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SOMERSET WILDLIFE TRUST
OTTER GROUP

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NEWSLOTTER NO4

MAY 98

TWO-DAY EVENT SPECIAL EDITION

INTRODUCTION

The Two Day Event seemed to go even better than usual this year, and all records were broken: more people, more otters, more samples for the DNA research. Even better weather; the conditions must have been ideal, with falling water after plentiful rain to give us accessible ledges, lovely mud, and receding margins to gauge the dates by. And two fine days to make it a pleasant task even for those who found their otters uncooperative and elusive. Pleasant for all, perhaps, except Mary Munro-Chick, firmly fixed above the welly in the mud of the Westport Canal, while her only means of rescue, Sheila Cook, was rendered useless by laughter on the dry land.

I suppose that one year we will be unlucky, and our chosen weekend will turn out foul, and we will all have to wade through soaking brambles and nettles(am I correct in saying that they sting worse when wet?) to find that we can find nothing at all because of the floods. An interesting and semi-serious point is that we do not have any idea of what the otters do, where they go or how they cope with such conditions. Perhaps this could be a promising line of research for Steven Ridgeway, who seems to see one every time he even sticks his head out of a window!

56 people attended the lunch at the Victory Inn; some sat in the sunny room, others used the tables outside under the apple trees; all very pleasant in the warmth of the fine, spring day. There were 39 "regulars", plus 7 non-combatant guests, and 10 helpers from the SERC team. Thanks to their invaluable assistance we covered 31 patches on both days, and despite the inevitable absences(there were 10 apologies) there seem to be only 7 obvious areas which we missed out. Of these 3 would have probably yielded an otter with luck.

S.M.P.

That luck does enter into it, quite apart from the vagaries of the weather and the water levels, is shown by the long list of otters which experienced searchers knew were about somewhere in their patches, but which could not be found by direct evidence on the relevant day. These have to be entered as "Assumables", 11 of them this year.

Well done the SERC team, three otters located, and some vital gaps filled. They covered 7 important patches; without them our list of gaps would be 14. So we do have room for some other volunteers; it would be good to get these areas done regularly.

Many of you at the lunch will have had a chance to see Jill Parker's superb photographs of scales and vertebrae from her spraint analysis, taken with the aid of a high-powered microscope. The delicacy and architectural elegance of these tiny objects was truly wonderful. We hope she will bring them to future meetings for the rest of you to enjoy. And we must get Steven to write up or tell us about some of his experiences in seeing otters so often. His interest in otters only really started after a chance encounter last August, and already he has seen them well a dozen times, and is on first name terms with several of them!

Another focus of great interest at the lunch was the set of coloured maps which Karen Coxon provided, to show some of the results of your assistance with her pioneering research with the DNA sampling. The maps clearly showed the distribution of the otters so far located, and in several instances showed the extent of their wanderings. This is a brilliant success for so new a project, and Karen and you the collectors, who have given the benefit of your local knowledge and experience, are to be both thanked and congratulated. It is an amazing breakthrough to be able to get from the otters' signalling system some of the same information that the otters themselves get, ie. the sex and even the identity of the perpetrator of the spraint.

The surveyors put 40 red dots on the map of overnight fresh evidence. That is not 40 otters of course, but it was rather more than 40 samples for Karen, as some sites had more than one spraint. If they give a reading in the DNA process, and the success rate on this very kittle technology is already above 40%, then we shall get some indication for the first time ever of whether two otters were together at the same site, and we will be confident to adjust our totals upwards.

Bad luck for Martin McNeil, who had used up all his alcohol tubes before he came across what he suspected to be almost certainly a multiple sprainting. Very frustrating for him. When you think about it, what we do is not so much a science as a form of sport, like fishing. Certainly I felt just as let down by my non-producing otters last weekend as I do when I come home with an empty fishing bag.

