

HATFIELD FOREST BUTTERFLY REPORT 2005

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1.0 FOREWORD

1.1 Acknowledgements

This survey would not have taken place if it were not for the efforts of our dedicated band of butterfly surveying volunteers. Recruited from our local National Trust Centre, the Hertfordshire and Essex Border Group, backed up by Nicki Daniel a regular volunteer within the forest and Katie, her trusted yorkshire terrier side-kick, my heartfelt thanks go out to; Ray and Shirley Addley, Pam and Peter Carter, Tony and Margaret Denton and Ted and Pauline Shirley. At first a little worried about undertaking the survey, it has been wonderful to watch everyone growing in confidence and knowledge, experiencing the forest in a totally fresh way.

I would also like to thank Robin Field and Liz Goodyear from Butterfly Conservation for their support as I have never run a butterfly survey before and their help has been invaluable. Val Perrin must also be mentioned for his tireless work compiling the Cambridgeshire and Essex transect records at the end of every year.

Catherine Bertrand
January 2006

1.2 History of the Survey

Hatfield Forest is probably the best surviving example of a medieval hunting forest within Europe. Designated by Henry the II in the 12th century as a place for his fallow deer to roam, the forest has been continuously worked for timber and used for grazing since this date. The coppice compartments and open plains are still laid out as they were 1000 years ago and provide an ecological haven for invertebrates, birds and mammals. Owned by The National Trust since 1924, the forest is now designated as both a Site of Special Scientific Interest (SSSI) and a National Nature Reserve (NNR).

Butterfly Surveying is a nationally recognised way of gaining information not only about the state of Lepidoptera in the British Isles, but also on the management practises that affect them. Butterflies react relatively quickly to change be it climate, such as earlier warm spells meaning pupae hatch earlier or greater numbers of heat loving continental visitors or habitat, the decline of elms being echoed in a decline in the White Letter Hairstreak that depends on elms for its caterpillars to feed on.

Having asked at the property, regional office, and any local naturalists who may have knowledge, I have been unable to find any record of previous surveys carried out within the previous 40 years at Hatfield Forest. There are hazy memories of surveys being done, but where these went and what was recorded has long since been lost. Records from the Bishops Stortford Natural History Society report of 1950 are included in the appendices, kindly lent to us by Charles Watson, a local naturalist and great friend of Hatfield Forest.

Using the National Butterfly Monitoring scheme as a basis for the survey, with help from Butterfly Conservation, I set up two transects in two of the four tetrads of the forest. Should the scheme continue to be a success it may be possible to cover a third tetrad in the south of the forest, but there is not enough time or enough volunteers to cover this at present.

The survey has happened due to having to complete elements of an NVQ3 qualification. This will be carried on by Stuart Banks over the next few years, and hopefully, due to being a perquisite of the training course, will be under the guardianship of the Hatfield Forest Careership for the foreseeable future. It has also been very encouraging to feel that the volunteers feel a real sense of ownership towards the projects which will help it to continue to be a success as the years progress.

The Butterfly Monitoring Scheme states that only those experienced in butterfly surveying should take part in this survey, but it was not possible to find volunteers locally who had enough time and who were also totally versed in Lepidoptera. We have all viewed this year as a dress rehearsal for the future so everyone could get to grips with the methodology and technique and species and then really get stuck in as the seasons progressed. I feel we will start 2006 in a much more organised and confident way and are all looking forward to seeing what else is flitting around in the forest.

2.0 RESULTS

2.1 Data Pool

The year got off to a slightly shaky start as by the time the transects were set up, the methodology decided and the volunteers primed and ready the season was already well underway. However, once provided with all the necessary information the volunteers co-ordinated themselves to walk almost all of the weeks. Unfortunately, due to a communication muddle, we managed to miss some of the most crucial and rewarding weeks in June and July, but we should be able to avoid this in 2006. Bad weather was the only other reason things didn't get recorded. The other point to bear in mind is that this is the first time the butterfly volunteers have been spotting out in the field and were unfamiliar with the forest species they would see. 2006 should see every one being a lot more confident of butterfly appearances and behaviour.

