such as nest destruction, poisoned bait or illegally set traps, goes unreported. Since these crimes also impact other birds of prey, confirmed incidences reflect an unknown proportion of the true scale of illegal persecution of protected species.

As hen harriers become increasingly scarce, it becomes more difficult to engage the public with a bird they have never had the opportunity to see. People can only help to conserve species if they know about them, the issues affecting them in the environment in which they live, and the broader impact that has on upland biodiversity.

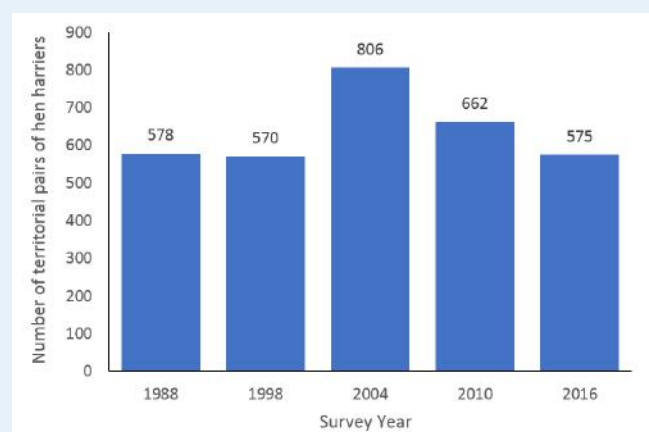


Figure 1. Territorial pairs of hen harrier in the UK and Isle of Man.

5. Habitat degradation or destruction

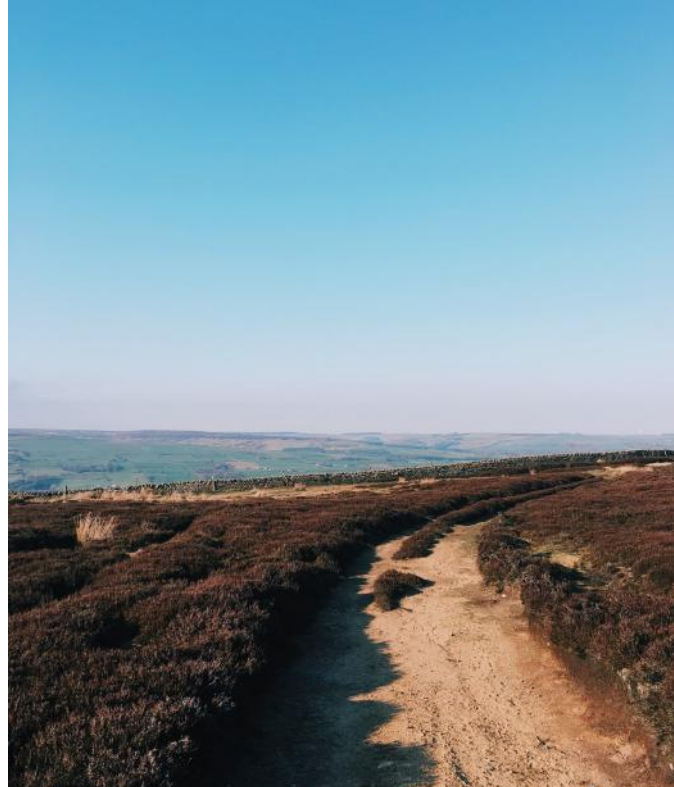
Availability of suitable habitat is a vital precursor to successful re-colonisation of an area for hen harriers. A lack of suitable roost sites, nest sites and prey would impact the distribution of this species.

A diverse heather moorland supports a range of species. A mosaic of different ages of heather creates the ideal conditions for the small birds and mammals hunted by hen harriers for food, whilst longer heather at a depth of 50 cm or more creates the right nesting habitat.

As hen harriers nest on the ground, longer heather provides camouflage for the nest, protecting the eggs and chicks from natural predators. Therefore, leaving areas of long heather is necessary for hen harrier nest success. Hen harriers travel large distances between roosts, and need multiple patches of good quality habitat to roost.

