

Fixed Point Photography Survey of the Knepp Estate 2005-2008 (July)

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Introduction

Annual series of photographs have been taken over four survey years now on the Knepp Estate to enable visual comparison and detection of significant changes in the site's structure and composition over time. Such an approach is extensively used as a general technique to monitor gross ecological changes in protected areas worldwide, its value increasing with repeated application over time (as for all long-term monitoring studies). Given that substantial changes in habitat composition might be expected from the introduction of the extensive semi-naturalistic grazing regime, this simple method should provide an adequate photographic record of the site's evolution.

Methods

The fixed point photo register has been carried out along side the standardised annual survey of butterflies from 2005-2008, including a selection of points which represent the geographical range, habitat diversity, and management regimes apparent in the areas subject to naturalistic grazing. Views along linear boundaries were particularly chosen where changes in the interface between woodland and grassland, or grazed and ungrazed areas, might be most apparent in time. Some general landscape vistas were taken furthermore, taking advantage of any high elevations present.

All photographs were taken using the same Olympus Mju-zoom 300 digital camera, always at the widest angle (35 mm equivalent) at high quality (3.2 megapixels) in a landscape orientation (with one exception) and angled down slightly to take in as much ground as possible. In the first instance, when the series was originally established, the direction of each shot was recorded using an approximate compass bearing and its location noted using a Garmin Mk 3 GPS unit (typical accuracy c. 5-10 metres) supplemented by a written description of the point. Subsequent photos were then largely located and orientated visually, using this additional information as necessary. It should be noted that an additional point was added from 2006 (Point 35), and that in this same year 3 locations were inadvertently omitted from being photographed furthermore. The points series has been entered onto ArcView GIS as a data layer, so that the total of 35 fixed point photo locations could be mapped – see Table below for the (revised) photographic register and English Nature Research Report 693 Map 4.

A brief visual inspection was made of each photograph from 2008 and its equivalent from 2005 (or the first year for which information is available), to highlight any apparent individual differences and assess whether any trends are apparent.

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Results (& Recommendations)

A compact disc is provided with this report of photographs from all the years including 2008 for information. A visual comparison of this year's photos with the baseline year of 2005 reveals a number of subtle yet evident changes, described in order of their coverage across the photo series (relevant photo numbers provided).

1. **Transition from structurally uniform grass swards to more clumped/diverse grazed swards** including a high proportion of white clover (1,8,9,10,18,19,21,31,32,35). See photos below.
2. **Increasing prevalence of agricultural weed species** – ragwort (2,3,26), thistle (11,18,27) and dock (28,30,33) – with thistle especially apparently associated with ground disturbed by pigs. See photos below.
3. **Various changes in woodland and wood-edge structure** which are very much site-specific, including reductions and increases in deer-fenced woodland shrub layer density (4 & 5 Merrik Wood and 24 & 25 Matches Wood respectively); more abundant woodland glade flora at Horsham Common through reduced ride-cutting (14-16), increases and reductions in wood edge shrub cover (17 Bar Furzefield Wood and 22 Spring Wood respectively) and differential hazel growth/removal in Great Cockshill Wood (12).
4. **Reduction in scrub cover**, perhaps through browsing effects by deer (6).

As stated in the previous report (2007), it is important to continue monitoring through the fixed-point photographic series established on a regular basis, at least every 2-4 years although this can continue to be combined with the butterfly transect surveys whilst these continue to be carried out annually (only).

2005

Photo No. 8



2008



Photo No. 27



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Photographic register of Knepp Estate 2005-8