2.2 Transect Totals

Across both transects we counted a total of 1119 butterflies altogether. Transect 5320 scored highest with 624 sightings, whilst Transect 5420 scored 495 sightings. (5320 is longer by over a kilometre which may explain this.) The missed weeks give the graph total a rather strange appearance but it generally follows the expected pattern.

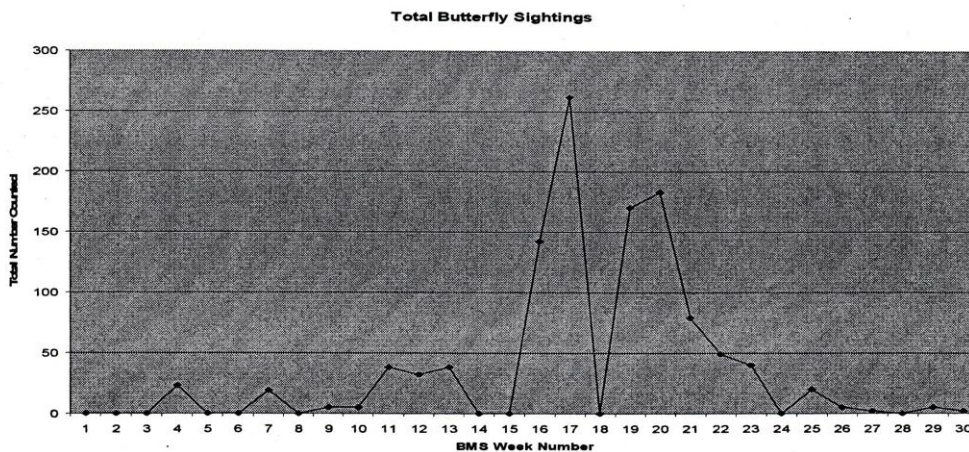


Figure 1 - Transect Totals

2.21 Transect 5320

Unsurprisingly, the best weeks for butterflies were in the middle of the season. Weeks 15 and 16 saw 301 sightings, almost half of the yearly total for that transect!

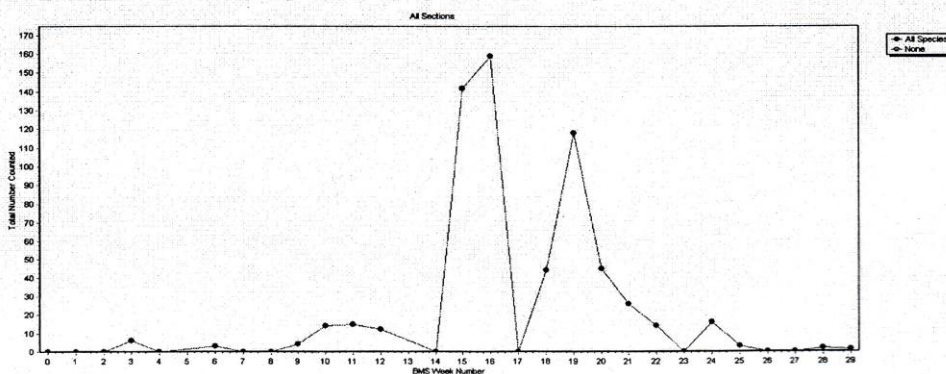


Figure 2 - Transect 5320 Weekly Plot, All Species

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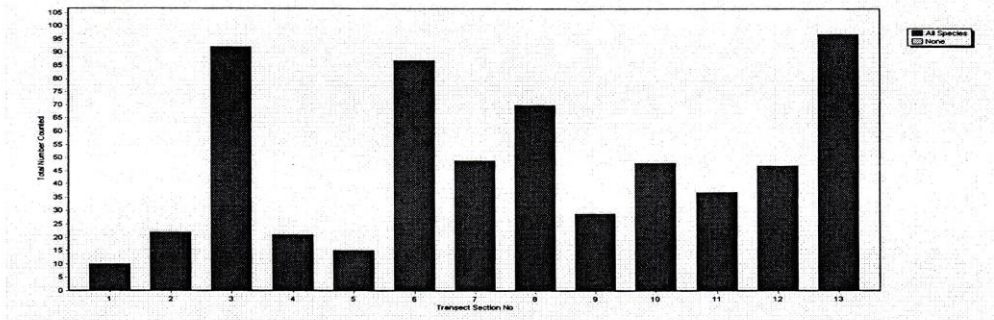


