YORKSHIRE DALES NATIONAL PARK AND NIDDERDALE AREA OF OUTSTANDING NATURAL BEAUTY

BIRD OF PREY EVIDENCE REPORT 2020

This report has been agreed and published by the Steering Group, which includes representatives from British Association for Shooting & Conservation, Country Land & Business Association, Cumbria Constabulary, Moorland Association, Natural England, National Gamekeepers Organisation, Nidderdale AONB, North Yorkshire Police, Northern England Raptor Forum, Royal Society for the Protection of Birds and Yorkshire Dales National Park Authority.

February 2022

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EXECUTIVE SUMMARY

The Yorkshire Dales National Park and Nidderdale Area of Outstanding Natural Beauty Management Plans include objectives to tackle the illegal persecution of birds of prey and owls. A Steering Group that brings together a wide range of interested stakeholders has been established and, in order to inform the work of this group, accurate information on the status of bird of prey populations and details of all confirmed persecution incidents have been collated within this report. All stakeholders have been asked to provide information in order to make it as comprehensive as possible.

The national lockdown that was put in place from March 2020 to prevent the spread of Covid-19 prevented virtually all normal levels of fieldwork from being undertaken by raptor fieldworkers, particularly in the early part of the breeding season. Some monitoring was permissible enabling an accurate assessment of the breeding status of Hen Harriers within the area to be determined but the data for all other species is incomplete, and does not reflect their current status within the Yorkshire Dales.

2020 was the most successful Hen Harrier breeding season in the Yorkshire Dales since at least the 1960s, when this species first returned to breed. There were a total of seven nesting attempts, six monitored by Natural England and one by the RSPB, that fledged a total of 26 young. This represents 43% of the recorded fledged Hen Harrier chicks across the north of England in 2020 (n=60 chicks). This includes two nests that were brood managed. Some information on winter roosts is available but is incomplete, and so an accurate assessment of the wintering population cannot be made. Five satellite tagged Hen Harriers went missing fate unknown in the area in 2020.

In the absence of nationally recognised criteria for recording confirmed persecution cases, the Steering Group agreed to use details of the incidents supplied by Cumbria and North Yorkshire Police and data supplied by RSPB and published in the 2020 BirdCrime reports. These data are cross referenced against national standards that are used by the Police to record all incidents and crimes. Using these criteria, a total of ten confirmed persecution incidents were recorded in the YDNP and Nidderdale AONB in 2020.

INTRODUCTION

The Yorkshire Dales National Park Management Plan (NPMP) Objective C5 (see here) is to:

> *'Work with moorland managers and other key stakeholders to devise and implement a local approach to end illegal persecution of raptors, including independent and scientifically robust monitoring, and co-ordinated Hen Harrier nest and winter roost site protection'.*

There is a similar objective in the Nidderdale Area of Outstanding Natural Beauty Management (AONB) Management Plan under Aim W2 (see here) - 'Improve the condition of the AONB's priority habitats and species*:*

> *Objective 2. Work with land owners, moorland managers, the police and others to safeguard birds of prey and prevent their illegal persecution in the AONB.'*

The same issues are affecting the conservation of bird of prey populations within both the Yorkshire Dales National Park (YDNP) and Nidderdale AONB (hereafter referred to as the AONB) protected landscapes, and the two areas comprise a contiguous area of similar upland habitat. Given the comparable management plan objectives, and that the representatives from the organisations involved will be the same, a joint Steering Group has been established. This comprises representatives from British Association for Shooting & Conservation (BASC), Country Land & Business Association (CLA), Cumbria Constabulary, Moorland Association (MA), National Gamekeepers Organisation (NGO), Natural England (NE), Nidderdale AONB, North Yorkshire Police, Northern England Raptor Forum (NERF), Royal Society for the Protection of Birds (RSPB) and Yorkshire Dales National Park Authority (YDNPA). NE are the lead organisation for the delivery of the NPMP objective, with YDNPA providing the Chair and Secretariat for the Steering Group.

The population status of birds of prey, owls and Raven, along with details of confirmed persecution incidents have previously been assessed and published in separate Evidence Reports for each protected landscape. The information for the YDNP up to and including 2017 has been published here, and for the AONB the information up to and including 2018 is published here.

In order to inform the work of the main Steering Group and to measure progress in delivering the management plan objectives it is crucial that accurate information on the status of bird of prey, owls and Raven populations within the two protected landscapes is assessed. It is equally important that details of all confirmed persecution incidents are also clarified. The Steering Group have agreed that this information needs to be collated and published in an annual evidence report. Many of the organisations represented on the Steering Group undertake survey and monitoring work, and so the comprehensiveness of this report is dependent on the data supplied by the relevant stakeholders. The purpose of this report is to publish the relevant data for both the YDNP and AONB in 2020, so that the main Steering Group can agree a position

statement on the current status of birds of prey populations and assess any progress in reducing persecution. This report has been written by members of the Monitoring Sub-Group that includes representatives from MA, NE, NGO, NERF, YDNPA and RSPB and subsequently agreed and published by the full Steering Group membership.

DATA COLLECTION METHODOLOGY AND SOURCES

In order to ensure consistency of data collection, only survey work that has been undertaken following recognised standardised methodologies will be published. Unless otherwise stated, survey methodologies for breeding birds will follow those outlined in Hardey *et al.* (2013), and listed on the Sottish Raptor Monitoring Group website here.

All members of the Steering Group have been encouraged to submit data, provided that methods conformed to recognised recording standards and/or criteria. The sensitivities of publishing fine-scale data on breeding or roosting birds are fully acknowledged and therefore avoided, however, accurate summary information on the breeding and wintering status of key species is essential to inform the work of the Steering Group.