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So what of the final scores. The map reveals that some of you almost certainly shared otters with a neighbour. "Umpiring" has to be done in these instances, as it does over the distances between different otters. No doubt Karen's little bottles will reveal just how good or bad the umpiring was, but until those results come through, which may be some time, as it is a complicated process, and your over-generous provision of samples will be stretching the capacity of the Lab and the Scientist to the very limit, the results are:

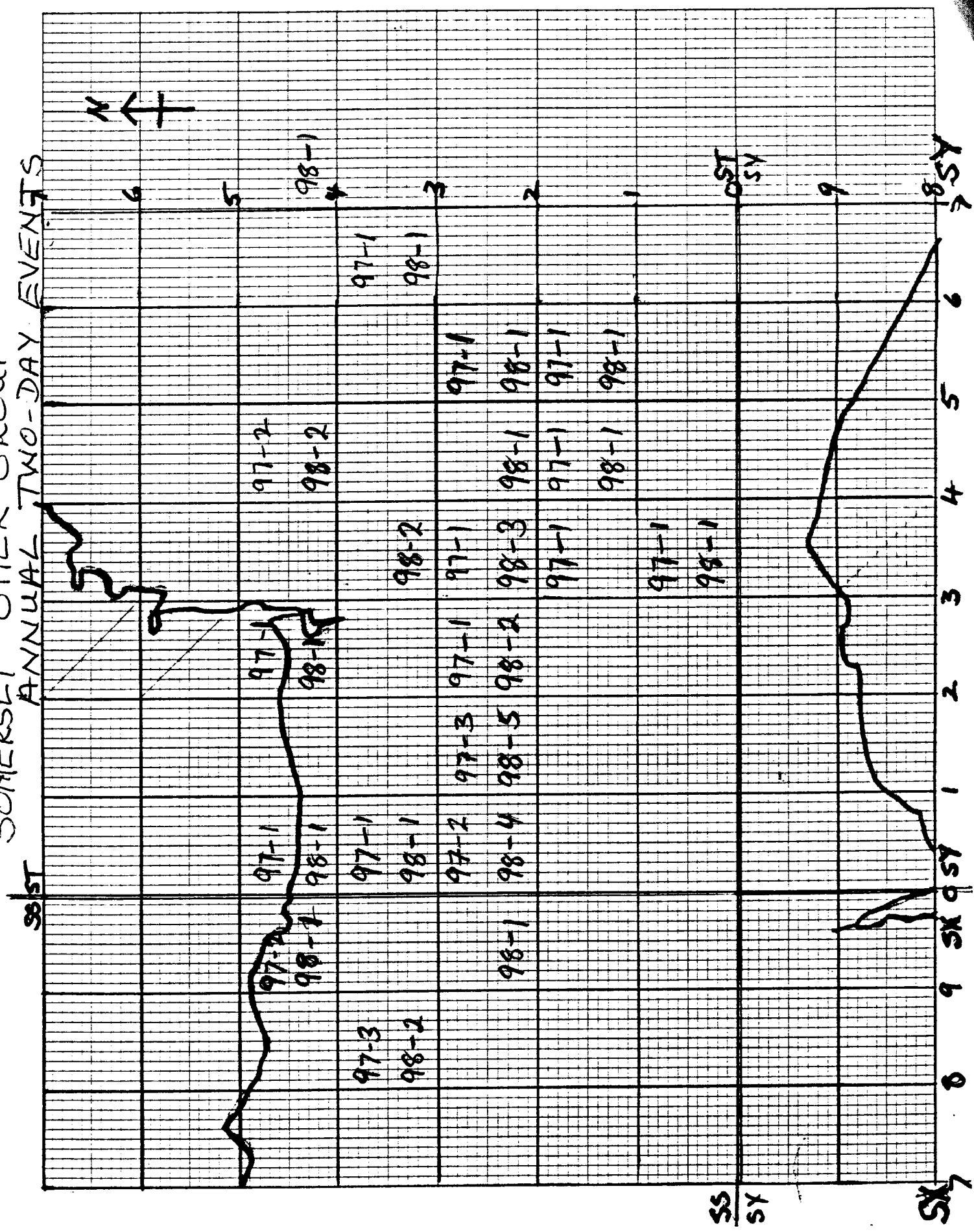
Definites 21, Certain Assumables 11; DEFINITE TOTAL 32. Plus 3 probables in the gaps, plus those sites which we know to be more than one otter: 5 cubs in two litters on the Tone have been seen recently, and extras are strongly suspected on at least the Bathern and the Exe, which adds up to another 10 at least which we can compute onto the score. Full details in the formal write-up.

But even if on strict umpiring we limit the total to the 32 definites, we have passed the magic figure. You found more otters than patches covered.

And if the total is to be revised upwards, as it surely must, then we are close to having the otters outnumber the naturalists who are looking for them. Brilliant.