Figure 3 - Transect 5320 Section Plot, All Species

Sections 3, 6, 8 and 13 were the most successful and popular along the walk, mainly due to meadow brown, speckled wood and gatekeeper sightings. All of these sections are along tree lined routes, be they hedge lines or woodland rides (See appendix for Section Summary of terrain and habitat) and so are sheltered with a good supply of food and egg laying plants. The whites make up most of the other sightings for sections 3 and 6. Section 7 is heavily overgrown and will need prioritising in ride clearance during 2006.

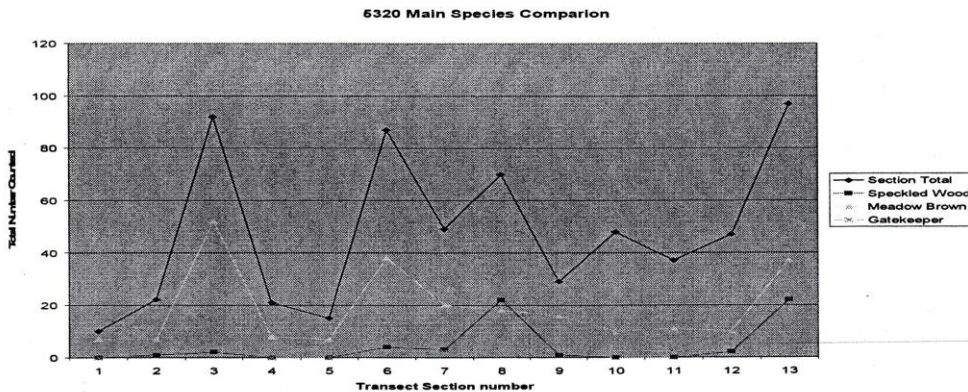


Figure 4 - Transect 5320 Main Species Comparison

Sections 1&2 and 4&5 were open, grassy sections where I hoped we would see more blue and meadow loving species. They were disliked by the volunteers who inevitably preferred the species rich areas. I was surprised that there were not more 'blue' sightings, although the transect lies along a fairly well walked natural path where birds foot trefoil would not occur. The whites and peacock species are ubiquitous throughout the transect, although none of these appear on the wood pasture as mentioned above.

2.22 Transect 5420

Weeks 16 and 18 held the highest totals for this transect, once again almost totalling half of the total yearly count.

