

Peregrine 1991

Title

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Description and Summary of Results

The Peregrine Falcon *Falco peregrinus* has been the subject of intensive conservation efforts worldwide since several populations crashed in the 1950s and 1960s due to persecution and the effects of organochlorine pesticides. In the UK, a nationwide survey was carried out in 1961 and 1962, specifically in response to reports of significant predation of racing pigeons, but it rapidly became clear that the population was suffering a catastrophic decline associated with significant breeding failures.

Progressive restrictions on the use of these chemicals and conservation efforts focused on protecting nests from egg-collectors, falconry thieves and persecution from game-keepers led to a halt of the decline in the 1960s, having reached an estimated low in 1963 of occupancy of only 44% of traditional territories. A 1971 repeat survey showed signs of recovery (56% occupancy), and another repeat in 1981 showed 88% traditional territory occupancy. But the recovery was not uniform through the country. Numbers were at unprecedentedly high levels in northern England, northern Wales and southern Scotland, but were still low in southwest England and Yorkshire, and had fallen in the coastal regions of northern Scotland. Breeding birds were still absent from southeast England.

In 1991 it was decided to carry out another census. There was some argument that there was no need given that the species was obviously 'out of danger', but: a) recovery in 1981 was uneven and in some areas reversing; b) there was renewed pressure from pigeon racing and game-keeping interests for a relaxation of protection for (all) birds of prey -- and often with unsubstantiated and inflated population estimates; c) the recovery had been a major success for conservation and it was felt important to document this success accurately; and d) the UK was thought to hold at least 20-25% of the European population giving the UK a special responsibility to monitor and conserve the species.

In the whole of the UK, at least 1214 breeding territories were reported occupied out of a known total of 1603 traditional sites. Only 141 known territories were not visited (91% coverage). The gaps were mainly in the remoter parts of the Scottish Highlands and Islands. An estimate based on previously used but unvisited sites was made of an additional 95 occupied territories in partly covered districts, giving an estimated grand total of 1309 in the UK. Of the 1214 reported occupations, 53 were by apparently single birds, so that subtracting half this figure adjusts the total territorial population to 1283 notional 'pairs'. The estimate of the relatively stable pre-Second World War (1930-1939) population was 874 pairs. The increases were largest in a broad zone from the eastern Grampians to South Wales, but numbers were still well below pre-war level in coastal SE England and numbers had declined in coastal and western inland areas of the northern Highlands.

At least 912 clutches were produced in 1991, with an overall estimate of about 1100. The mean clutch size was 3.07 eggs, and showed some variation between regions (relatively small in SW and NW England and SW Scotland and larger mainly from inland areas). Complete clutch losses were relatively high (>25%) in inland parts of S Wales, the Cheviots,

S Scotland and Grampian Region, but low in S England where most birds nested on inaccessible sea-cliffs. Overall brood size for was 2.21 young and there were an estimated 742 broods fledged in all giving approximately 1700 young fledged young in 1991. At least 45 and 21 nests were believed to have been robbed of eggs and young respectively (7.3% of estimated total). In another 103 eyries, eggs or young disappeared in unexplained circumstances, some undoubtedly through robberies but some probably through natural causes, including bad weather. In addition, there were 3 instances in which adults were reported to have been killed on their territories, although this form of persecution is likely to be under-recorded because of the difficulty in obtaining evidence. A parallel survey was conducted at the same time in the Republic of Ireland by the Forest and Wildlife Service and Birdwatch Ireland (then called the Irish Wildbird Conservancy). This estimated 350-355 occupied territories, an increase of about 25% since 1981.

Methods of Data Capture

Fieldworkers were asked to visit all known Peregrine nesting sites in late March to record the number of birds present. They were also asked to check all possible suitable and alternative sites, even if they were unknown as traditional sites because, with population expansion, it was known that Peregrines were using atypical sites, such as low rocks on top of moorland hills or even buildings. If no birds were found in March, then volunteers were urged to return a month later to see if any birds had taken up residence. A further visit in June was requested to assess breeding success. A record was made of sites with no birds found. Observers were advised to obtain a licence from the (then) Nature Conservancy Council to allow visits to Peregrine nests because they are protected under Schedule 1 of the Wildlife and Countryside Act 1981.