Moorland management practices must be sustainable. When peat is drained of water and dries out it can be at high risk of catching fire in hot weather or during muirburn⁸. This can destroy nests and larger areas of habitat and contribute to climate change.

“The main reason for the decline of the hen harrier population across the UK and Isle of Man is illegal killing associated with grouse moor management.”





ACTIVITIES

1. Tracking hen harriers

The project team tracked and monitored over 100 individual hen harriers from England, Scotland, Wales and the Isle of Man. Days before the hen harrier chicks fledged from their nests, they were fitted with tags so we could follow their movements.

We employed highly experienced taggers, operating under an annual project licence issued by the British Trust for Ornithology. We helped in the development and sharing of best practice for the tagging of this species. We shared data with tag manufacturers about performance in the field.

The tracking data was recorded on a daily basis to allow us to see the birds' movements, habitat use, roost sites and nest locations. It revealed the amazing journeys taken by some of the birds across the UK and continental Europe, and showed us the circumstances in which they were dying.

2. Nest and roost site protection

We worked with local raptor workers from the Northern England Raptor Forum and Scottish Raptor Study Groups to share knowledge of both new and historical sites found through field observations.

The public were encouraged to report sightings of hen harriers to the Hen Harrier Hotline, which were followed up by members of the project team.

Data from the tags enabled us to see where and when tagged birds were settling, allowing us to locate additional sites.

These activities enabled us to focus our protection efforts on birds in the most vulnerable locations,

working alongside raptor workers to provide 24 hour protection where required. We found that monitoring of hen harriers can be an important deterrent to those who wish to harm the birds, their eggs or destroy their nest or roost sites. Protecting young birds at the nest gives them the best chance of fledging success.

3. Recording illegal killing

We gathered data on incidences of bird crime and encouraged the public to report any suspected incidents. We monitored nesting success and recorded reasons for failures. We monitored the tagged birds and conducted ground searches to recover as many dead birds as possible. Where birds died naturally, we were usually able to locate their remains and send them for post mortem examination by a veterinarian to investigate cause of death.

Where birds were suspected to have been illegally killed, we liaised closely with the police and National Wildlife Crime Unit to ensure they had the necessary information for an appropriate follow-up, and subsequent publicity was routinely discussed. Each year we published a Bird Crime report to catalogue the number and type of persecution incidents detected.

4. Engaging local communities

We delivered workshops and assemblies in primary and secondary schools in the seven SPAs in England and Scotland. We also delivered talks to local community groups in these areas such as Women's Institutes, Rotary Clubs and local nature groups. With each group we discussed the importance of the upland landscape, the ecology of the hen harrier and the problems they face.

We facilitated discussion sessions with gamekeeping, animal and countryside management students at land-based colleges across the UK, encouraging them to think critically about human-wildlife conflict. We discussed how they could manage land in a sustainable way in the future.

5. Raising public awareness

We published press releases highlighting interesting stories during the course of the project, to keep hen harriers in the public consciousness. Project team members were interviewed for news bulletins, wildlife and countryside programmes to raise awareness of the prevalence of bird crimes and shared good news stories when our birds travelled to unexpected locations or had good breeding success.

We regularly updated our project website with tracking maps to show where tagged hen harriers were travelling, allowing the public to follow their journeys. We used the 'RSPB Skydancer' blog and Twitter to promote and share stories. We installed interpretation panels on reserves, and spoke about the project at national events including Hen Harrier Day and Bird Fair.

6. Managing habitats

As well as managing our reserves, we worked with landowners including United Utilities, the National Trust and smaller private landowners and agents to manage and conserve habitat that would be suitable for hen harriers. We provided guidance and assistance in land management practices, sharing best practice for maintaining high quality habitat.

Throughout the project, we developed positive relationships, and where hen harriers nested we were able to fit tags to the young birds. This allowed us to track nearly five times as many hen harriers as was originally envisaged. Supportive partnerships also meant more people on the hills protecting hen harriers.



MAJOR ACHIEVEMENTS

Protected over 100 nests

Our project team worked with raptor workers, landowners, managers and gamekeepers to protect over 100 hen harrier nests. Some nest sites were identified from the tag data and some from observations by those working in, living in or visiting the local area.

