

Gloucestershire Little Owl (*Athene noctua*) 1 Km square maps and analysis

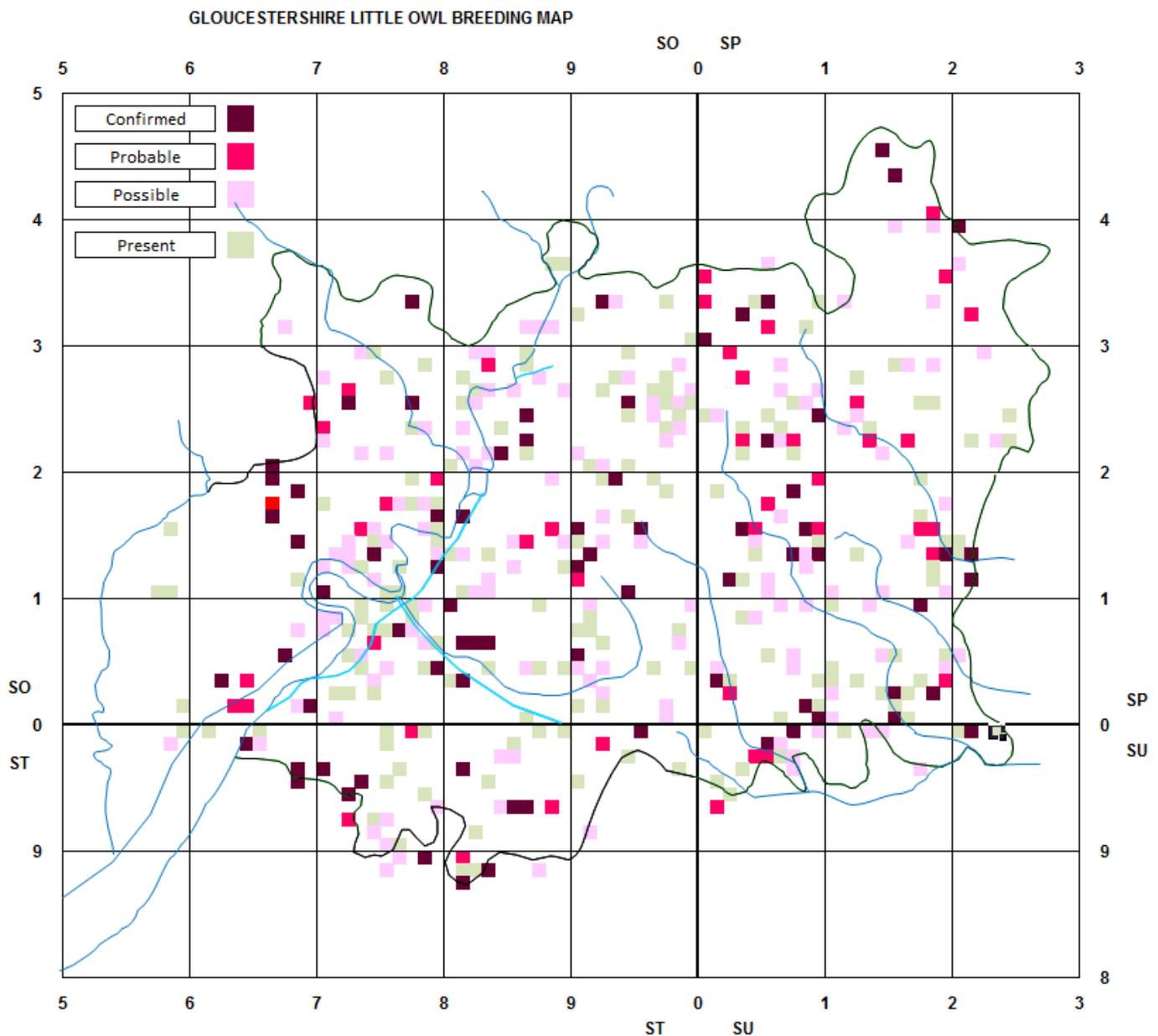
Notes:

- British Little Owls are considered to be *A. n. vidalii*; Birds of the Western Palaearctic comments geographical variation is “Marked and complex”; other sub-species occur in different areas of Europe/Asia.
- Little Owls are still considered to be alien introductions rather than native, consequently they have no conservation status which makes it very difficult to attract funding for research in spite of the fact that marked declines have been noted. The suggestion is that there is something amiss causing the declines but no clear indication of what that might be, the use of Ivomectin in livestock has been suggested as a possible factor but the case remains to be proven.
- BTO Factsheet data indicates Little Owls are most frequently found in Pasture, Arable and then Villages with other habitats significantly less utilised than these.
- Mapping for Gloucestershire below is by 1 Km squares which are of course are smaller and more accurate than tetrads, this also emphasizes the gaps in our knowledge as well as the actual distribution of the species.
- The record data is taken from the whole of the Birds of Gloucestershire / National Atlas period of 2007-2011 and from GRMG & Richard Baatsen’s records received up to 1st August 2015. Records previous to 2007 have been discounted in this assessment only so that the picture is a more accurate reflection of the current status.
- The breeding season has been considered to be from March to August, winter or non-breeding is therefore taken to be from September to February.

Breeding Distribution:

Birds of Gloucestershire (Kirk & Phillips) utilised a figure of 683 tetrads for the county, each of 4 sq. Km; using this as the best and most consistent measure of our recording area we arrive at 2,732 Km squares overall, of which there are Little Owl records during the breeding period for 421 Km squares (15.41%). Of these, during the period from March to August, Little Owls were confirmed breeding in 75 squares (2.75%), probably breeding in 45 (1.65%), possibly breeding in 139 (5.93%) and present, but with no definite breeding evidence in a further 162 (5.93%).

In some squares there was a plethora of evidence, primarily because of observer effort; this was notable in the Tirley sandpits square for example with records courtesy of Mark Grieve who consistently records the bird life there over an extended number of months and years. In other cases birding “hot spots” where Little Owls are resident result in a regular stream of reports from multiple observers (WWT Slimbridge, Frampton on Severn & CWP Shorncote Pit 104).



The national atlas 2007-11 comments on the “marked decline” across south west England and most of Wales and attributes it “possibly to changed farming practices”; the decline in meat and dairy production driven by subsidies for grain and other seed crops may well be the cause since this has resulted in grazed orchards and meadows being changed to arable production with the inevitable loss of invertebrates on which Little Owls feed. Records from farm buildings in the county especially where the immediate vicinity of the buildings remains as grassland are still quite numerous and whilst there are also records from water meadows, the Severn Hams and similar areas, we do know that invertebrate life in those sites is still reduced and in recovery from the summer floods of recent years.

As is noted above, Little Owls are not truly “native” having been introduced in the 19th century but they found a niche in the environment that was not being fully exploited by others and adapted well to the countryside and land management regime that persisted into the late 20th century. Where animal husbandry continues relatively unchanged, their populations are more stable and even increasing in some areas (the north & north-west of England).

Having looked in detail at the Gloucestershire records and their locations on OS maps whilst checking the grid references, there are some factors that apply to the records we have (or don't have) which may give assistance in deciding where to make efforts to improve surveying and recording in future.

Lack of observers – there is a gap in the south of the county between the A38/M5 and the western edge of the Cotswold Water Park around Tetbury, Westonbirt and south of Wotton-under-Edge. This has been mentioned in respect of other species and records in general, it is reflected in the membership roll of GNS and therefore applies to other taxa. Similarly, with the exception of some hot spots (New Fancy & Nagshead) and iconic species such as Goshawk, recording west of the Severn and in the Forest in particular is less comprehensive than other areas and has always been so historically.