Observers recorded the location of each site, provided a brief description of it and the surrounding area, the date of each visit and their observations of Peregrines. In some more remote areas, especially of the Scottish Highlands and Islands, only a single visit to some sites was possible, and sometimes this was too early in the season to show whether the birds were nesting. Sometimes nests with eggs or small young were seen but not followed up.

Purpose of Data Capture

The main aim of the survey was to establish how many territories were occupied in 1991 for comparison with the previous 3 surveys. The stated aim was to find all birds. A second aim of the survey was to assess breeding success in each region of the country.

Geographic Coverage

Complete coverage of all of the UK and Isle of Man. In the event it was estimated that 91% of Peregrine territories were seen.

Temporal Coverage

The breeding season of 1991, with visits requested in March (and April if no birds were seen in March) to assess occupancy, and in June to assess breeding success.

Other Interested parties

The survey was a collaborative effort of many individuals and organisations. Support of various kinds (logistic and financial) came from the Royal Society for the Protection of Birds, the Joint Nature Conservation Committee, English Nature (now Natural England), Scottish Natural Heritage, the Countryside Council for Wales (now Natural Resources Wales), the Department of Environment for Northern Ireland and the Raptor Study Groups.

Organiser(s)

Humphrey Crick and Derek Ratcliffe.

Current Staff Contact

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Publications

The main report of the survey is:

Crick, H.Q.P. & Ratcliffe, D.A. 1995. The Peregrine breeding population of the United Kingdom in 1991. *Bird Study* 42: 1-19.

An associated survey in the Republic of Ireland is reported in:

Norriss, D.W. 1995. The 1991 survey and weather impacts on the Peregrine *Falco peregrinus* breeding population in the Republic of Ireland. *Bird Study* 42: 20-30;

and the results were used in the updated 2nd edition of Derek Ratcliffe's book *The Peregrine Falcon* (Ratcliffe, D.A. 1993. T. & A.D. Poyser, Calton).

The survey was noticed in *BTO News* number 180.

Available from NBN?

No.

Computer data -- location

BTO Windows Network but with restricted access due the sensitivity of some of the records.

Computer data -- outline contents

An Excel spreadsheet contains all relevant information on sites, habitats and records of visits.

Computer data -- description of contents

The spreadsheet contains:

County, Grid Reference, Site Name, Nest Site Description (Aspect, Altitude etc), Habitat, Records of Visits (Date, Signs of Activity, Nest Contents, Status Codes, Summary, Notes).

Information held in BTO Archives

Data sheets for England, Wales, Northern Ireland and some of Scotland are in Thetford, the remainder of Scotland data are in Stirling; many letters and reports etc are in Thetford.

Notes on Access and Use

As it is a species on Schedule 1 of the Wildlife & Countryside Act and which is still subject to persecution, access to the detailed records from this survey is restricted. For details including any specific requests please contact Chris Wernham at BTO Scotland.

Other information needed

Notes on Survey Design

Specific Issues for Analysis

For the analyses some categories of record were treated conservatively, in that some apparently single Peregrines may have been paired, some evidently non-breeding pairs may have nested and failed, and some failed breeders may have had successful repeats that were unknown. Where pairs of birds could not be followed up, the record was assigned to the last category that was observed. An exception was made in the case of broods of large but unfledged young, which were assumed to have flown successfully. Where failed nestings were followed by successful repeats, only the latter were counted in the totals. Overall it is thought that the methods probably underestimated the true population size, breeding success and productivity, although this applied mainly to parts of the Scottish Highlands and Islands. In all regions, a correction was also made for the number of known territories which were not visited by observers, by applying to them the rate of occupancy and breeding success found for the samples examined in the same districts. The final figures for the UK Peregrine population and number of successful broods are thus estimates, although the high coverage led to the belief that it was reasonably accurate.