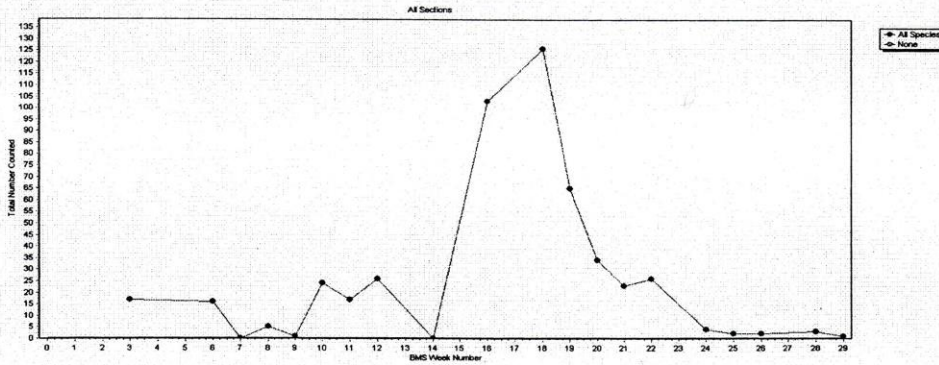


Figure 5 - Transect 5420 Weekly Plot, All Species

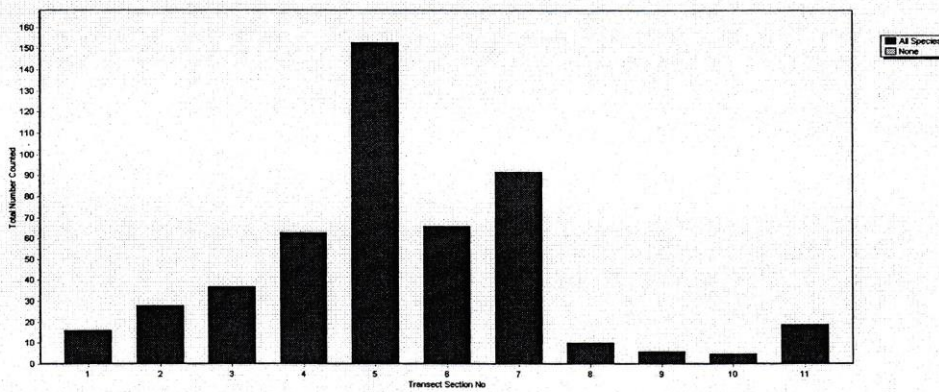


Figure 6 - Transect 5420 Section Plot, All Species

Sections 4 to 7 were the most popular on this transect, the area that again follows the sheltered woodland rides. The main protagonists are once again the meadow brown, speckled wood and gatekeeper, although the ringlet helps to boost numbers in section 5. It is interesting to note that the speckled wood prefers the shadier overgrown ride of section 4, whilst the gatekeeper is more prevalent in the far more open ride in section 5.

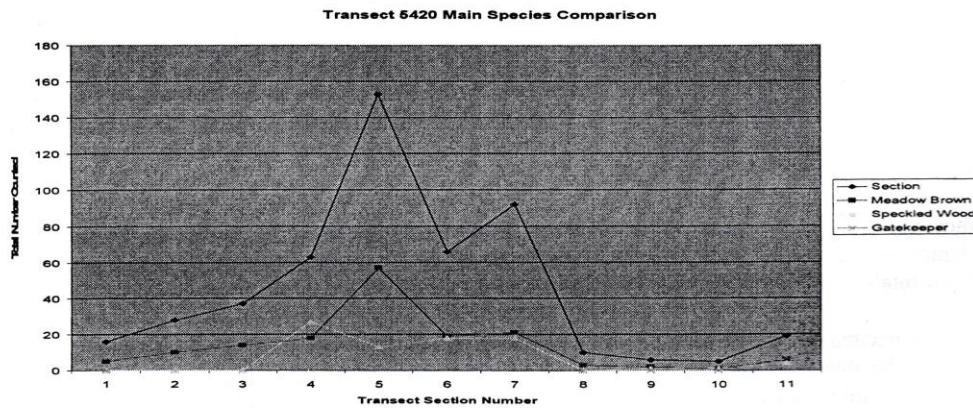


Figure 7 - Transect 5420 Main Species Comparison

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Once again it is the open wood pasture and scrub areas that fail to score highly. I wondered if we would pick up varying species on the acidic grassland but apparently not. I am surprised there are not more butterflies on section 6, but it is interesting to note that this woodland ride is a much narrower than those around it. Hopefully there will be a chance to re-scallop the edges over the winter and a chance to see if there is a change in the pattern in 2006.

Section 7 scores very well with the white butterflies and the peacocks. The whites and the peacocks score well throughout the survey, although the peacock is notably absent from section 6.