Where appropriate, fieldwork was undertaken by individuals with the relevant licence under Schedule 1 of the Wildlife & Countryside Act (as amended). In many cases observations of nest territories or potential nesting areas was done at distance to observe bird behaviour and determine breeding status without causing any disturbance. Where nest visits were not made, records were attributed to either possible, probable or confirmed breeding status using criteria recommended by the Rare Breeding Birds Panel, with details shown in *Appendix 1*.

In a normal year, experienced raptor workers are involved in long-term monitoring of a number of species. The national lockdown that was put in place from March 2020 to prevent the spread of Covid-19 prevented virtually all normal levels of fieldwork from being undertaken, particularly in the early part of the breeding season. At that time some monitoring was possible by essential workers who were working at, or adjacent to sites where breeding birds were present. Later in the season some survey work was possible when access restrictions were relaxed allowing some local fieldworkers to visit nest sites. However, some restrictions meant that normal monitoring programmes were not possible. Other than Hen Harrier, the data in this report are incomplete and does not represent a true assessment of the current populations or breeding status of raptors, owls and Raven in the Yorkshire Dales. Therefore, no conclusions can be drawn on the 2020 breeding status of many of these species within the area. The Steering Group will be working over successive years to provide a fuller assessment.

Data within this report has been has been provided by:

- Cumbria Bird Club
- Cumbria Constabulary
- Independent Raptor Workers from the Nidderdale Raptor Study Group
- Independent Raptor Workers supplying records to the YDNPA
- Natural England Hen Harrier Project (Hen Harrier breeding data)

- North Yorkshire Police
- RSPB (Hen Harrier breeding data)
- YDNPA

Any new datasets (including potential citizen science projects) can be utilised within future reports, provided that they meet nationally recognised recording standards and provide robust quantitative data. It is the intention to publish an Evidence Report annually.

SPECIES ACCOUNTS

OSPREY *Pandion haliaetus*

Overview: With an increase in the breeding population elsewhere in the country, particularly in Northern England, there has been a corresponding increase in the number of passage birds in the area. In recent years one or more birds have remained throughout the summer, some at specific sites with others ranging across a larger area.

In 2020 two males (aged as being at least fourth calendar year birds) were present at one site in the AONB from 1 May for at least two weeks.

HONEY-BUZZARD *Pernis apivorus*

Overview: A rare passage migrant that is not known to have bred in the area.

A female was present at one site in an area of potentially suitable breeding habitat in the AONB on 25 June.

SPARROWHAWK *Accipiter nisus*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population. Population trends and status are not known but casual records suggest that this species is widespread in the Yorkshire Dales but occurs at low density.

Three breeding pairs were reported at three sites in the AONB.

No breeding records were reported in the YDNP.

There were insufficient records for any assessment of population trends or status to be determined.

GOSHAWK Accipiter *gentilis*

Overview: There is no systematic monitoring undertaken of breeding populations, although some formerly occupied sites are checked for evidence of territorial birds in spring. This species was formerly much more widespread in the area during the 1990s, with territorial birds present at a number of sites in the AONB and YDNP annually. There are now very few confirmed records.

In the AONB one, occasionally two birds were reported at two different but adjacent sites, with display noted. Given the proximity of these locations it was not clear if the sightings related to a single or two different pairs.

There were unconfirmed reports of one or two birds at one site in the YDNP.

MARSH HARRIER *Circus aeruginosus*

Overview: This species is now a regular passage migrant with a small number of birds summering. There have been two recent breeding attempts in the AONB both in 2017. One on the West Nidderdale Moors in the southern part of the AONB which failed when the nest was destroyed, and another on East Nidderdale Moors in the northern part of the AONB which failed through unknown causes (Nidderdale AONB, 2019).

There were only a few passage birds, primarily in autumn, in both the AONB and YDNP.

HEN HARRIER Circus *cyaneus*

Overview: Monitoring work undertaken since the early 1990s showed that a few pairs attempted to nest annually, although breeding success was generally poor. It was lost as a breeding species in the area from the late 2000s, with a small but increasing number of pairs attempting to nest from 2017 onwards. The Yorkshire Dales is known to be an important wintering area for this species.

This is the only species where monitoring work was relatively comprehensive during the 2020 breeding period, despite early season restrictions. It was the most successful season in the area since this species returned to breed in the late 1960s, with a total of seven nesting attempts in the area, fledging 26 young with details shown in *Table 1*.

Additional details provided by NE indicated that there were also several birds present in the early breeding season in the same area of the Yorkshire Dales including the satellite tagged male ‘Frank’. He was polygynous, siring broods at Nests 6 and Nest 7. The male at Nest 2 was ‘Colin’, a satellite tagged bird that fledged in 2019 from a nest in Northumberland. In the general area around nests 2 to 5 a grey male and sub-adult male were also seen during April and May. These were not part of any of the known breeding attempts that were monitored by NE staff and it is not known if they attempted to nest in the adjacent area.

Nest 1 was monitored by the RSPB, with all other the nesting attempts monitored by NE with assistance from local estates.

Table 1. *The Breeding Productivity of Hen Harriers nesting in the Yorkshire Dales National Park and Nidderdale Area of Outstanding Natural Beauty in 2020.*

Nest site	Area	No. eggs laid	No. eggs hatched	No. young fledged
Nest 1	YDNP Cumbria	7	7	4
Nest 2	YDNP Cumbria	6	3	3
Nest 3	YDNP Cumbria	6	5	5
Nest 4	YDNP Cumbria	6	1	1
Nest 5*	YDNP Cumbria	6	5	5
Nest 6	Nidderdale AONB	5	4	4
Nest 7*	YDNP Yorkshire	6	4	4

** Denotes nests that were brood managed.*

The number of eggs laid per pair was relatively high, with a mean of six per nesting female suggesting that there was a plentiful food during the pre-nesting period.