SOMERSET OTTER GROUP

ANNUAL TWO-DAY EVENTS



SOMERSET WILDLIFE TRUST TWO-DAY EVENT 1998

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REPORT OF RESULTS

1 SUMMARY

The Two-day search for otter evidence across the whole county of Somerset took place on 9th and 10th May, under excellent conditions of both weather and water. 31 stretches of water were surveyed; there were 5 other obvious areas which ideally ought to have been included, but for which there was no surveyor.

Fresh evidence from the Saturday night was found at 40 sites. Interpretation of the map reveals that this had to be the work of at least 21 different otters. This is very much a minimum figure; common sense and local knowledge would increase the interpreted figure at several locations, for instance on the R. Tone near Wellington, where there has recently been firm evidence of a bitch with three cubs, and a dog otter, and where there were large cubs last summer. The heavy cluster of spraints in that area is most unlikely to have been the work of only one otter, but judging strictly on the evidence of the two days alone, and on the mileage involved, it could have been. So the official score must remain at the minimum figure. That is the only way the results can be compared consistently from one year to another.

The main aim of having a Two-day count must be to iron out the tendency inherent in our system of monthly counting to record a travelling otter more than once on different patches. This could well delay the detection of a downward turn in the population, which is vital for any effective conservation action to be taken should such a reversal occur. So it is important that the scoring of the Event should be as severely factual and repeatable as possible, hence the minimum interpretation in crowded areas. There is of course an element of judgement in saying that discrete clusters of evidence on the map are distinct otters; it would be possible for an otter to undertake a major trek and to have been active in two distant areas on the same night. But some sort of interpretation of the results has to be undertaken, or else there is no point in all the manhours this count requires.

Most of the fresh evidence was handed in to Karen Coxon for her DNA research. With luck in the laboratory procedures, many of the doubts about the scoring decisions will be resolved by the identification of the otters responsible. This will be the first time ever that such detail has been available in the interpretation of field evidence for this species.

In addition to the 21 definites found on the Saturday night, there was sufficient fresh evidence available at 11 other places during this weekend to postulate that another 11 otters were definitely active on those rivers, although they managed to evade overnight detection in the time available. These are as factual as the previous group, in that fresh otter evidence can only have arrived there in one way, and none of these otters could reasonably have transferred to one of the 21 definite areas in the time. These animals are referred to as "Assumables". However in the 7 stretches which were not surveyed, I estimate that there would probably have been, on recent knowledge, another 3 animals at least. But that remains a guesstimate, so these can only be called "probables".

The final result then is 21 Definites and 11 Assumables, a total of 32, with the probability of 3 more. It must be stressed that this is based on the minimalist assumption of only one otter at each site. If one adds in the calculable number(7) for the three sites with multiple evidence, Wellington, Silk Mills and the Exe, the top score becomes 42. There may well be other places where more than one otter was active, as perhaps the DNA results may reveal, but as yet we have no evidence for these "multiples". Mud is the chief give-away for multiples, and some of our rivers produce very little useful mud, especially up over Exmoor. So we have to call the final score 32/35.

2. AREAS WHERE OTTERS WERE DEFINITELY LOCATED.

EXE Larcombe
 WASHFORD
 BATHERM
 AXE(S)
 ISLE Isle Brewers
 SOWEY RIVER
 PARRETT Gawbridge
 PARRETT Muchelney/Pibsbury
 PARRETT West Sedgemoor
 PARRETTT Bridgwater
 NORTH DRAIN Tealham
 SOUTH DRAIN Catcott
 TONE Clatworthy
 TONE Hurtstone/Hagley
 TONE Greenham/Wellisford
 TONE Tonedale/Rockwell Gr/Nynehead
 TONE Halse wtr/Hoccombe
 TONE Back str/B's Lydeard
 TONE Silk Mills/Taunton
 TONE Trull str/Pitminster
 TONE Athelney

3 AREAS WHERE AN OTTER IS ASSUMABLE

BARLE/SHERDON
 DANESBROOK/MARSH BR
 BROCKEY/EXEBRIDGE
 HORNER WATER
 DONNIFORD
 YEO Queen Camel/Yeovilton
 YEO Tribs
 CANNINGTON BROOK
 BRUE ALHAM
 FROME
 TONE Milverton str/Oake

4 GAPS IN COVER WHICH PROBABLY CONTAIN AN OTTER

UPPER ISLE
UPPER EXE
HUNTSPILL/DUNBALL/KSDr

5 GAPS REVEALED WHICH WE OUGHT REALLY TO COVER

Top of the Exe
Donniford Str
Bottom of Huntspill
KSDr/Dunball
Carey
Axe(n)
Top of the Isle

In addition there were six areas which were done by volunteers from the SERC trainees. That they found good evidence shows that we ought really to try to get these stretches checked regularly, not just annually.