Annual winter roost protection

We monitored historical roost sites and discovered over 150 new roost sites. Together with raptor workers and landowners we were able to monitor these roosts and protect the birds using them, with the contribution of over 10,000 volunteer hours from the Northern England Raptor Forum and Scottish Raptor Study Groups.

Tagged over 100 birds

This is the largest tracking study of hen harriers in Europe. We originally planned to tag 24 birds, but increased this to over 100 birds, thanks to the hard work of the project team and generous donations from LUSH customers and a range of other donors.

Discovered the huge distances travelled

Following the journeys made by young hen harriers, we watched as they travelled across Scotland, England, Wales, Isle of Man, Northern Ireland, Republic of Ireland, France, Spain and Portugal (figure 2), with some travelling up to 1550 km.

Identified cause of death

Tracking the birds has allowed us to identify their fates. Whilst we have lost birds to natural causes, we found tagged birds like Rannoch who died caught in an illegal spring trap, Carroll and River whose bodies were found to contain lead pellets from shot guns, and Kathy and Lia who were found with unexplained injuries, consistent with shooting (figure 3).

Catalogued 328 bird crime incidents

Between 2015 and 2018, we catalogued 328 bird crime incidents, 16 of which involved hen harriers. The data revealed the shocking extent of the illegal killing of birds of prey that is still common and widespread across the United Kingdom.

Advocated for good land management

At RSPB Geltsdale and United Utilities land at Bowland, we advocated for good land management practices and demonstrated how moorland can be sustainably managed.

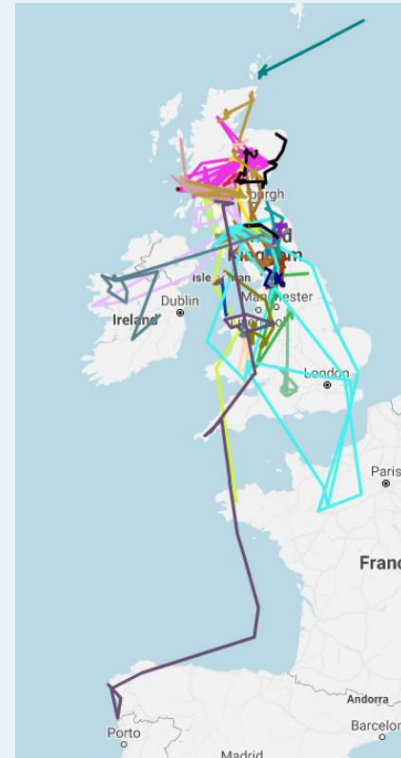


Figure 2. Lines illustrate journeys made by tagged hen harriers across the UK and beyond.

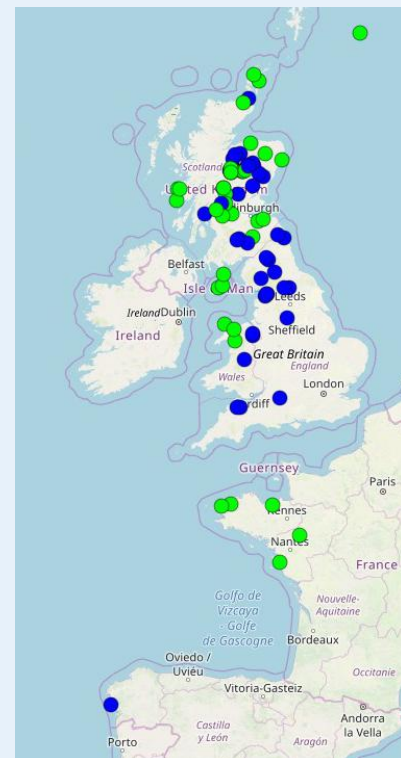


Figure 3. Blue dots indicate where birds are confirmed or considered to have been illegally killed, while green dots indicate natural deaths.

Detected a 24% decline in the hen harrier population

The hen harrier population significantly declined across the UK and Isle of Man by 24% between 2004 and 2016, with just 575 pairs of birds remaining. However, estimates suggest there is sufficient habitat and food availability to support a population of over 2,650 pairs.

