

**The West Weald Landscape Project
Wood White *Leptidea sinapis*
Survey
July/August 2011**

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Summary

In July/August 2011, a survey of Wood White butterflies was undertaken to provide baseline data on the distribution of Wood Whites in the West Weald Landscape Project area, with particular emphasis on outlying woodland areas around their known core populations in the Chiddingfold Forest Complex.

Four days of survey work were undertaken at eleven sites, at eight of which Wood Whites were recorded. Although Wood Whites had been recorded in the past at both Wephurst Wood and Ebernoe Common, they were not present at either site during this survey. However there were positive results from Ashpark Brickworks, a new brownfield site, and also at both Holmen's Grove and Stroud Wood, following negative results for a couple of years. Three of the Chiddingfold Forest complex 'core' sites, Fisherlane Wood, Canterbury Copse and Hog Wood, were surveyed with positive and encouraging findings. However at some outlying sites, it seemed more likely that the records resulted from illicit translocations from core populations than from natural colonization.

Other butterfly species were also noted and a total of twenty-one species recorded across the ten sites, including five notable species, Brown Argus, Dingy Skipper, Silver-Washed Fritillary, Large Skipper and White Admiral. Surprisingly a Chalkhill Blue was recorded at Ebernoe Common, probably a vagrant from the South Downs.

Introduction

The Wood White is the smallest and rarest of our British White butterflies. It lives in self-contained colonies which typically contain only a few dozen adults and is usually found in sheltered situations such as woodland rides or scrub edges (Butterfly Conservation, undated). Fox et al (2005) note that woodland butterfly species of such open, early successional habitats have suffered the steepest population declines, particularly in south-east England, as a result of declines in traditional management such as worked coppice. Certainly the Wood White has declined seriously in recent years and now has national conservation priority status as a Biodiversity Action Plan species. It has been listed as a butterfly of conservation concern in the West Weald landscape area (Howorth, 2006).

The West Weald Landscape Partnership (WWLP) runs a detailed programme of ecological studies to create an environmental information base which will inform a programme of effective conservation measures in the area. A key objective of the project is to carry out diverse field surveys of important habitats and species and linkages in the landscape, creating a baseline from which we can monitor changes. As part of the survey programme for 2011, a new survey of Wood White butterflies was commissioned, the aim of which was to provide up-to-date information on the distribution, habitat use and relative abundance of Wood White colonies in outlying 'satellite' sites of the West Weald Landscape (beyond Chiddingfold Forest SSSI), providing a landscape-scale baseline and basis for targeted landowner advisory visits by the WWLP.

Methods

Eleven sites were selected for survey from a broad range of known, formerly occupied, or potential new sites with suitable woodland in the West Weald Landscape Project (WWLP) area. Most of the sites were in the Chiddingfold Forest complex or had landscape connectivity with it.

Searches were carried out during the summer Wood White flight period (second brood). All sightings were recorded (using at least 6-figure grid references), quantified and sexed, and timed count surveys of 20 minute duration were carried out for all colonies detected. Brief notes on habitat type and recent management of all surveyed sites, along with a representative photograph(s) were made for all sites. Brief searches of likely food plants were also made and notes taken of their relative abundance. The basic locations and numbers of any other butterfly species observed, were recorded.

The results are given below and summarized in Tables 1 and 2, and on the accompanying map which shows site locations and positive/negative records.

Results

Site 1: Wephurst Wood, Sussex, 24 July 2011

No Wood Whites recorded.

A good colony of Wood White was observed here during the years 1973-1978. It probably disappeared as a result of the site becoming scrubbed over, despite periodic cutting under the telephone wires, where Wood White was actually breeding.

Wephurst Wood, a Plantation on an Ancient Woodland Site (PAWS), is currently in the process of restoration to semi-natural ancient woodland with large-scale conifer clearance to leave open areas for natural regeneration. The wayleave between the public footpath and telephone wires is also being cleared of mature woody growth, with the brash currently left in situ. While best practice for such restoration work would be to fell the conifers in phases, it is hoped that in due course, Wood White populations will recover to their 1970s levels.



