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FLUCTUATIONS IN THE OTTER POPULATION IN PARTS OF SOUTH-WEST ENGLAND

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Abstract: The author has kept detailed records of otter sightings in a 4100 sq km area of south-west England since 1969. Otter numbers declined dramatically until 1984, with many rivers showing no otters whatsoever for long periods, and recolonisation attempts by transient animals failing to establish. Since 1988, otter numbers have started to recover, but surveys must continue to discover whether this is a true recovery or if otter numbers will once again decline.

Since 1969 I have been keeping records of the presence and absence of Otters on the rivers and wetlands of parts of Devon and Somerset. The results show some interesting trends and pose some important questions.

THE AREA

The area recorded extends some 70 km from North to South, and 60 km from East to West. I use a grid of 42 ten kilometre squares, based on the National Grid; one of these squares is entirely covered by sea, so the total area recorded is 4,100 sq. km. This sounds a lot, but of course only the water courses and marshes are of valid interest to a survey of Otters.

The western boundary is the river Exe which runs almost due South for over 55 of the 70 km. To its east, and also running South into the English Channel, are the rivers Otter and Axe. To the North are the short rivers which rush down off Exmoor, and the Tone /Parrett river system, which drains into the Bristol channel through part of the Somerset Levels, an extensive series of marshes and peat moors covering some 685 square kilometres.

METHOD

I have recorded all reliable information about Otters, from whatever source, ranging from regular and organised surveys to casual sightings by fishermen. Whenever possible I check these myself, and I undertake methodical fieldwork as often as I can, but there is no regular methodical pattern from which statistical base lines could be estimated. This approach seems surprisingly efficient at detecting the presence or absence of Otters. I know of no instance of an Otter having been around for any length of time unknown to the records (there are several test instances: for example an Otter which ventured into an unoccupied part of the levels for about a week was picked up in the records four times from various sources. I think that the information is reasonably complete, if not always very thorough or detailed.

THE SIGNIFICANCE OF THIS AREA

The results and trends in this area are of some national significance. In the 1977 National Survey most of this area was omitted; Its significance comes from the differing levels of Otter activity recorded on either side of it. In the 250 square kilometres directly to the West there were 14 positive 10 km squares out of the 25, but only two to the East. In 1977 in my area I recorded work in 23 of the 41 squares, which was evidence of more than 17 different otters. There were 2 dead Otters, and four reports of breeding. So at the time of the first N.C.C. survey this was a well used area on the eastern margin of the main West Country population, and ideally placed to show which way the trend was going.

By 1984 this quite healthy picture had given way to a very fragmented and discouraging situation, only 11 records from 7 widely separated squares, and most of those containing only one record for the whole year. It seemed as if the Otter was almost certainly going to disappear from this area as it already had from so many others.

CHANGES IN RANGE

Although the earliest years of my records are too random and incomplete to provide direct comparison on an annual basis, an amalgamation of the years 1972, 1973, and 1974 shows that Otters were recorded from 22 of the 41 squares, and were spread across the whole region. At least 7 more of the Squares must have contained Otters at some time in the year: it is almost impossible that the Otters recorded from either side of these squares never crossed the invisible and arbitrary cartographical dividing lines. This gives an occupied Range of 29 squares out of the 41. In 1977 alone there were records from 23 of the squares, and a similar amalgamation of the years 1975-1979 shows that Otters were still present throughout the region, in 33 of the squares. But despite an increased amount of interest and effort, the three years 1980 -1982 give only 19 positive squares, and of those only 11 were positive in more than one year.

1984 was the low point in both numbers of records and range. My 9 records show a split into two separate groups, one based on the river Exe, and the other in the Somerset Levels. Two further records, one from the river Otter, and one from the river Axe, both right at the very end of the year, were passed on to me by one of the N.C.C. surveyors doing the National resurvey.

Since this lowest point of 1984 there has been a period of steady increase and range expansion, with recolonisation of areas which had been void for several years. 1988 showed 24 squares in use, and 1989 (a difficult year because of the drought) 22. The combined total was 29 different squares, which compares with the former years of plenty. It can be shown that these are real trends and not just products of the random nature of the observations. For instance, in 1979 I recorded 19 positive records from 11 squares, and 74 negative records from 21 squares; a total of 22 squares were investigated, half of them totally negative. Whereas in 1989 I had 181 positive entries and 62 negatives from 25 squares investigated, of which only 4 were entirely negative. In 1979 20.4% of the entries were positive, and 50% Of the squares: in 1989 77.5% of the entries and 84% of the squares were used.

Unfortunately by 1983 the whole process of recording the decline had become so dismal and dispiriting that I could no longer face the listing of negatives, so a full range of percentages is not available.

OCCUPATION OF RIVERS

There is an obvious limitation to this geographical method of analysis of the records, and that is that it gives the same amount of emphasis to a square with many records from resident Otters as to a square with only one record of a transient. The other possible method, of comparing the total number of records, has its drawback too, in that the results are not the product of a constant or even measurable amount of observer input. But examination of the records by totals for each river system does indicate a pattern. (Although the very large numbers of records from the river Tone do not reflect many Otters, but observer density; in other words, I live there.)

Analysis river by river shows that every river with the exception of the river Exe underwent a long period without any Otters. That the occasional transitory wanderer was picked up by the system makes me confident that the blanks do represent an absence of Otters rather than missing them through inadequate searching. The river Otter was recolonised and the population failed to reestablish itself. This finding has been confirmed by regular, thorough and complete searches. Although we have no idea how many Otters were present in the years of recolonisation, it gives rise to two vital questions. Where did the colonists come from? If from the Exe, there appears to have been plenty of available territory space on its tributaries at that time. And what caused then to fall? The pattern of all my graphs does hint at sudden and dramatic drops in population rather than steady wastage.

Such a sudden and unexplained drop was definitely demonstrated in a methodical survey I undertook on the Southern half at the Somerset Levels in 1980, at the suggestion of the Somerset Trust for Nature

Conservation. Following a full search of the Levels by four fulltime surveyors in 1977/78, which revealed a very full usage of the entire area, t was asked to examine a part of it in more detail. As my basis I took a sprainting survey where a large number of bridges had been checked 5 tines in 1977/78. I selected for rechecking all those sites which had been positive 3 times or more out of the 5, 32 sites with a better than 50:50 expectation of a positive result. I made a total of 74 site visits, but recorded only 2 spraints on adjacent bridges on the same day. The whole area had been virtually abandoned by the Otters in under 18 months, and remained so until 1988 at least. Death or emigration can be the only possible causes of such a rapid drop off.

By looking at so large an area as 4100 sq. km, these effects are blurred somewhat in the total figures, because the sudden decline does not occur simultaneously on every river; but the individual rivers each show a similar if not synchronous pattern, and the area as a whole seems to have suffered a major drop-off in both 1978 and 1984.

The recent build-up has been much greater in numbers and extent than previous partial recoveries, and it appears to be spreading successfully off my patch towards the East. I feel it is important to monitor it as accurately as possible, either to register its success, or to realise if another reverse occurs.