Shared best practice

Our team of seven trained and licensed taggers shared and developed best practice. This meant the most reliable tags were used and fitted in the most appropriate way, with bird welfare our top priority. We are experienced in analysing data from the tags and share this knowledge to develop our understanding.

Spoke to 12,600 people

We actively engaged over 12,600 people including members of the public, land owners and managers, the police, politicians, gamekeeping students, school children and local communities, within the SPAs and beyond. This was achieved through schools and college workshops, talks to community groups and informal conversations at public events across the UK.

The project team delivered 118 school visits, 15 college visits, led 18 field trips, delivered 87 community talks and attended 34 community events.

Produced over 50 press releases

We raised awareness of hen harriers through hundreds of media appearances on local and national television and radio. The project appeared in countless newspaper and magazine articles over the past five years. We worked with project partners and stakeholders to take a united stance.

Consulted 328 people in the community

We surveyed local business and people living in and visiting SPAs. 81% of those surveyed said they would prefer to have more hen harriers in their local area and felt this would have a positive impact in the UK.

Engaged with the online community

Through our project website (www.rspb.org.uk/henharrierlife), the RSPB Skydancer blog and our @RSPB_Skydancer Twitter we have kept the online community updated on project developments and told the stories of our tagged birds.



Image above shows words used most frequently by primary school children to describe a hen harrier.

HEN HARRIER HEROES

The success of the Hen Harrier LIFE project came from working in partnership with landowners and managers, conservation organisations, the police and volunteer raptor workers from the Northern England Raptor Forum and Scottish Raptor Study Groups. We worked cross-border to protect hen harriers across the UK and Europe and are truly grateful to everyone for their support.

Here are some of our hen harrier heroes - key people who helped this project flourish. In their words, they tell us why they felt it was important to be involved.



“Hen harriers are an essential part of our rich natural heritage and they deserve to be doing a lot better than they are.

“We’re proud to work with this project team to raise awareness of hen harriers and protect birds on our estate to ensure we have a stronger population, which itself will be part of the greater need to restore a healthy and beautiful natural environment for us all to benefit from and enjoy”

Jon Stewart, National Trust

Working with the National Trust has secured safe spaces for our hen harriers to nest in the Peak District. Jon has been a strong advocate for hen harriers in this area.



“It is important to be involved in this project as it is key to learn more about the ecology of hen harriers and to be able to understand and protect this species into the future.

“A highlight for me has been the privilege of watching the behaviour of this charismatic and key predator species within the upland ecosystem and for the visitors to Mar Lodge Estate to also have this opportunity.”

Shaila Rao, National Trust for Scotland

Our partnership with National Trust for Scotland has resulted in several hen harriers being tagged on Mar Lodge Estate. Shaila has worked hard to locate and protect birds and their nests.





“Manx BirdLife is proud to partner with this project to protect hen harriers. While the Isle of Man hosts an important population of this iconic bird, we still know relatively little about its lifecycle and movements.

“It’s vital the project’s good work continues so that we might determine how best to protect the long-term interests of the Manx hen harrier population.”

Neil Morris, Manx Birdlife

Neil is a passionate advocate for hen harriers and his work on the Isle of Man has enabled us to monitor a declining population that we previously knew little about.



“Hen harriers are one of the most persecuted raptors we have. If we don’t put an end to their persecution soon, we are at real risk of them no longer being present in our skies.

“Working closely with this project has enabled me to learn a great deal about hen harriers and has directly influenced the discussions I have had locally, nationally and internationally about their ongoing plight.”

Superintendent Nick Lyall, Bedfordshire Police

As Chair of the Raptor Persecution Priority Delivery Group in England and Wales, Nick has been instrumental in working with partner organisations to address the threat of illegal killing faced by our birds of prey.



“Hen harriers should be an integral and magnificent part of our landscape. The project’s Bird Crime reports highlighted that North Yorkshire is the worst county in England for incidents, so North Yorkshire Police introduced Operation Owl in 2018 to help the public recognise a typical bird of prey persecution crime scene, record and report it.