Trull Str
Bishops Hull
Orchard Portman
Canal/Riverside
Bridgwater pits
Top of the Culm

Those of you with local knowledge may well know of other gaps which look promising. Please let us know, even if it is an area away to the east which we do not think holds otters yet. We ought at least to keep an eye on it, or be aware of which bits are incomplete.

6 EVALUATION

This was the fourth annual Two-day Event, all held in May. It seems appropriate to assess the validity of the results and the method by which we arrive at them. Any method of studying an invisible, nocturnal and nomadic animal is bound to have some sort of limitation, so it is probably best to be as aware of them as possible.

The Somerset Otter group's regular monthly survey provides a very good record from which long term trends could be worked out over a period of several years. It would be adequate too for discovering geographical expansions and contractions of range, again by comparison made over longish periods. However, the fact that practicality does not permit so many scattered volunteers to do their surveys in coordination at the same time means that it is a method liable to some distortion. One otter ranging widely could be picked up by several surveyors on successive weekends, and thus give an impression of a stronger population than there is on the ground.

The Group's surveys have shown this sort of effect on the Brue in recent years; judging from our annual results there have been quite strong amounts of evidence over quite a wide area of the moors, but the anxieties about the lack of numbers first raised in the last two Two-day Events have now been confirmed by the volunteers who look for fresh spraints for the DNA research project every month all on the same day. And this low, but wide-ranging population has been further confirmed by the results of the DNA analysis.

So something more sensitive is needed to back up our monthly counts, comprehensive and useful as those are. But does the Two-day event do the job adequately? What are the limitations of this form of survey? Some of them can be seen from the figures of the results this year.

We claim to have located in total a minimum of 35 otters, and to know from other evidence that this is a low figure: several of our records show more than one animal present, so our putative total is over 40. Yet the number of "Definites" is only 21. In other words the method on which the whole two-day procedure is based has shown only 50% of the otters we claim. Or, if one calculates more strictly on just the evidence from the two days themselves, which in strict justice one should, we admit to having to "assume" 11, having located positively 21; that is we "assume" 34%. These seem at first sight weak results.

On the other hand the assumptions are not guesses; they are based on evidence from within the Event itself. So a fairer interpretation would be to say we found evidence for 32 within the weekend, calculating by a strict rule for a single score from each site. This leaves the 3 probables from the areas we failed to find volunteers for; in other words we are guessing in only 8.5%, which is surely well within the tolerances of accuracy to be expected from any such census.

There is further the postulation of multiples at various sites. It is surely to be expected from basic background knowledge of the lifestyle of the otter that some at least of any set of records are bound to be multiples.

We have evidence within the event for three sets of multiples, two of which are backed by recent local knowledge. To claim 3 multiples on a total of 35 is abandon the strict minimalist rule for only 8.5% of the records; a higher number would not occasion surprise. If we went further and claimed the multiples as 7 individuals, which is what I expect them to be, we would lift our claimed total from 35 to 42, adding 20%, which is probably rather outside the bounds of desirable accuracy for this sort of count, but not very far beyond the level of inaccuracy one has to expect as inevitable.

So the method can be said to give results which are worthy of serious consideration. That is, as long as the claimed positives are in fact positives, as long as the skill of the observers is adequate to the task. In this case we have no inherently unlikely results: the maps make sense, and accord with the expectations from previous maps. Further to this the 40 or more samples handed in for analysis are unlikely to turn out to be mainly mink scats; the skills are to be checked in the laboratory.