Two nests were brooded managed as part of the DEFRA Hen Harrier Recovery Plan. In total, five of the nesting attempts were supplementary fed by staff from the estates where the nests were located. NE satellite-tagged six birds from these nests, with an additional eight birds from brood managed nests also tagged. All the tags on the brood managed birds were funded by the Moorland Association.

The current status of all the Hen Harriers that were satellite tagged by NE in the YDNP and AONB in 2020 as of November 2021 and published here, are shown in Table 2.

***Table 2**. The current status of all the Hen Harriers satellite tagged by Natural England in the Yorkshire Dales National Park and Nidderdale Area of Outstanding Natural Beauty in 2020 as of November 2021 and published here.*

Tag Type	Tag ID	Sex	Nest	Tag code or Name	Date fitted	Date last contact	Location of last contact	OS Reference	Status
Lotek	57255	F	Yorks Dales Cumbria	Kelly	17-Jun-20	04-Apr-21	Yorks Dales	SD942761	Missing Fate Unknown^
MT	201123	M	Yorks Dales Cumbria	Ned	17-Jun-20	17-Jul-21	Alconadilla, Spain	Lat:41.46132 Long. -3.51336	Missing Fate Unknown^
Lotek	57266	F	Yorks Dales	Harriet	04-Jun-20	25-Jul-20	Cumbria	NY770031	Missing Fate Unknown^
Lotek	57272	M	Yorks Dales	Harold	04-Jun-20	19-Sep-20	Yorks Dales	NY830036	Missing Fate Unknown^
MT	201121	M	Yorks Dales Cumbria	Free	19-Jun-20	Transmitting Nov 2021	Yorks Dales	Transmitting Nov 2021	Alive
MT	201126a	F	Yorks Dales Cumbria	Lagertha	14-Jul-20	19-Dec-20	Christchurch	SZ161924	Missing Fate Unknown^
MT	55154	M	BM R1 North Yorkshire	R1-M1-20	11-Jul-20	20-Oct-20	North Yorkshire	SE132992	Dead - natural
MT	203004	M	BM R1 North Yorkshire	R1-M2-20	11-Jul-20	Transmitting Nov 2021	N.Pennines	Transmitting Nov 2021	Alive
MT	55153	M	BM R1 North Yorkshire	R1-M3-20	11-Jul-20	Transmitting Nov 2021	N.Pennines	Transmitting Nov 2021	Alive

^ = the definition of Missing Fate Unknown given here.

An example of the type of information that satellite-tagging can reveal has been provided by the RSPB. Nest 1 was discovered following the tracking of 'Heath', a second-calendar year male that had been satellite tagged by the RSPB in the nest in the Forest of Bowland in 2019. Monitoring work found him to be paired to a female, also a second-calendar year bird. The nest was monitored throughout the season by RSPB staff thanks to the permissions granted by the graziers. It was an exceptional vole year in 2020 resulting in the young pair raising a brood of seven chicks. This is an exceptional clutch size but due to poor weather, only four chicks were fledged. On the 2 July 2020 a satellite tag sponsored by the YDNPA was fitted to one of the male chicks named ''Titan'' and shown in *Figure 1*.

***Figure 1**. The satellite tagged Juvenile Hen Harrier ''Titan''.*

Photo © RSPB

After fledging 'Titan' remained faithful to the natal area before gradually wandering further away during late summer, including some time spent in the Malham area. In mid-September it looked like he attempted an Irish Sea crossing, appearing to get approximately 20 km out to sea before u-turning and returning to the mainland. In late September he roosted around his natal area for one last time before making a four-day journey to the French district of Pays de la Loire (see *Figure 2*.). Apart from a brief visit to the neighbouring Poitou Cherentes in October, he remained in the same area hunting in cereal fields and appearing to roost in adjacent areas of scrub until nearly the end of 2020.