“Operation Owl goes from strength to strength and is now supported by 27 forces – including Police Scotland, most of Wales, Northern Ireland, all the northern upland English police forces and others as far afield as Norfolk, West Mercia, Devon and Cornwall, and Bedfordshire. The message is simple: stop killing our birds of prey!”

Sergeant Stuart Grainger, North Yorkshire Police

Stuart was lead organiser of Operation Owl to raise awareness of crimes against raptors and encourage reporting. His dedication has ensured its success.





“United Utilities were committed to supporting this project from the outset. Our approach in Bowland involves a unique and successful partnership with the RSPB, in conjunction with our farming and shooting tenants, Natural England and the Forest of Bowland AONB to make our estate a suitable environment for hen harriers.

“It’s humbling to see the dedication of staff and volunteers. There’s a sense of privilege in having regular breeding hen harriers on UU land; an experience that should be much more common. The project was so important in supporting the Bowland team, and we’re so grateful.”

Matt Upton, Water Catchment Manager
James Bray, RSPB Bowland Project Officer



Matt, James and Bowland team have monitored nesting hen harriers on the United Utilities estate.



“I became involved with this project because it is critical that solutions are found to protect this terrific species and prevent further population declines.

“Hen harriers are a fantastic raptor with an amazing display flight and they are vital for upland biodiversity. It has been fascinating following the movements of surviving tagged hen harriers throughout the year.”

Wendy Mattingley, Scottish Raptor Study Group Volunteer

Wendy is a volunteer raptor worker, and thanks to her amazing work with the team at their community-owned site, Dun Coillich, and beyond, we have been able to monitor and protect more hen harriers in Scotland.



“As a farmer in the uplands of Snowdonia, it is always a thrill to see and hear hen harriers above our heads on this mountain. It is a very special bird and it has been wonderful to know they have bred successfully over the past couple of years.

“It was a pleasure working with this project team and learning more about hen harriers. This mountain would be a much poorer place without them and I sincerely hope that the work done will continue to protect this remarkable bird in the future.”

Dylan Hughes, Welsh farmer

Dylan has worked with us to monitor and protect nesting hen harriers on his land. We’ve been able to tag young chicks and follow the fates of Welsh hen harriers.



“It’s been a great privilege to lead this project and work with amazing people who are truly dedicated to seeing a better future for our hen harriers.

“It’s been tough to remain positive in the face of the relentless and unnecessary deaths of such a special and highly protected bird, but we must continue this work.

“We cannot allow hen harriers to disappear from our skies, and I know that our hen harrier heroes will continue to champion this species, providing a lasting legacy for our hugely successful project.”

Dr. Cathleen Thomas, Senior Project Manager

Cathleen has done a great job coordinating the project and enabling the project team to exceed all expectations.



“Over the lifetime of this project, NERF members have committed thousands of hours working with the RSPB to study, monitor and protect hen harriers across the north of England.

“From our perspective this project has succeeded spectacularly; every target set has been exceeded and we are proud to have played a significant part.

“Whilst this project has come to an end, the work to protect this very vulnerable species will continue through its legacy.”

Steve Downing, Chair of the Northern England Raptor Forum

The passion and experience that Steve and the NERF members brought to the project is exceptional. We’re hugely indebted to them for helping us.



“As both a professional conservationist with RSPB and a volunteer with Scottish Raptor Study Groups I’ve seen first hand the partnership work that has been such a strength of this project.

“Although retired from RSPB, I have continued as a volunteer with this project, and intend to continue to foster good relationships as a lasting legacy towards the conservation of hen harriers.”

Chris Rollie, Scottish Raptor Study Group

We relied heavily on the partnerships Chris established with Scottish Raptor Study Groups to monitor and protect hen harriers in our SPAs. It is thanks to the dedication of their members that many hen harriers are kept safe in Scotland.



CONCLUSION

The RSPB is working to secure a better future for hen harriers.

The Hen Harrier LIFE project team have carried out nest and roost protection, monitoring and tagging of birds, detection and recording of wildlife crime and promoting awareness of the species through a wide range of public activities.