Figure 1: Telephone wire Wayleaf (Public Footpath) with clearing of scrub currently in progress.

Figure 2: PAWS restoration



**Site 2: Fisherlane Wood, Surrey/Sussex borders
25 July 2011**

Habitat	(a) 400 metre stretch of roadside verge between SU980323 – SU981326 (b) 150 metre stretch of roadside verge at SU982329 (towards entrance gate), with three larval foodplants present, Birds-foot Trefoil, Tufted Vetch and Yellow Meadow Vetchling.
25.7.2011	3 males, 1 female
5.8.2011	10 males, 3 females

Fisherlane Wood, less visited than other Chiddingfold Forest locations, has become an increasingly important site for Wood White as extensive forestry thinning and conifer removal work has provided a more open and sunny roadside verge situation, suitable for Wood White. It also has both Primary and Secondary foodplants (Birds-foot Trefoils, Tufted Vetch, Yellow Meadow Vetchling) available for egg-laying females, which were seen actively utilizing these resources.



Figure 4: Breeding area in Fisherlane Wood

Two transect walks were undertaken and a total of 17 Wood White was recorded. Perhaps the most important area for Wood White currently is the former vehicle turning area (conservation scallop) 400 metres from the end of the open area where it becomes too shady for Wood White activity. This may change in the future as these mature conifers are harvested. Wood White was able to move between the two sites despite the shady areas, which allowed just enough sunlight penetration to promote movement on fine days. More areas of Birds-foot Trefoil below.



Figure 5: Ideal breeding conditions by the roadside, with good amounts of sheltered but accessible Birds-foot Trefoil.



Figure 6: Areas of Birds Foot Trefoil

Site 3: Canterbury Copse, Surrey
27 July 2011

Habitat	Roadside opposite clearing 85x130 metres at TQ001331 Suitable Wood White habitat with either Primary or Secondary foodplants/sunlight
Locations	SU999338, TQ000335 , TQ001331, TQ003329, TQ004328, TQ005328
27 July 2011	1 Wood White

Canterbury Copse is little visited by those seeking butterflies in Chiddingfold Forest, due to its location, less easy car parking and apparently unsuitable shaded appearance. However there are some interesting and important butterfly species in this woodland, including Wood White, particularly in years of expansion opportunities, when climatic situations permit.

There are areas where sunlight penetration is adequate for Wood White activity and where the Primary foodplant in suitable conditions can be found. However much of Canterbury Copse is too shady for this butterfly of open, sunny rides.



Figure 6: Suitable Wood White habitat



**Figure 7: Sunny verge showing the
larval foodplant, Birds-foot Trefoil.**

Site 4: Hog Wood, Surrey/Sussex borders
27 July 2011

TQ014324/011325	4 Wood Whites
TQ015324	2 Wood Whites
TQ016323	2 Wood Whites

The cleared area between **TQ014324/TQ011325** appeared to hold the core Wood White population at Hog Wood, with peripheral populations in close proximity. One of these was a track through young conifers which will obviously have a limited lifespan for Wood White as the plantation matures. Birds-foot Trefoil was common in the core site and male and female interactions including face-to-face courtship and rejection, were observed.

This site is on the fringes of the Chiddingfold ‘core’ populations but nevertheless retains a small population, with good prospects for several years, depending on future management.



Figure 8: Hog Wood main flight area for Wood White and typical site for egg-laying females.



Figure 9: Primary foodplant, Birds-foot Trefoil

Sites 5 and 6: Brookland Copse and Eight Acre Copse
Surrey/Sussex borders
28 July 2011

Habitat	Either Primary or Secondary foodplants/sunlight
SU988357 Brookland Copse	1 male Wood White
SU988359 Brookland Copse	1 male Wood White
SU977347 Eight Acre Copse	1 egg-laying female Wood White

These locations are on the opposite side of the road to the entrance of the Forestry Commission Botany Bay woodland, part of the Chiddingfold Forest complex in which the core populations of Wood White can be found.