***Figure 2**. The Movements of the satellite tagged Hen Harrier 'Titan' between Mid and Late September 2020.*

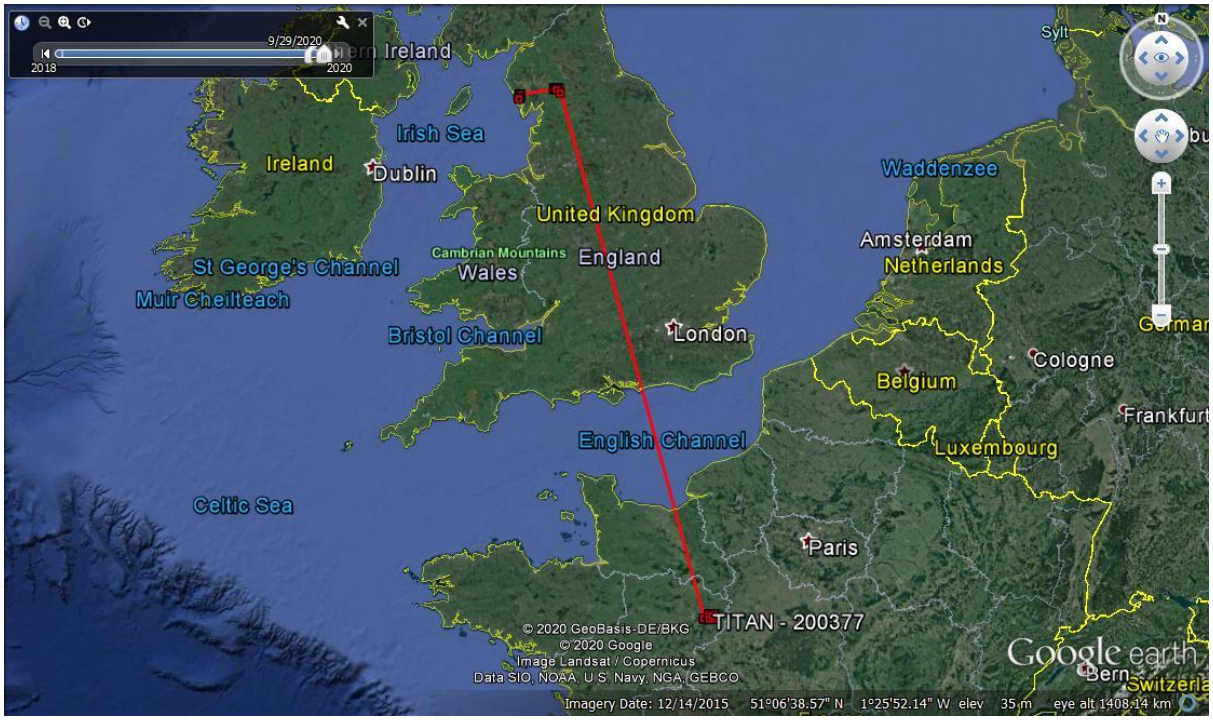

Image provided by RSPB.

The tag went offline around Christmas indicating that he had died but despite reliable transmissions indicating that the tag may be recoverable, Covid-19 restrictions prevented any immediate attempts of recovery. The tag and remains were subsequently discovered by a local resident who contacted the RSPB using the information provided on the tag. The bird was collected by the French Department for Biodiversity for autopsy but sadly, the bird was too far decomposed to conclusively identify a cause of death. Given that there was no skeletal damage and no shot was found in the birds remains, natural mortality was suspected. These circumstances, where both the remains of a body and tag were recovered several months after the bird died, contrast with those of a number of cases, including five birds that were missing fate unknown (for definition and further explanation see here) in the YDNP in 2020 where despite extensive searches, no evidence of any bird or tag was found.

Whilst we still have much to learn about post-breeding dispersal and wintering range, it is clear that the Yorkshire Dales is an important staging and wintering area for Hen Harriers from a number of separate breeding populations. Assessing the wintering population of harriers is problematic given that some birds are known to range across large areas and do not roost at the same sites on a regular basis. In addition, there are a large number of known roosts in the area with the majority not easily accessible and a considerable distance from where fieldworkers are based. These difficulties are compounded as there is not a standardised method of recording roost visits, in particular recording a nil return when a roost is visited but no birds are recorded.

In order to try to provide a more consistent approach, since 2019 NERF have organised a series of co-ordinated winter roost watches on specific dates across Northern England. A small number of what are believed to be transient roosts were checked by YDNPA staff as part of this survey, with additional sightings submitted from independent raptor workers. On the Spring dates four roosts were checked

between 6 and 9 February and although no birds settled, a single ringtail flew over one of the sites during the late afternoon. Between 22 and 25 October five roost sites were checked and again, one ringtail harrier was seen to fly through at one site but did not roost.

More regular watches were undertaken by members of the Nidderdale Raptor Study Group at a number of sites in the AONB, including on co-ordinated NERF roost watch dates. In the first winter period there were 22 roost counts from three sites between 1 January and 13 March with the following results recorded:

- Site 1 in the Western Nidderdale Moors Site of Special Scientific Interest (SSSI) there were seven sightings of between one and four birds, with five of these sightings involving a grey male;
- Site 4 at a site adjacent to but just outside the AONB boundary there were 12 sightings of a grey male and a single sighting of two grey males together;
- At Site 5 in the East Nidderdale Moors SSSI three counts of 11, 13 and 16 were reported in February.

In the second winter period a total of 84 roost counts were made with the following results recorded:

- Site 1 in the West Nidderdale Moors SSSI there were 11 records of between one and three birds;
- Site 2 in the West Nidderdale Moors SSSI there were 11 records of between one and six (probably seven) birds, including two grey males;
- Site 3 in the West Nidderdale Moors SSSI one ringtail was noted;
- Site 4 at a site adjacent to but just outside the AONB boundary there were 52 roost counts with between one and six birds recorded, including two males and at least five different ringtails;
- Site 5 in the East Nidderdale Moors SSSI there were seven records of between three and 10 birds;
- Site 6 in the East Nidderdale Moors SSSI there two ringtails were recorded on one date;
- Site 7 in the YDNP two ringtails roosted on a single date.

No other information is available on the post-breeding movements of satellite tagged birds that have fledged from within the recording area or, of birds that have fledged elsewhere and have moved into the area. The results of roost monitoring undertaken by other organisations have not been made available, and so an accurate assessment of the wintering population within the area cannot be made.

‘Missing Fate Unknown’ Satellite Tagged Hen Harriers

There were also five satellite tagged Hen Harriers that went ‘missing fate unknown’ during 2020 where the last known fix occurred within the YDNP, with details shown in *Table 3*. Natural England (2021) criteria for ‘Missing Fate Unknown’ includes:

- Satellite tagged birds that were recorded after the battery ran out or transmissions had stopped.

- Satellite tagged bird that died in such a position as to render the transmitter hard to locate and recover. The satellite transmitters depend on light to recharge, and operate on a 10 hours on 48 hours off duty cycle. Therefore, when a bird dies there is only a small chance that it would happen whilst the transmitter is transmitting with enough charge to enable transmission of co-ordinates and a signal to enable retrieval. If the bird dies in the off cycle of the transmitter, then it could have travelled many km to its final resting place from the last transmitted co-ordinates. If this final resting place is in long vegetation, and/or the bird is lying on its back with little or no light available to the solar panel it will never transmit again and the bird would fall into the Missing Fate Unknown category.