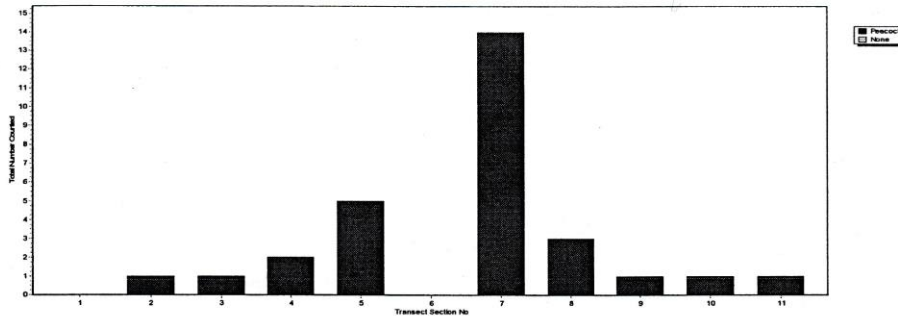


Figure 8 - Transect 5420 Peacock Butterfly Data

2.23 Transect Comparison

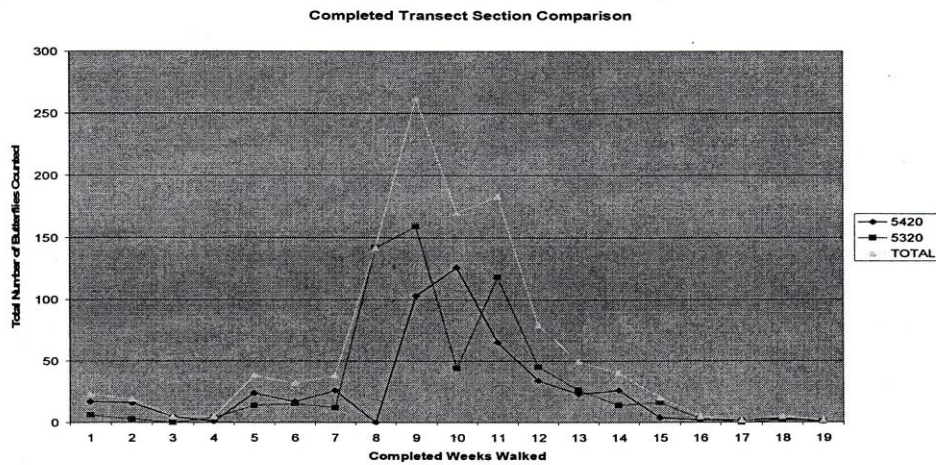


Figure 9 - Comparison of Transects 5420 and 5320

The pattern shown follows the expected shape for butterfly recording, with an interesting dip in the start of the season during the early weeks. Having looked back at the kiosk weather records for this time (May) it is clear that although often bright, this time of year was very cold which would have inhibited hatching and flight of butterflies.

Almost universally across the country, butterflies had all but disappeared by the first couple of weeks in September (British Wildlife Page 127; Volume 17, Number 2, December 2005) which account for our low totals.

I am very excited by the prospect of being able to compare results more fully next year, especially as we should be able to amend any problems with survey times as we have had this year and have a more complete record to study.

2.3 Species

Overall 20 different species of butterfly have been picked up from walking the butterfly transects (See figure 10). In addition to this, two other slightly elusive species have been picked up off the transects quite by chance giving us a total of 22 for the season thought to be found within the forest.

On the 17th July, whilst on duty in the lake area, I spotted an odd butterfly on a willow by the edge of the lake. Not recognising it I wandered over to have a look and was greeted by something that looked a bit like a blue, but which would not open its wings. I noted the orange spot and distinctive shape of the under-wing before it absconded, and was thrilled to discover it was a Purple Hair Streak, unlikely to be picked up on the transect survey due to its predilection for the tops of oak trees!

On the 31st of July, whilst hunting for dormice in Spittlemore Coppice, I happened across a Brown Argus sitting with its wings closed on a blade of grass. Robin Cotterill, mammal, bird and butterfly enthusiast, confirmed the species, adding another to our list.