Recording the egg-laying female at Eight Acre Copse was particularly encouraging although its habitat may be liable to considerable disturbance during the cutting of scrub/brambles beneath the telephone wires. Interestingly, within Eight Acre Copse there had been some Sweet Chestnut coppice, with extensive violet growth, which would have been suitable for the, Pearl-bordered Fritillary, now extinct in Chiddingfold Forest. Disappointingly most of the telephone wire Wayleave is overgrown with bracken but there is good partially shaded honeysuckle growth within an avenue of birch trees upon which a White Admiral larva was located.



Figure 10: Brookland Copse Site 1
Larval foodplant, Birds-foot Trefoil can just be seen.



Figure 11: Eight Acre Copse, showing growth of bramble in sunny ridge beneath telephone wires.



Figure 12: A typical strand of accessible Birds-foot Trefoil utilised by egg-laying female Wood Whites.

Site 7: Holmen's Grove, Sussex
31 July 2011

Habitat	Either Primary or Secondary foodplants/sunlight
SU924363	1 male Wood White
SU920362 SU922360	0 Wood Whites

Results from Holmen's Grove are disappointing, with only a single male seen during a walk which encompassed most of the habitat. The Wood White sighting was within a scrubby area with numerous tracks and a pond. The most likely area, with a good concentration of Birds-foot Trefoil, failed to produce any records despite ideal weather conditions. This area of Forestry Commission woodland appeared to be only marginal habitat for Wood White (certainly in comparison to the roadside verge system within the Chiddingfold Forest complex). In recent years Chiddingfold Forest has experienced several illicit releases of both Small Pearl-bordered and Pearl-bordered Fritillaries, with negative results for both their long term survival prospects. Despite relatively recent sightings from here, it is possible that the single butterfly seen is the product of an unrecorded translocation of first brood females from the Chiddingfold complex to Holmen's Grove rather than of natural colonization.



Figure 13: Site where single male Wood White located.



Figure 14: Suitable site for egg-laying females with abundant Birds-foot Trefoil, though none recorded

Site 8: Stroud Wood, Sussex
31 July 2011

Habitat	Either Primary or Secondary foodplants/sunlight
SU923353	2 male Wood White
SU922350	1 female Wood White

In addition to the three Wood Whites, fourteen other butterfly species were recorded at Stroud Wood including second brood Dingy Skipper which shares the same larval foodplant, Birds-foot Trefoil.

A circular walk around this woodland complex encompassed all suitable Wood White areas. Again, due to the distance from the Chiddingfold core populations of Wood White an illicit translocation cannot be ruled out.



Figure 15: Stroud Wood, Sussex (close to Holman's Grove)



Figure 16: Stroud Wood, Sussex

Site 9: Ashpark Brickworks, Surrey/Sussex borders
31 July 2011

Habitat	Either Primary or Secondary foodplants/sunlight
SU992316	2 male Wood Whites
	1 egg-laying female Wood White

Ashpark Wood lies within the Chiddingfold Forest core population area. Ashpark Brickworks is a relatively newly formed brownfield site, comparable in appearance to Nutbourne Brickworks, which supports a strong Wood White population. Ashpark Brickworks does not compare currently with either the amount of available resources (i.e. Birds-foot Trefoil) or numbers of Wood White at Nutbourne, but has potential. It was encouraging to see a female depositing eggs in classic sites of clumps of reeds with straggling Birds-foot Trefoil within. A further nine Wood Whites were recorded in Ashpark Wood itself.

Sites 10 & 11: Ebernoe Common
5 August 2011

Habitat	Most of the woodland unsuitable but some meadows with either Primary or Secondary foodplants/sunlight
SU976272 Small meadow	0 Wood Whites
SU979277 Furnace Meadow	0 Wood Whites

Most of Ebernoe's woodland was unsuitable for Wood White being too shady in nature, however there were some fine open meadows of varying size, two of which were thoroughly surveyed. Both meadows had abundant Birds-foot Trefoil but no Wood Whites were recorded. Once again, with the distance between Ebernoe and the Chiddingfold core populations, illicit translocation in the past from Chiddingfold Forest cannot be ruled out.