Four missing fate unknown birds had been tagged by NE, including two birds that had been brood managed, and one by RSPB. In addition, another bird was found within *c*. one km outside the YDNP boundary that was confirmed to have died of natural causes, with details included to clarify the location and why it is not included within the totals in this report. Despite investigation and searches, no trace of the birds or the tags could be found. The location of the last know fixes are shown in *Figure 3.*

It is fully acknowledged that given the cycle of the satellite tag transmissions, the last location transmitted is not necessarily the location that the bird died. However, there are an increasing number of satellite tagged Hen Harriers that have gone 'missing' in the north of England including the Yorkshire Dales where there have been no bodies or tags located, or any further sightings or reports of the birds. Murgatroyd *et al.* (2019) concluded that illegal killing of the birds and destruction of the tags was the most likely explanation when tags suddenly stopped transmitting without any prior evidence of malfunction, where no remains of the birds or tag could be found and where the birds were not seen again.

***Figure 3**. The last known fixes of four Natural England and one RSPB satellite tagged Hen Harriers Missing Fate Unknown in the Yorkshire Dales National Park in 2020, fully acknowledging that given the cycle of the satellite tag transmissions, the last location transmitted is not necessarily the location that the bird died. (Note: the last known fix of the RSPB tagged bird was at a roost site and so is only given at a 10 km square grid reference).*

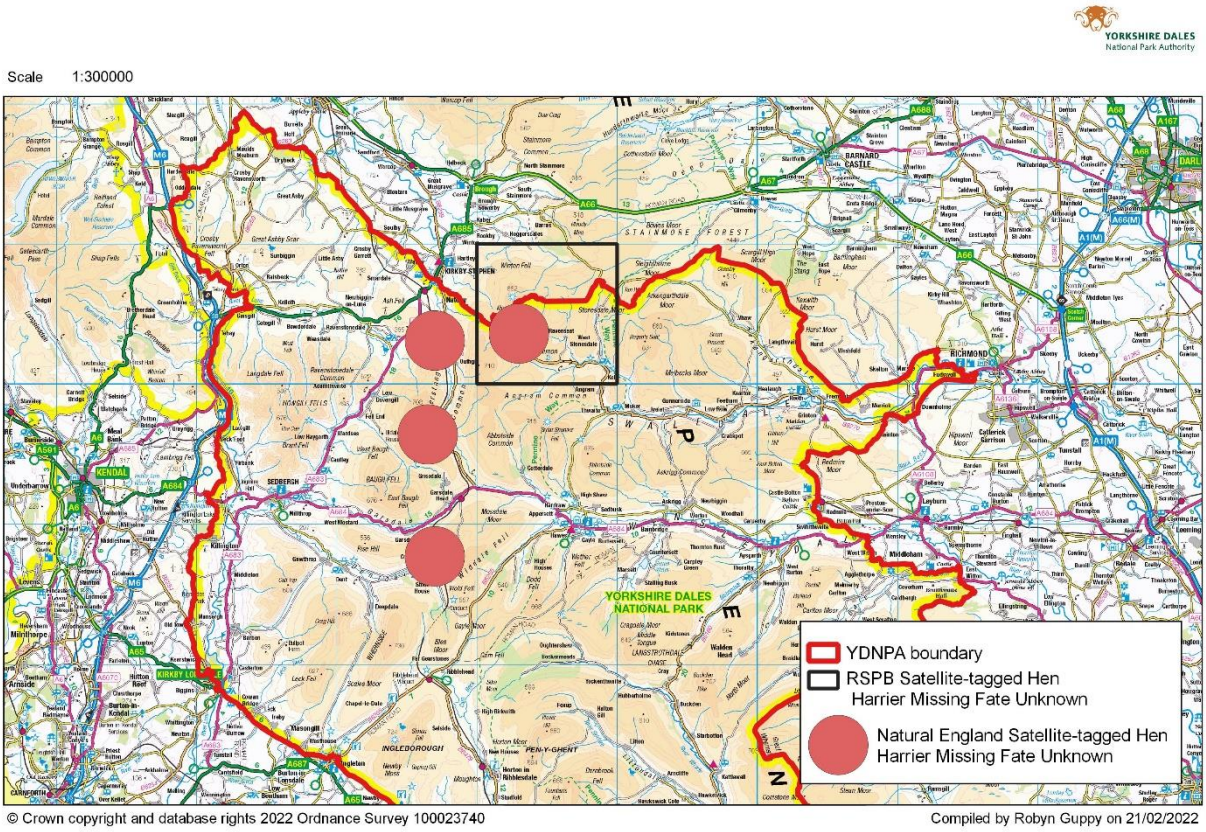

***Table 3**. Details of Satellite tagged Hen Harriers that Died of Natural Cause or Were Missing Fate Unknown Where the Last Known Fix was in, or Adjacent to the Yorkshire Dales National Park or Nidderdale Area of Outstanding Natural Beauty in 2020.*

Natural England Satellite Tagged Birds (details published here)									
Tag Type	**Tag ID**	**Sex**	**Nest**	**Tag code or Name**	**Date fitted**	**Date last contact**	**Location of last contact**	**OS Reference**	**Status**
Lotek	183701	M	Yorkshire Dales BM	R1-M1-19	25-Jul-19	21-May-20	Cumbria	SD770877	Missing Fate Unknown^
Lotek	183703	F	Yorkshire Dales BM	R1-F1-19	25-Jul-19	01-Apr-20	Cumbria	SD765964	Missing Fate Unknown^
Lotek	57266	F	Yorks Dales	Harriet	04-Jun-20	25-Jul-20	Cumbria	NY770031	Missing Fate Unknown^
Lotek	57272	M	Yorks Dales	Harold	04-Jun-20	19-Sep-20	Yorks Dales	NY830036	Missing Fate Unknown^
RSPB Satellite Tagged Birds									
MT	200375	F	Forest of Bowland AONB	Dryad	14 June 2020	7 Sept 2020	Yorkshire Dales National Park	NY80[1]	Missing – fate unknown
Natural England Satellite Tagged Bird Found *c*. One km Outside YDNPA Boundary									
MT	55154	M	BM R1 North Yorkshire	R1-M1-20	11-Jul-20	20-Oct-20	North Yorkshire	SE132992	Dead – natural causes

[1] *the site of the last known fix was at a sensitive roost and so no more details are published*

RED KITE *Milvus milvus*

Overview: Despite the success of Yorkshire Red Kite Project site and the proximity of the re-introduction site at Harewood, there have been very few confirmed breeding records in the YDNP and northern area of the AONB. There are, however, two areas in the south of the AONB where a number of pairs regular breed. The spread of Red Kites into the National Park and AONB has previously been restricted by illegal persecution (YDNPA, 2018; Nidderdale AONB, 2019).