Photo no	2005 JPEG file nos.	2006 JPEG file nos.	2007 JPEG file nos.	2008 JPEG file nos.	Description	Compass Bearing	POINT X	POINT Y
1	719002	P1010001	P1010012	P1010002	N view W of Kneppmill Pond	5	515739	121680
2	719003	P1010002	P1010013	P1010003	E view W of Kneppmill Pond at S wood boundary	100	515684	121923
3	719004	P1010004	P1010014	P1010004	SW view within glade/ride of mixed woodland	230	515586	122072
4	719005	P1010005	P1010015	P1010005	E view at S boundary of Merrik Wood on wooden steps	100	515736	122284
5	719006	P1010006	P1010016	P1010006	W view at N boundary of Merrik Wood on wooden steps	280	515770	122429
6	719007	P1010007	P1010017	P1010007	W view along ditch by marshy grassland patch (image cropped slightly at LHS)	270	516064	122601
7	719008	P1010008	P1010018	P1010009	S view at NE field corner by wood and road	200	516105	122726
8	719009	P1010009	P1010019	P1010010	W view at N fence along A272 road at oak tree (image cropped slightly at base & RHS)	280	515808	122817
9	719010	P1010010	P1010020	P1010011	7S view at N fence by planted cherry tree copse by lodge	180	515663	122818
10	719011	P1010011	P1010021	P1010012	E view along road hedge boundary	90	515603	122856
11	719012	P1010012	P1010022	P1010013	N view half way up W margin of Cricketing Field	10	515232	122934
12	719013	P1010013	P1010023	P1010014	S view at end of T junction of forest track between pine-ash & oak blocks (N.B. portrait layout)	200	515228	123230
13	719014	P1010014	P1010024	P1010015	E view at S boundary of pylon field beneath oak near gateway	90	515397	123327
14	719015	P1010015	P1010025	P1010016	N view along woodland ride at Horsham Common by pheasant coup	10	515718	123736
15	719016	P1010016	P1010026	P1010017	E view at rides crossroad, Horsham Common	100	515740	123837
16	719017	P1010017	P1010027	P1010021	S view of more acid grassland at NE end of wood by pheasant coup	220	516044	124021
17	719018	P1010018	P1010028	P1010022	S view at field margin with Bar Furze field wood	200	516375	123884
18	719019	P1010019	P1010029	P1010023	ENE view at 4th oak from boundary at N end of large field to Pondtail Farm (barn owl box fixed)	60	516298	123313
19	719020	P1010020	P1010030	P1010024	N view on W side of entrance drive by shaded pond	10	515554	122370
20	719021	P1010021	P1010031	P1010025	NNW view from pond E of Spring Wood at E end	330	515335	122103
21	719022	P1010022	P1010032	P1010026	S view from pond E of Spring Wood at E end	210	515335	122103
22	719027	P1010023	P1010033	P1010030	W view at S boundary of Spring Wood, hedgerow removed, adj to corner of deer fence in wood	290	515077	122180
23	719029	P1010024	P1010034	P1010031	E view along pheasant fence just W of forest tracks intersection in Spring Wood	110	514981	122292
24	719030	P1010025	P1010035	P1010032	N view along deer fence inside Matches Wood at SW end	10	515243	122330
25	719031	P1010026	P1010036	P1010034	W view along deer fence inside matches Wood at N end at track junction	280	515420	122612
26	719035	-	P1010037	P1010035	E view at path through wood at S end of field by Spring Wood	95	515142	122345
27	719036	P1010029	P1010038	P1010036	E view from N bank of R Adur at W end of field just below Capps Bridge	95	514919	121835
28	719039	P1010030	P1010039	P1010037	N view from E bank of R Adur at midpoint of track to Pounds Bridge	350	515181	121409
29	719040	P1010031	P1010040	P1010038	S view from E bank of R Adur at midpoint of track to Pounds Bridge	170	515181	121409
30	719041	P1010032	P1010041	P1010040	W view from S bank of R Adur at end of line of oak trees from bridge track	280	516293	120648
31	719042	P1010033	P1010042	P1010041	N view along deer fence in field bordering A24 road	10	516245	120471
32	719043	-	P1010043	P1010042	E view near gate in field just E of Swallows Farm	110	515711	120190
33	719045	-	P1010044	P1010043	S view from old trackway by E edge of Jackson's Wood by boundary oak tree	190	515804	120548
34	719047	P1010036	P1010054	P1010044	NW view from road gate near Medlays on old brick foundation	310	515338	120877
35	-	P1010034	P1010045	P1010045	Extra point from 2006: N view down footpath & pylon line, by first pylon in field near house (W of Jackson's Wood)	30	515547	120653