Suitability of Habitat - Some areas of the county, notably the wooded areas of the Forest (where records are almost non-existent) and the arable areas of the Cotswold dip-slope show an absence of records because the landscape is less suitable for Little Owls. Conversely, areas in the Vale with parkland, meadows and orchards have a higher concentration of records because they are good for both breeding and feeding. This is reflected in the south-east of the county where meadows (for hunting), holed trees and farm buildings (for breeding) align with the routes of the watercourses flowing ultimately towards the Thames. In the past in the Vale there were almost continuous orchards in some areas and the Little Owl was common; since the early 1960s those orchards have progressively diminished and the Little Owl population (along with breeding Tree Sparrows, Woodpeckers, Starlings and Jackdaws) has followed suit.

Competition for Nest Sites – Little Owls compete with Starlings and Jackdaws for nest sites in Woodpecker holes, farm and derelict buildings and the like. Nest boxing in untenanted but otherwise suitable habitat might allow some spread into those areas where breeding sites are scarce. This could possibly be done on a similar basis to the Barn Owl scheme and would require resources and volunteer effort as well as landowner co-operation.

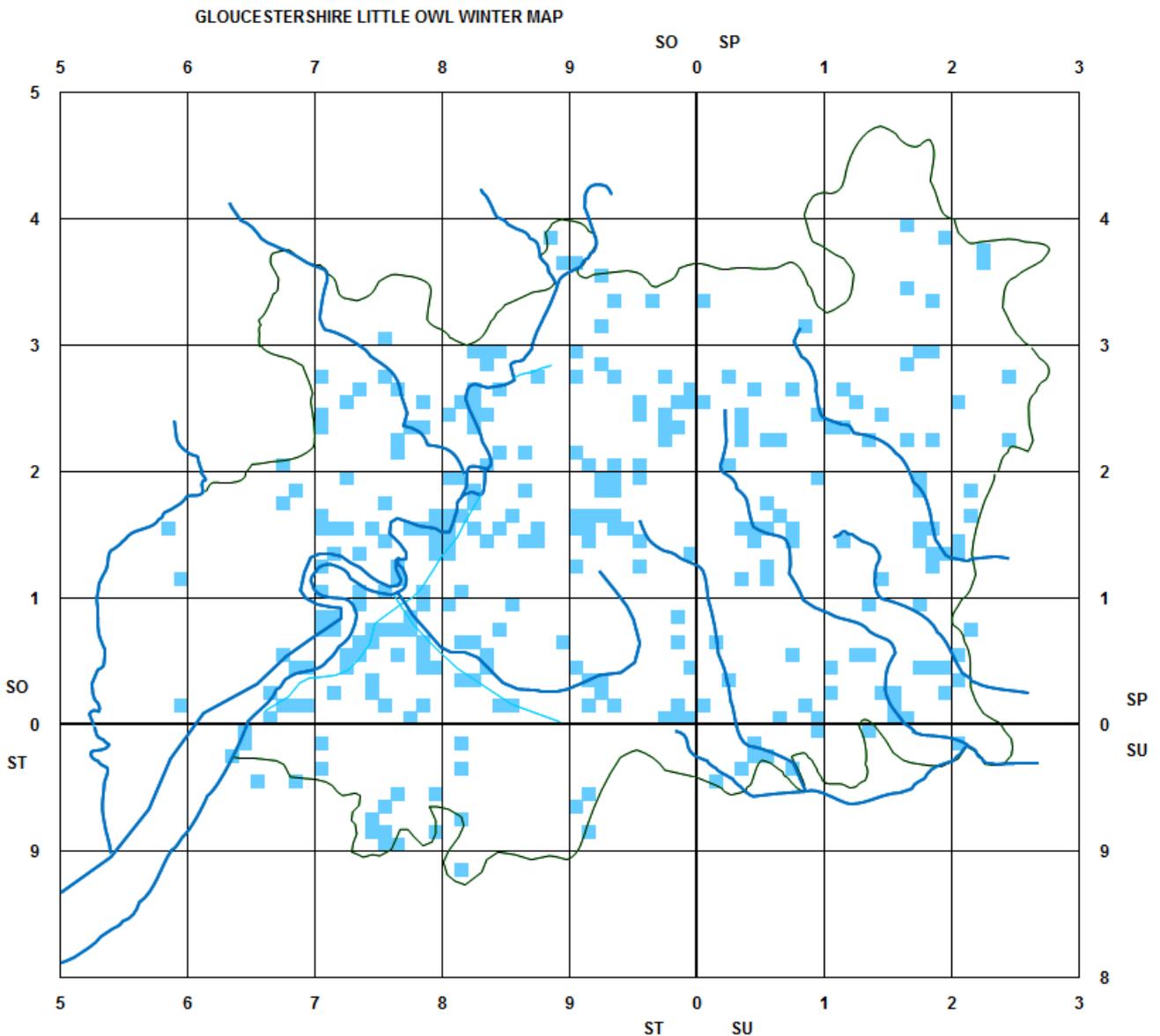
Food Sources – as is mentioned above, invertebrate food sources on which Little Owls subsist have declined in many areas, especially those where arable production is now the norm but was not so previously.