There were eight sites/areas with 11 confirmed and two probable breeding pairs within the AONB.

A pair nested in Swaledale and were thought to have fledged young. There were also several territorial pairs reported to be present in the south east of the YDNP but the breeding outcome is not known.

WHITE-TAILED EAGLE *Haliaeetus albicilla*

Overview: This has always been a very rare visitor to the area but may become more regular as birds from the Isle of Wight re-introduction scheme move around the country. There is also the possibility that birds from the increasing UK population may visit the area.

In early September one of the Isle of Wight released birds that summered in the North York Moors did make a brief visit to the Yorkshire Dales when it flew south from Kirby Stephen down Wharfedale, then headed east from Kettlewell passing to the north of Gouthwaite reservoir before leaving the area and returning to the North York Moors (Steve Downing pers. comm.)

BUZZARD *Buteo buteo*

Overview: There is no systematic monitoring of nesting attempts although population trends can be determined for the YDNP using British Trust for Ornithology Breeding Bird Survey data. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population. Population trends and status are not known but casual records suggest that this species is widespread in the Yorkshire Dales but occurs at low density.

The results from the Breeding Bird Survey analysed for the YDNP area up to and including 2019 show that within the YDNP there has been a statistically significant increase in the Buzzard population since the survey began in 1994 (Harris *et al*., 2021). The population has increased from very low numbers, initially restricted to Cumbria, following extirpation from many areas.

No breeding records were reported within the YDNP.

In the AONB there were 13 confirmed breeding pairs at six sites.

These records are not an accurate reflection of the true breeding population within the area.

BARN OWL *Tyto alba*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a small number of records are reported from nest box monitoring projects and are not representative of the actual breeding population. Population trends and status are not known but casual records suggest that the population has increased significantly over the last two decades, with this species now widely distributed across the area.

There is a nest box scheme in the south of the YDNP but only two boxes were able to be checked, with one occupied and five young fledged.

There were breeding pairs at two sites in the Cumbrian part of the YDNP but no additional details.

These records are not an accurate reflection of the true breeding population within the area.

LITTLE OWL *Athene noctua*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population.

There were insufficient records for any assessment of population trends or status to be determined.

LONG-EARED OWL *Asio otus*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population.

In the AONB there were six confirmed pairs at four sites.

In the YDNP there were single probable and one confirmed pair at two sites.

It is likely this species is more widespread than records suggest.

SHORT-EARED OWL *Asio flammeus*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population. This is a difficult species to monitor as birds don't tend to return to traditional territories, and are affected by cyclic vole populations.

There were no breeding pairs reported in the AONB.

In the Cumbrian area of the YDNP there were birds present at 14 sites between Kirkby Lonsdale and Nine Standards Rigg, with confirmed breeding at six of these but no details of productivity were reported. In the Yorkshire area of the YDNP there were four confirmed and four probable breeding pairs.

It is likely this species is more widespread than records suggest.

TAWNY OWL *Strix aluco*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population.

There were insufficient records for any assessment of population trends or status to be determined.

KESTREL *Falco tinnunculus*

Overview: There is no systematic monitoring undertaken of breeding populations. Only a few casual records of breeding birds are reported that are not representative of the actual breeding population.

There were insufficient records for any assessment of population trends or status to be determined.

MERLIN *Falco columbarius*

Overview: The Yorkshire Game Management Cluster is a long-term collaborative study being undertaken by moorland owners and their gamekeepers that commenced in 2016, with keepers working under a Schedule 1 licence on more than a dozen estates to monitor Merlin breeding performance. Initial results show that to date approximately 90% of pairs located on the participating estates have bred successfully producing an average of three chicks per nest. The data will be analysed by a raptor specialist with the aim to provide landscape-scale guidance on habitat management, with more detailed annual reports published on a website dedicated to this ongoing raptor research and conservation project in due course.

The only information from Yorkshire Game Management Cluster for the 2020 breeding season was that it was particularly noteworthy for early nesting and high productivity. No other systematic monitoring work has been undertaken and there are insufficient records for any assessment of population trends or status to be determined.

HOBBY *Falco subbuteo*

Overview: A species that is spreading northwards with a few pairs potentially nesting each year.

In the AONB there were two probable pairs and two different sites.

PEREGRINE *Falco peregrinus*

Overview: Systematic monitoring has been undertaken across the area since the late 1970s, although monitoring effort has decreased in recent years. Previous analysis that has included data from the YDNP and AONB has shown differences in productivity between nest sites on and away from grouse moor sites (Amar *et al.,* 2011).

There were no breeding records reported in the AONB.

There were no breeding records reported in the Cumbrian area of the YDNP. There are, however, several historically occupied sites that are no longer regularly monitored and so the current status of this species in this area of the YDNP is not known. In the Yorkshire area of the YDNP six sites were checked, five were occupied, with four pairs successfully fledging 11 young.

RAVEN *Corvus corax*

Overview: The breeding population in the YDNP has remained relatively stable over recent years. The increase in casual records indicates an increase in the non-breeding population, presumable as a result of an increase in the number of breeding pairs elsewhere in Northern England, particularly in Cumbria.

Monitoring was significantly affected by the access restrictions as the Raven breeding season had finished by the time access restrictions had been lifted.