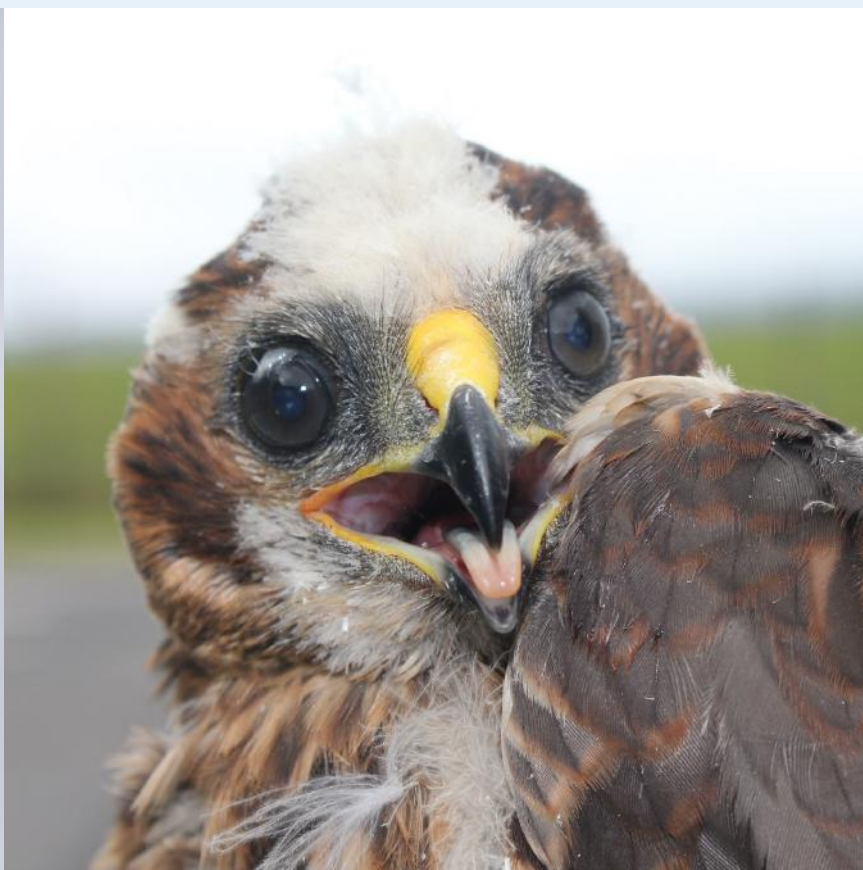
We were successful in monitoring and protecting birds at nests and roost sites, but found that many of our tagged birds were either confirmed or considered to have been illegally killed elsewhere in the country.

These findings support a growing body of independent scientific evidence, which shows hen harrier populations in the UK continue to decline, and the main factor limiting their recovery is the illegal killing associated with management of moorlands for driven grouse shooting.

These management practices are also negatively affecting other birds of prey including golden eagles, peregrines, red kites and goshawks.

Hen harriers, and other birds of prey are protected under Schedule 1 of the Wildlife and Countryside Act 1981 and it is illegal to kill, take or injure birds, take or destroy their eggs, damage, destroy or interfere with their nests, or disturb them whilst building a nest or on or near a nest with eggs or young.

However, this illegal activity continues to be prevalent and widespread. To save hen harriers from extinction in the UK, it must be urgently addressed.





RECOMMENDATIONS

1. Self-regulation of the UK's grouse moors has failed. We recommend a licensing system is implemented, underpinned by effective monitoring and enforcement, which would hold grouse moor owners to account to show that they are managing their land sustainably and legally. Any estates found to have committed wildlife crimes would have their licence revoked.
 2. Scotland has a vicarious liability legislation where a landowner or their agent can be held responsible for certain crimes committed by their employees. This legislation should be rolled out across the rest of the UK.
 3. Sanctions imposed by magistrates are currently inadequate and do not act as a deterrent to those who would commit wildlife crimes. Convicted individuals very rarely receive custodial sentences and the current sentence across the UK for wildlife crime is a maximum of a £5,000 fine or six months' imprisonment or both. Recently there has been a consultation in Scotland with the intention to implement considerably higher penalties under Scots law. We would like to see these stronger sentences imposed across the UK more widely.
 4. It is vital that engagement continues with communities who live and work in the uplands, and working in partnership with local police forces to encourage the public to recognise, record and report wildlife crime. We must ensure the public are able to report crimes or incidences to the RSPB Investigations team or their local police force.
 5. Despite this hugely successful project that has helped further our understanding of the ecology and dispersal of hen harriers, and safeguarded suitable habitat, the population continues to decline in the UK. It is now clear that the species is also declining across western Europe. A coordinated European Species Action Plan must be developed and implemented to understand the reasons for this wider decline and protect hen harriers across their range.
- If we can stop the illegal activity that is currently causing the decline of hen harriers and other birds of prey in the British Isles, historical evidence suggests populations can recover.
- We must manage our uplands legally and sustainably to address the current biodiversity and climate emergencies.