Wintering (non-breeding season) Birds:

The winter (or non-breeding) records are from the same data as the breeding season records and from the same years for consistency. However, there are differences in the distribution when looked at in detail.

Winter birds were recorded in 294 Km squares (10.76%) of the 2,732. This may be a product of less observer effort being expended in winter and that the birds are less noticeable in winter than when hunting to feed sitting females and growing chicks. Whilst the overall distribution is similar on a county wide scale, the clusters of Km squares are different; apart from the above possibilities, it may suggest that the birds occupy different areas in winter. Winter grass tends to be longer and less easy to hunt over since much livestock is now overwintered in enclosed units rather than grazing in the pastures; arable land in winter that lies as stubble, freshly planted winter wheat or root crops does become possible to hunt over as it gives less cover to the invertebrate life.

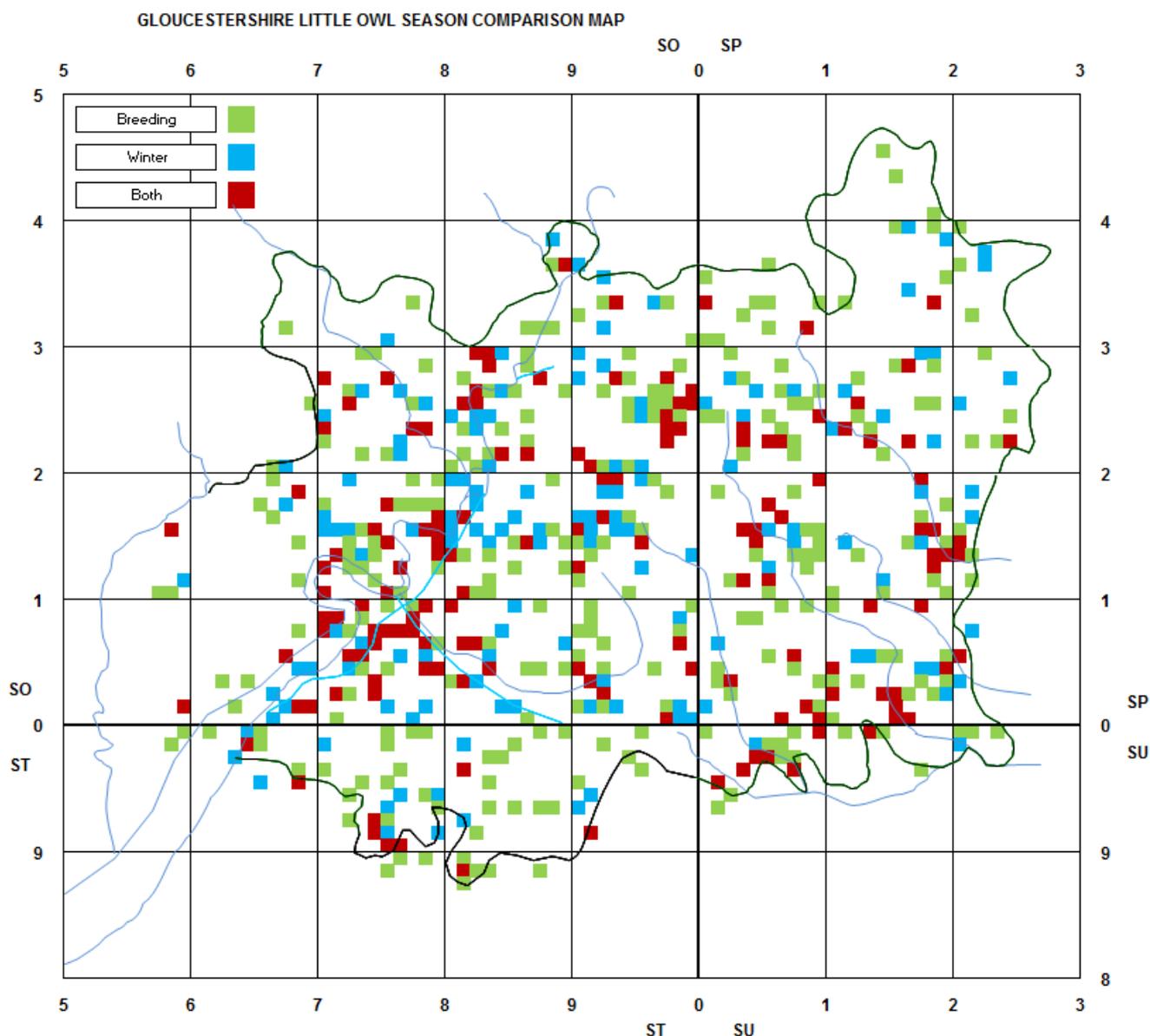
With the exception of those species known to be at least partially migratory or wanderers (Short Eared, Long Eared and Snowy Owl for example), Owls generally are not renowned for travelling long distances. Ringing recoveries for Little Owl recorded by the BTO show that whilst a few have travelled as much as 180km from their point of origin when ringed, most do not move far.