Figure 17: Furnace Meadow

Table 1: Summary of Wood White Records

Survey Results: Wood White Project for West Weald Landscape Project, Sussex Wildlife Trust July/August 2011			
1	Wephurst Wood	TQ 023294	0
2	Fisherlane Wood	SU 981326	10 males; 3 females
3	Canterbury Copse	TQ 001331	1 male
4	Hog Wood	TQ 014324 TQ 015324 TQ 016323	3 males; 1 female 2 males 2 males
5	Brookland Copse	SU 988357 SU 988359	1 male 1 male
6	Eight Acre Copse	SU 977347	1 female (egg-laying)
7	Holmen's Grove	SU 924363	1 male
8	Stroud Wood	SU 923353	2 males; 1 female
9	Ashpark Brickworks	SU 992316	2 males: 1 female (egg-laying)
10	Ebernoe Common	SU 976272	0
11	Ebernoe Common (Furnace Meadow)	SU979277	0

Table 2: Other Butterfly Species recorded:

Species	Sites						
	Wep- hurst Wood	Fisher Lane Wood	Hog Wood/ Canter- bury Copse	Brook- land Copse/ Eight Acre Copse	Holmen's Grove	Stroud Wood	Ebernoe Common
Brimstone		√	√	√		√	
Brown Argus*				√			
Chalkhill Blue							√
Comma	√	√	√				
Common Blue		√		√		√	√
Dingy Skipper*		√				√	
Gatekeeper	√	√	√		√	√	√
Green-veined White	√	√	√	√		√	√
Large Skipper*	√		√	√		√	
Large White			√			√	
Meadow Brown	√	√	√	√	√	√	√
Peacock	√						

Red Admiral	√	√	√			√	
Ringlet	√	√	√	√		√	
Silver-washed Fritillary *	√	√	√	√	√	√	
Small Copper		√	√	√		√	√
Small Heath							√
Small Skipper		√	√	√	√	√	√
Small White	√				√	√	
Speckled Wood		√	√				√
White Admiral*	√	√	√	√			
Total No.	11	14	14	11	5	14	9

- Notable species

Discussion

Wood Whites were recorded at eight of the eleven sites surveyed including three of the Chiddingfold Forest Complex core sites, Fisherlane Wood, Canterbury Copse and Hog Wood, see Table 1. The highest numbers were seen at Fisherlane Wood and Hog Wood, thirteen and eight respectively. Encouragingly they were also recorded at a new brownfield site, Ashpark Brickworks, and they have returned to two other sites, Holmen's Grove and Stroud Wood, after an absence of at least two years. Disappointingly they were not recorded at either Wephurst Wood or Ebernoe Common. Wephurst Wood supported a healthy population in the mid-1970s and hopefully the PAWS restoration work there will lead to recolonisation. There were casual records of Wood Whites at Ebernoe Common in 2010.

All the sites at which Wood Whites were recorded were managed to provide the key requirements for this species, that is, the primary or secondary larval foodplants, birds-foot trefoil or yellow meadow vetchling, and sunny rides or glades. They were not found at sites where there was excessive shading (Clarke et al, 2011).