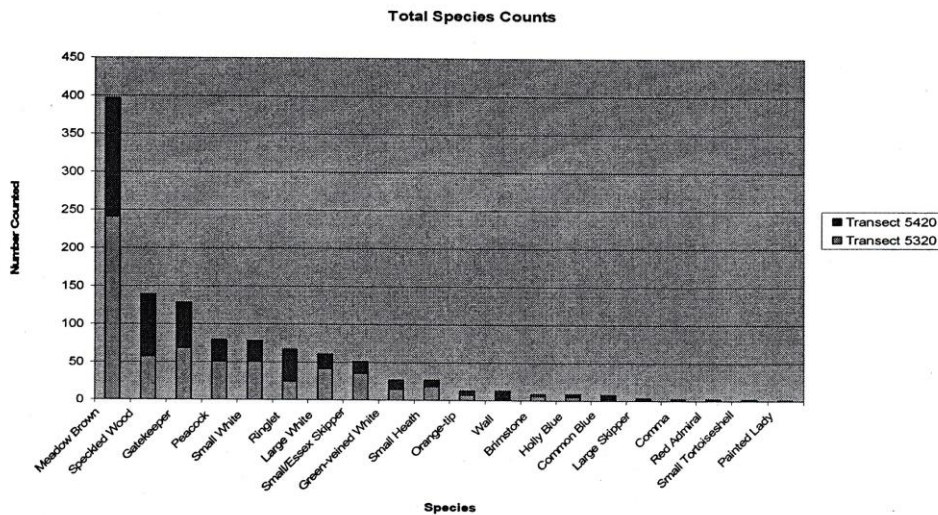


Figure 10 - Total Species Counts across both Transects

The Meadow Brown is the forests most popular species by far, totalling 35% of total butterflies seen. Speckled Wood and Gatekeeper make up a combined 24% of sightings and Peacocks and Small Whites a further 14% leaving 27% of sightings to the remaining 15 species.

2.4 Significant Species and Notes.

The Wall population within the forest is something I am interested in keeping an eye on in the future as Walls have suffered something of a national decline inland. It is heartening to know that we do have a population in both tetrads.

Unrecorded by the transects, the creeping thistle, a noted pest of the forests wood pasture and scrub, provided a perfect habitat for skippers and ringlets during June and July. The area along the dam in the lake area was absolutely teeming with them on a sunny day.

Hopefully next year will better represent their presence within the forest. I am also surprised by the number of Blues spotted as in 2004 a disastrously dull 'butterfly survey' day with the Young Foresters in early June ended with a sudden and very welcome burst of sunshine, accompanied by clouds of commons sweeping out of the long grass and buttercups of the wide rides in Collins Coppice. I hoped that the main plain would be a similar enough habitat, although it appears that Takeley Hill has some present. Also it is an encouragement to find them populating the patch of recently cut scrub on the Sheremore Brook on transect 5320.

3.0 CRITIQUE

3.1 Transects

This is the first year we have introduced the transects and that gives us a chance to slightly modify the routes if need be. I am aware that my initial instructions were written in something of a hurry which caused no end of problems at the start of the season to the poor volunteers following them. Next years instruction sheet will be written with their input to make sure the wording is correct and the route is maintained.

All volunteers liked the fact that the transects met near the lake area so that a quick rest and refreshment could be had before embarking on part two.

3.11 Transect 5320

This transect caused the most problems, hands being thrown up in despair after many hours spent searching for the venerable Field Maple and being bemused by a plethora of possible rides to walk down at Six Wantz Ways. I think everyone now knows the tree in question and I apologise for not making these instructions a bit more clear to avoid the confusion.

3.12 Transect 5420

The first part of this transect on Takeley Hill caused consternation as not only the right oak tree but also the right gate to head for was not obvious! I think the rest of the transect got away without too much comment, although again the 'boring' areas of low butterfly counts were not looked on favourably.

3.2 Form and Equipment

Apart from the occasional forgetting to mark the wind speed and direction, the form appears to work well. I am going to put the week dates in bold on next year's forms so that volunteers realise the importance of doing their walks within the right dates. I am glad that I put the notes section on the side as this gives an opportunity to note other creatures that volunteers may encounter. Plenty of Monk Jack around it would appear! It was also interesting to find that the emperor dragonflies, (or certainly the Hawkets) were present around Portinbury Rings in late July, inferring there is a healthy population at Old Woman's Weaver.

I must make sure we sort out an outdoor thermometer to put on the starting post or have in the yard for the 2006 survey as not knowing the temperature was often an issue which was never resolved.