Finally, young birds of the year, having been evicted from their birthplace territories may well be occupying otherwise untenanted ground as they find their independent way in the world. Whilst this habitat may be good enough for overwintering, it may not be suitable for breeding so that they disperse differently with the coming of the following spring. There is some evidence (courtesy of Jimmi Hill) that in areas where a breeding population is relatively isolated, young from one territory have assumed the breeding role in an adjacent territory in following years; there is also evidence that territories are relatively small and close together.

Breeding & Wintering Overlap and Differences:

For comparison, the final map below indicates those records from the breeding season only and winter only where there are differences and from both periods where there is overlap. A total of 559 squares (20.46%) of the 2,732 were recorded as holding Little Owls at various time of the year, of which 272 (9.96%) were during the breeding period only, 145 (5.31%) during winter only and 75 (2.75%) in both periods. The map clearly shows the squares where there are no records, either/or and both seasons.



Little Owls are generally considered to be sedentary but the evidence we have in some Km squares suggests that this may not be certain; it is possible that there is some movement so that birds inhabit slightly different areas over the seasons for the reasons given above. There are potentially more birds than we are aware of given the gaps in the data indicated in all maps.

Considerations for future Surveys

- Some squares / areas could be excluded as being unlikely to be occupied at any season, simply because the habitat is known to be unsuitable at all times of year.
- The majority of the data we have was gathered during the Birds of Glos. / Nat. Atlas survey period, to re-survey and achieve the same degree of coverage would require major effort and may not be possible.
- Squares with no records could be re-surveyed in both seasons to establish whether or not there are Owls in either period but this again would be a major task.
- Squares with records for both seasons could be taken as read and re-surveyed at some point in the future (say 5 or 10 years from now) to establish whether or not there is a decline or increase in the distribution.
- Those observers who have given data for either the breeding or non-breeding seasons could be asked to re-survey in the other season to establish whether or not the Owls are truly resident in both seasons. This would give a more complete picture and potentially indicate if there is any partial migration between the wintering and breeding sites.
- The continuing income of general records will inevitably improve our knowledge of the overall situation in any case.

Andrew Bluett

August 2015.