In YDNP eight sites were checked with four occupied, and three pairs fledging 13 young. No breeding pairs were reported in the Cumbrian area of the YDNP or in the AONB.

PERSECUTION DATA 2020

Raptor persecution is one of the UK government's seven wildlife crime priorities, with an emphasis on Hen Harrier, Peregrine Falcon, Goshawk, Golden Eagle and White-tailed Eagle. The data detailing all raptor persecution incidents in England and Wales that is published by the Raptor Persecution Priority Delivery Group (RPPDG) for England and Wales is available on the Defra MAGIC website (see here). At present, only the details of confirmed incidents recorded between 2011 and 2015 are available.

In the context of the delivery of the Management Plan objectives it is important that there is a complete picture of all offences, so that there is a wider understanding of the issues, what drives them to take place and measures to try and determine who is responsible. In addition, what existing action is underway to prevent offences taking place. This will enable the Stakeholder Group to devise and implement appropriate actions to address the problem.

At present there is no requirement for the Police to record raptor crime because it is not defined as notifiable by the Home Office. In the absence of nationally recognised criteria for recording confirmed persecution cases, all members of the Steering Group agreed that details of the incidents supplied by Cumbria and North Yorkshire Police and data supplied by RSPB and published in the annual BirdCrime reports will be used. These data are cross referenced against national standards that are used by the Police to record all incidents and crimes.

The National Wildlife Crime Unit (NWCU) recommend that offences within the Wildlife and Countryside Act including shooting, trapping, killing, poisoning, disturbing or taking (bird or egg) should be considered for inclusion in the report. There may well be some instances where an illegal act (for example, shooting at a raptor or using a decoy) has been committed but may not result in, for example, the actual offender being identified, a bird being killed or the body of a bird being recovered. Whilst there may not be sufficient evidence for a conviction, it is still criminal behaviour irrespective of who has committed the offence. Recording the location of these incidents will help to determine any spatial or temporal patterns of offences and assist any subsequent incident or crime reports from the Police. These will include the following:

- Confirmed raptor persecution incident - Where circumstances indicate that an illegal act against a wild bird of prey has taken place. These incidents are typically substantiated by evidence such as post-mortem or toxicological analysis, or reliable eyewitness evidence.
- Shooting – where an X-ray, vet or expert opinion has confirmed that shot killed the bird.
- Poisoning – where toxicology tests confirm the likely cause of death
- Trapping, disturbance or attempt of any offence – where there is evidence provided by a witness, video or similar.

The details of confirmed raptor persecution incidents in 2020 have been extracted from the RSPB Species Protection Data Base (SPDB) system, and includes any that

occurred within or intersecting with Geographical Information System (GIS) shapefiles for the YDNP and AONB boundaries. Any 'officially sensitive' information within the extracted data has been removed so that the information can be shared openly in the public domain.

All the data were accurate at the date of extraction, but may be incomplete and subject to change. This is due to COVID-related backlogs from the data sources, and includes delays in laboratory analyses and/or results. In addition, there may be some data that may be required to be withheld to protect any ongoing investigation and/or pending permission from an enforcement partner. Any changes or amendments to previously listed incidents will be published in future Evidence Reports and where appropriate, any totals will be revised.

The criteria used by RSPB for recording offences against wild birds have been in place for several decades using a consistent recording format. Only confirmed incidents are published in this report where the circumstances indicate an illegal act has taken place with a high degree of certainty (95% and above). These incidents are typically substantiated by evidence such as post mortem or toxicological analysis (e.g. shooting and poisoning cases).

It should be noted that for any incident (i.e. per RSPB ID or reference.) there can be multiple victims of more than one species within one incident. Incidents are separated on the basis that any bait, victim, group of baits, victims etc. that are found on a different date; found sufficiently far apart to be represented by a different six-figure grid reference; found at the same grid reference and on the same date but in circumstances that otherwise separate them (for example a poison victim that is very decomposed beside a fresh bait - so the bait could not have been responsible for the death of the victim); are classified as separate incidents.

The following criteria are used in the assessment:

- Species Number: "U" or "0" indicates victim number is not known but the known target species is listed.
- Species Involved or Targeted: Involved: Species victim number is known. Targeted: Used when the species or species group listed is clearly targeted but the victim number is not known e.g. illegally set traps or poisoned baits.
- Persecution 'Other': Captures confirmed persecution incidents that do not fall clearly to the other categories of shooting, trapping, nest destruction or poisoning. For example, this could include: killing or attempted killing using other means; possession of equipment capable of being used to commit an offence (where there is supporting evidence or intelligence of sufficient standard to substantiate that birds of prey are the intended target) e.g. possession of a banned pesticide for use in poisoned baits where intelligence/evidence substantiates persecution occurred with >95% certainty).

It must be made clear that where the incident data provided are assigned to a geographical location this does not imply or assign blame to the custodians, landowner, land managers or their operatives.

A total of ten confirmed persecution incidents were recorded in the YDNP and AONB in 2020, with the details shown in *Table 4*.

Holmes *et al.* (2000) have highlighted the difficulty in assessing suspected persecution incidents in the UK as in most cases where raptors are deliberately targeted, evidence is likely to be removed or hidden with very few carcasses located and available for analysis. In addition, the persecution of birds of prey usually takes place in remote locations, where detection and the probability of coming across evidence of a crime are very low. As such, it is widely believed that the number of confirmed incidents may not be a true reflection of the actual number of crimes that are committed. This means that the rate of detection between years will vary, and so the number of confirmed incidents will fluctuate between years.