Another theoretical serious weakness would be if, despite accurate identification of the evidence claimed, the surveyors were sufficiently unobservant and incompetent as to miss masses of other evidence, if the true score ought to be much, much higher. But this would be revealed in other ways. The Group are not the only people to notice otters, indeed the monthly surveys are not the only formal monitoring that goes on. If massive underestimation was happening otters would be reported from areas where we had not claimed them. This has in fact happened once; the first year we missed a bitch and cubs up a tributary of the Parrett, which were later reported by a farmer. But now that we have more members and more experience, such a gap is less likely to go unnoticed. There is therefore no reason to suppose that the Two-day Events overlook major parts of the Somerset population, although this is a possibility we must guard against, by registering not only the otters recorded, but also the areas covered and omitted every time.

Another aspect which needs evaluation is the accuracy of the umpiring of the maps. Unscientific judgements have to be made about which cluster of positive sites represent the night's work of one otter. There is nothing we as a group can do about this, but Karen's DNA results should provide some form of cross check on this. And it must be borne in mind that the umpiring deliberately errs towards the cautious, minimal interpretation. The DNA maps provided by Karen of her results so far from the Brue and the Tone do give us something to start to compare our scores in those areas with.

Karen has 11 different animals on her map of the Tone, and 4 on the Brue. We found 9 and assumed 1 on the Tone, and found 2 and assumed 1 on the Brue. On the Tone both sets of figures are admitted to be lower than the full population. the coordinated monthly surveys on the Brue seem to indicate that most otters are being recorded. In either set of circumstances the Two-day Event figures are confirmed as meaningful.

There is a possible problem that if the Tone population is eventually shown by the DNA to be significantly higher, our system of minimum score umpiring may be misleading in its underestimation. We know that it is bound by definition to be an underestimate; it would only be a problem if it were to turn out to be very different from the full population, as presumably this would apply to all areas, not just to the Tone. We will have to wait and see about this, but so far the available indications are that we are in step with the facts, and that our scores are meaningful.

7 COMPARISONS

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Having assured ourselves that what we do is valid, what if anything do our results over the four years show by way of trends.

One must be cautious here; we are not comparing like with like for every one of the four years. There were fewer observers for the first year, rather more for the second year, but the last two May Events are largely comparable for amount of surveyor effort and for weather conditions. That weather has potentially a major influence on the results was shown by our one-off October survey last year.

The results for the four years are:

1995	9 definites, and 6 assumables	total	15
1996...	11	5	16
1997	18	7	25
1998	21	11	32

Otters are still sufficiently rare for it to be unwise to publish detailed maps, but the increase of the last three years does not seem to represent a significant increase in range. This is shown by the diagram of the county divided into 10 km squares. There seems to be very little expansion of range, and the Somerset Levels are again shown to have a lot of gaps. (Umpiring decisions have had to be taken in compiling this diagram; each otter is entered only once, although it may well have been active in two squares.)

NOT A LOTTER NEWS ITEMS

MAPS

There seems to be no single sheet map of Somerset on a suitable scale for our use. Please keep your eyes open, and grab it if you find one.

VIGILANCE

We are in a unique position to help with other surveys of the health of our aquatic environment. Please record any WaterVoles you find, and also their predator, Mink.

In view of the increasing anxiety about the new form of sheep dip, which is so very powerful and potentially harmful to aquatic invertebrates, we would do well to record the presence of Dippers. And Water Shrews.

I would suggest that as a group we collect and pool our records for these four indicator species, and send them in annually as we do for our main target the Otter. This will be very helpful to those who work with and for our rivers, and will raise the standing and awareness of our group.

However there are other things we may notice which we should not wait to tell people about. Pollution, of course; immediately contact the Environment Agency on 0800 80 70 60. And they also want rapid knowledge of diseased Alder trees on river banks.

NEIGHBOURS

Good news that Dorset WT is getting an otter group going. They have agreed to swap data about the rivers we share; each county will act as a member of the other county's group. This means that we should no longer have to assume what is happening above Yeovil.

LOST PROPERTY James has a black thermos left behind at the Victory.

NEW PROPERTY Sally Mills has been as good as her word, and has got us some excellent new display boards. More about this next time.

NEXT MEETING

Monday 12th October, at the Victory Inn, Norton Fitzwarren.

Many of you will have already heard that Clé has intimated her intention to give up the secretaryship next spring, after having piloted the group since its inception. So the principle business of the autumn meeting will be to find a successor to work in double harness with her before taking over.

Lots of your own articles and items of news for the next "regular" issue of the Newsletter, please.

FINALLY, CONGRATULATIONS to all of us for doing so well at the Two-Day Event, and for getting last year's records in so promptly.