OUR BIRDS

During the project we tagged over 100 hen harriers. Each year we selected a group of birds whose journeys would be regularly updated on the map on our Hen Harrier LIFE website.

We shared the stories of their lives on the RSPB Skydancer blog and twitter. All too often we shared the stories of their deaths.

We will continue to monitor other tagged hen harriers and will share their stories in due course. All the information shown below is correct at the time of writing in Autumn 2019.



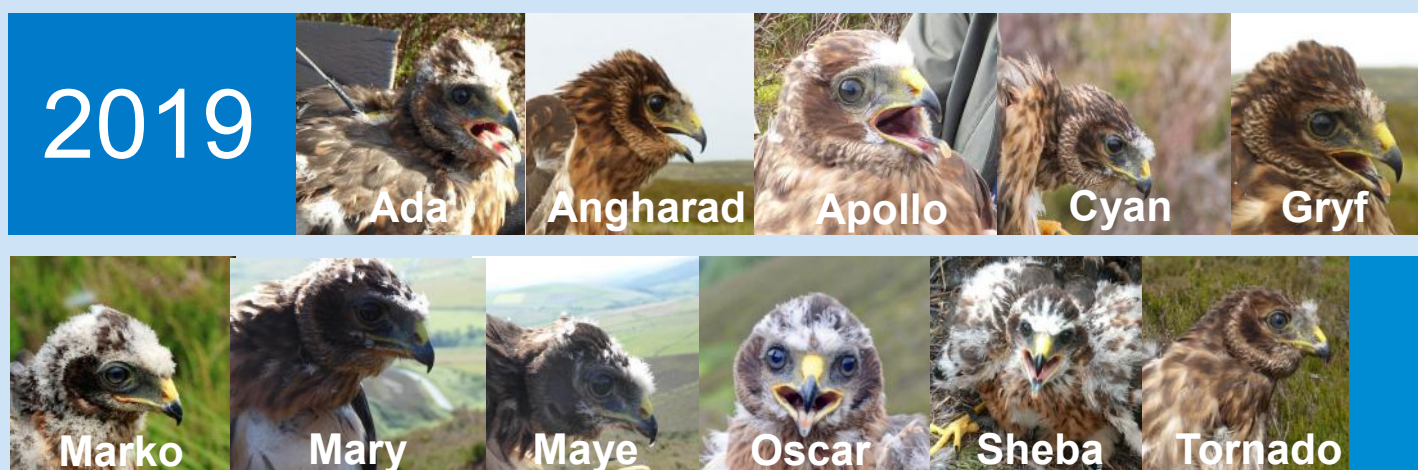
Four birds have died in natural or unknown circumstances (in green), while six are either confirmed or suspected to have been illegally killed (in red). One bird is alive.



Four birds have died in natural or unknown circumstances (in green), while twelve are either confirmed or suspected to have been illegally killed (in red).



Three birds have died in natural or unknown circumstances (in green), while twelve are either confirmed or suspected to have been illegally killed (in red). One bird is alive.



Eleven birds are alive.

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This report celebrates the success of the Hen Harrier LIFE Project through the dedication and hard work of those involved.

We are incredibly grateful to everyone for your help and support, which has allowed us to achieve greater collective success than we ever dreamed was possible when we started out. We must build on this progress to save our hen harriers and help them thrive.



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