3.3 Instructions and Volunteer Rota

The rota did not always work and although Nicki Daniel was on hand to step in should people worry they might not be able to get around their transects, only Ray and Shirley Addley called on her for help. Hopefully next year there will be more communication between all of us that will mean more of the weeks can be covered and less confusion over dates. Nicki has requested to have her own week as she would like to become more involved. It would be wonderful to have some more volunteers, and then perhaps we could manage a third transect as well as the two we have already established. No volunteer however, would be let loose without having walked the route at least once with someone who knows it already.

The instructions seemed to work well. The laminated FSC butterfly sheets were heralded as an invaluable aid to the novice surveyor and people enjoyed being able to read further information once at home from the Butterfly Pocket Guide produced by British Wildlife Publishing, although this was not user friendly when pursuing butterflies in the field.

The maps were also useful, although for those new to the areas of the forest did not always help! For 2006 the map will be A3 and laminated with both transects on the same sheet.

3.4 Forest Management

It is hard to tell how the management within the forest impacts on the butterflies without having comparable data. The 1950's records tell us of Dark Green and Silver Washed Fritillaries, Dingy and Grizzled Skippers, Large Tortoiseshells and White Admirals, none of whom have been seen for many years. Perhaps populations still cling on, only continued surveying will tell.

I have advocated that the more overgrown rides, Section 7 of 5320 and Section 6 of 5420, be scalloped in the early part of 2006 which will hopefully mean more light getting down to the ride and an increase in butterfly activity come the summer.

3.5 Training

All the volunteers were able to meet up with Robin Field, the county contact for Butterfly Conservation, and have an initial butterfly briefing before beginning their surveys. Other than that they sorted themselves out although I hope they felt they could come to me if they needed help. Only Ray asked to be definitely shown the route concerning that mysterious ancient hornbeam in Transect 5320! We had a debrief in November after the surveys had all come in, although I had not had time to compile the results. Next year it would be much more helpful to everyone if the results were ready in time for this meeting.

This year, with a season of recording to draw on, I am sure everyone will feel a lot more content and confident starting the surveying season. There is a Butterfly Conservation meet on the 4th of March that I will encourage everyone to go on, and we will have a pre season meeting to get everyone motivated and inspired before starting the new year. I am hoping to join the Cambridgeshire and Essex branch of Butterfly Conservation through the forest so that everyone can receive the newsletter and information and stay up to date with what is happening in the area.

4.0 CONCLUSION

It has been rather a steep learning curve setting up, running and finally writing up this year's survey. Everyone was worried about their ability to spot butterflies at the beginning of the season, but I hope that all those involved can see the importance of their work and now feel confident in what they are doing.

This year has shown that there is a wealth of species within the forest, and as the volunteers continue to get their eye in who knows what other species will begin to stand out from the butterflies they are used to seeing? The shade loving and woodland edge species dominate the section counts and we obviously provide a very important habitat for these creatures. It will be more interesting to compare results next year to see how management practises can affect populations in the cut back areas on both transects.

White Admirals and Purple Emperors are both species which there is a very strong chance occur within Hatfield Forest. Similar to the Purple Hairstreak, these species are often found in the high canopy feeding on honeydew and it is unlikely they would be picked up on a survey such as this. Liz Goodyear of the Hertfordshire branch of butterfly conservation is keen for us to do some more targeted surveying for these species and it would be a real boon to find them within the forest. Watch this space!

Finally I really do hope that it will be possible to set up a third transect within the forest, if not this year then in 2007. Each coppice is different in character and I am sure there are all sort of things lurking in the south of the forest that may not be present in the northern transects we are already walking. Peter Carter pointed out that although our survey is very precise for the areas we walk, it is not very accurate for showing us a picture of the whole forest. Unfortunately there are simply not enough resources to cover the entire area and we are limited in our methodology by the desire to tie into national records through the BMS, but I hope this will not detract from the overall surveying experience.

What we have achieved this year is a very exciting start to what I hope will become a regular and vital part of the forests management plan. Hopefully as our records increase we will be able to see far more clearly how our management decisions impact not only upon the woodland rides but upon grazing regimes, coppicing patterns and veteran tree management. Once again, thanks to all who have been involved, please support Stuart as he takes on responsibility for the next three years of surveying!