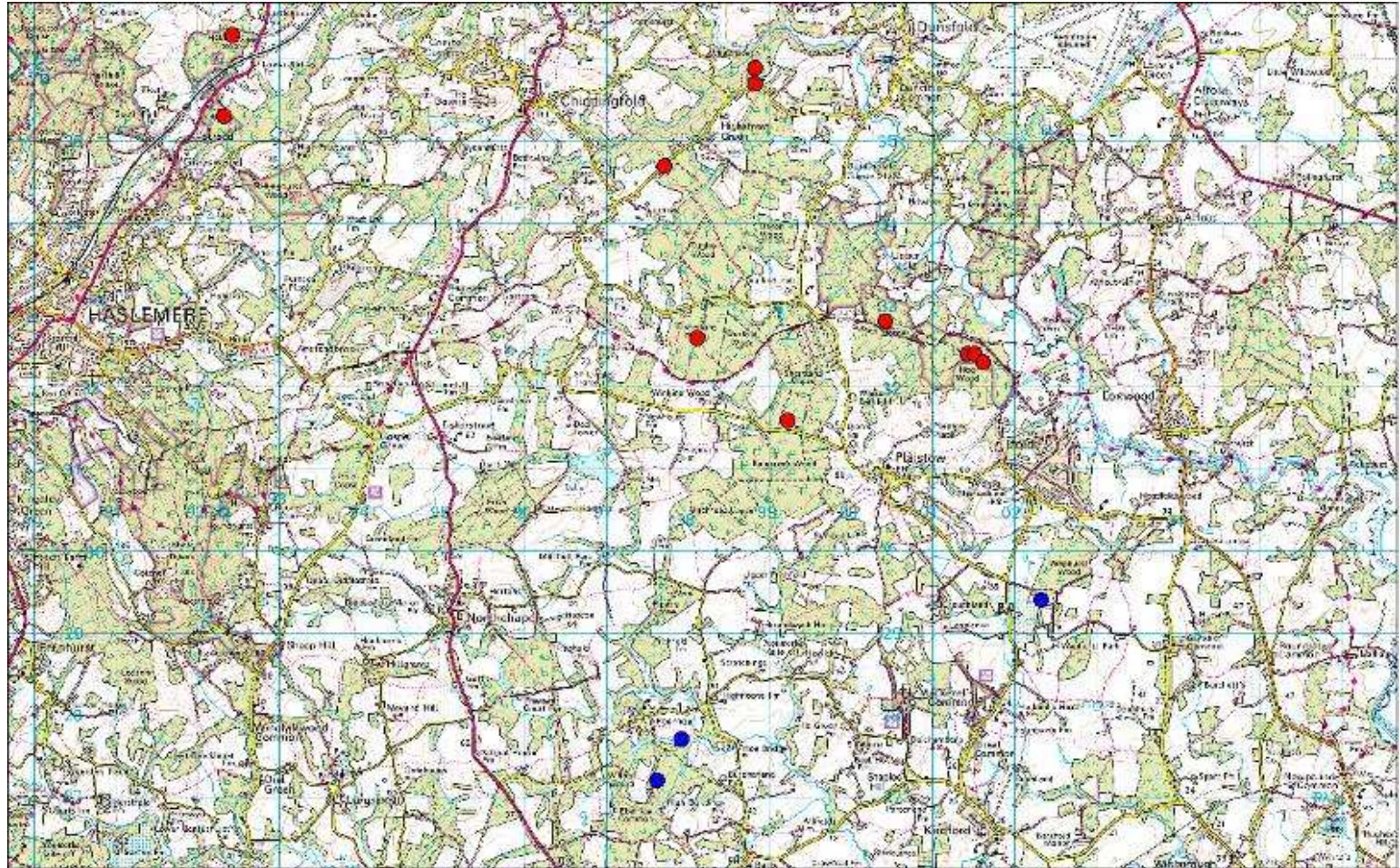
Table 2 shows that twenty-one other butterfly species were recorded, including five notable species, Brown Argus, Dingy Skipper, Large Skipper, Silver-Washed Fritillary and White Admiral. Perhaps unsurprisingly, the only butterfly which occurred at all the sites was the Meadow Brown. However, Gatekeeper, Green-veined White, Silver Washed Fritillary and Small Skipper occurred at all sites except one, a different one in each case.

In conclusion, the survey is encouraging. It suggests that the current forestry operations in Chiddingfold Forest, and the conservation activities initiated by Butterfly Conservation, have produced ideal breeding situations for this Surrey/Sussex rarity. The number of sites surveyed was limited however, and future work should include surveys over a wider area, especially where there is landscape connectivity from the core Chiddingfold Forest complex, that may have allowed colonisation of new sites.



- Positive records
- Negative records

Recording Sites



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