The difficulties in locating evidence of wildlife crimes as detailed by Holmes *et al.* (2000), the differences in how incidents have been categorised and recorded, along with the availability of nationally recognised data sets make any comparison of annual persecution data problematic. To give some context to the 2020 figures, data based on the RSPB Investigations Team recording criteria published in previous evidence reports showed that there had been a total of 43 incidents in the 10 km squares that had some overlap with the AONB area during the period between 1987 and 2017 (Nidderdale AONB, 2019). There were also 46 confirmed persecution incidents in the 10 km squares occupied by the Yorkshire YDNP between 2007 and 2016 (YDNPA, 2018). It must be noted that both evidence reports used data based on 10 km squares overlapping the respective protected landscape boundary, and so there will be a small number of incidents that are listed in both the reports. Given that many of the incidents occur in in remote areas, the rate of detection between years will vary, and so the number of confirmed incidents will fluctuate between years.

***Table 4**. The number of confirmed persecution incidents recorded in the Yorkshire Dales National Park and Nidderdale Area of Outstanding Natural Beauty in 2020.*

RSPB ID	Month	Area	10 km Grid Ref	Summary	Species No.	Offence Type
101160	Feb	AONB	SE17	Species involved: Red kite x 1. Tested positive for: Carbofuran.	1	Poisoning
101036	March	AONB	SE16	Species involved: Buzzard x 1. Tested positive for: Alphachloralose, bendiocarb, carbofuran, isofenphos.	1	Poisoning
100973	April	YDNP (North Yorks)	SE08	Species involved: Buzzard x 1.	1	Shooting
101179	April	YDNP (North Yorks)	SE08	Species involved: Buzzard x 1.	1	Shooting
101180	April	YDNP (North Yorks)	SE08	Species targeted: Buzzard x 1.	1	Shooting
101182	April	AONB	SE27	Species involved: Buzzard x 1.	1	Shooting
101184	April	YDNP (Cumbria)	SD78	Species targeted: Hen harrier.	U	Persecution Other
101236	April	AONB	SE16	Species targeted: Birds of prey. Species involved: [1]Dog x 1. Tested positive for: Bendiocarb, carbofuran, isofenphos, alphachloralose.	U	Poisoning
101348	July	AONB	SE17	Species targeted: Birds of prey. (Possession of items capable)	U	Persecution Other
101427	Sept	YDNP (North Yorks)	SE08	Species targeted: Birds of prey (possession of items capable)	U	Persecution Other

[1] this was an unusual combination of substances that had been seen before in the area, causing the death of two red kites and a buzzard since 2016. There are fears that both dogs had inadvertently come across a poison bait which may have been placed illegally in the countryside to target birds of prey

ACKNOWLEDGEMENTS

The Monitoring Sub-Group would like to thank all the individuals and organisations that have contributed to the survey and monitoring work that are included within this report. In particular, the following people for collating and submitting data including: Chris Hind (Cumbria Bird Club), Samantha O'Key (Cumbria Constabulary), Andy Jowett (Nidderdale Raptor Study Group), Chief Inspector Kevin Kelly (National Wildlife Crime Unit), Stephen Murphy (Natural England Hen Harrier Project), Inspector Matt Hagen (North Yorkshire Police), Stephen Root (Harrogate Naturalists' Society) and Jack Ashton-Booth (RSPB). We are also grateful to RSPB Investigations for providing the information on confirmed persecution incidents.

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Appendix 1

RARE BREEDING BIRDS PANEL (https://rbbp.org.uk/)

Information from the Rare Breeding Birds Panel includes:

"From the evidence before you, for each species, the number of pairs (or territories) at each site needs to be worked out, and each record which represents a breeding or potentially breeding "pair" needs to be assigned to one of the breeding evidence categories (confirmed, probable, possible; note the special category of "singing males" used for some species traditionally counted by this method). Thus for each site you could have up to four different numbers for a species"

EUROPEAN BIRD CENSUS COUNCIL BREEDING CATEGORIES

Always use these – see the comments to help interpretation.

POSSIBLE BREEDING

H. Species observed in breeding season in suitable nesting habitat. This can be a problematic category, and relies on significant judgement by observers and local recorders. We suggest the following guidelines:

a. Consider carefully what is likely to be 'suitable' or 'possible' breeding habitat. In many cases this will be clear, but for some, especially non-native birds, it may not be. Be cautious rather than optimistic.

b. 'Suitable' habitat may vary according to where in the country a record comes from.

c. Historical breeding records in the area may guide this judgement, but range expansions should also be considered.

d. Discussions with the local recorder can help agree whether habitat is suitable, so good communication is desirable.

S. Singing male present (or breeding calls heard) in breeding season:

a. This must include an assessment of whether the habitat is suitable for breeding.

b. Consider the most probable situation, and be cautious. Is the bird likely to be a migrant? Even a singing male may well not breed. However, if song persists for over 7 days, see 'T – Permanent territory presumed' below. Many potential rare breeders are also scarce migrants. If they are reported through local recording channels, it will be possible retrospectively to extract records from bird reports if at some stage breeding, or a colonisation, takes place.

PROBABLE BREEDING

P. Pair observed in suitable nesting habitat in breeding season

T. Permanent territory presumed through registration of territorial behaviour (song etc.) at the same place, on at least two dates separated by at least one week. Consider possibility of an unpaired male when recording ‘probable’ breeding using this criterion.

D. Courtship/display (judged to be in or near potential breeding habitat; be cautious with wildfowl.)

N. Visiting probable nest site

A. Agitated behaviour or anxiety calls from adults

I. Brood patch on adult examined in the hand

B. Nest building or excavating nest-hole

CONFIRMED BREEDING

DD. Distraction-display or injury feigning (make sure no confusion with courtship display or low-levels of agitation).

UN. Used nest or eggshells found (occupied or laid within period of survey).

FL. Recently fledged young (nidicolous species) or downy young (nidifugous species).

Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.

ON. Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest holes, the contents of which cannot be seen) or adults seen incubating

FF. Adult carrying faecal sac or food for young

NE. Nest containing eggs

NY. Nest with young seen or heard