

## RAINBOW AND 27 ACRE FIELD TRANSECT RESULTS

Location of transect (NE corner of first and last quadrats)	Direction of Transect	Description of Location
TQ 14413 21140 to TQ 14427 21007	N - S	<p>From the western edge of Rainbow Field, near a small copse that adjoins the hedgerow, the transect runs southwards through the southern hedge into 27 Acre Field.</p> <p>The northern end of the transect starts at the foot of an oak tree, which has two larger oaks close together to its east, crosses the hedgerow through a gap between two moderate aged, closely spaced oaks that lie to the east of a larger oak with a barn owl nesting box in it.</p>

This additional transect was 140m long and was recorded using the same methodology as in 2005 when a series of transects were recorded across the Knepp Castle Estate. The purpose was to give baseline information on land taken out of arable production 2, 4, 6 and 8 years ago and not grazed.

On 28<sup>th</sup> and 29<sup>th</sup> June 2007 a total of 70 contiguous 2m x 2m quadrats were recorded from the western edge of Rainbow Field through a hedgerow to 27 Acre Field. Unlike the previous transects a permanent marker was not installed, but accurate grid references were taken for the start and end points of the transect using a hand-held GPS unit. A description of the starting point and route of the transect is given above and also shown on a site map.

Vascular plants recorded in each quadrat are shown on the separate recording sheets with a measure of abundance on the DOMIN scale.

On the recording sheets bent-grasses *Agrostis spp.* are usually grouped together due to impracticality of separating the species where both occur within quadrats in the time available.

The vegetation recorded contains few surprises and comprises a mixture of relicts of cultivation, such as black grass *Alopecurus myosuroides* and annual species including scarlet pimpernel *Anagallis arvensis* in the more open, patchy, rabbit-grazed areas along with the developing coarse sward of opportunistic and largely wind-dispersed species. The average vegetation heights of each quadrat, as shown below, indicate how variable the sward height is across the fields.

Grasses were generally abundant across the transect with Yorkshire fog *Holcus lanatus* and bent-grasses most prominent. At the southern end of the transect the vegetation was almost entirely dominated by Yorkshire fog. Tall, coarse herbs, especially fleabane *Pulicaria dysenterica*, creeping thistle *Cirsium arvense*, ragwort *Senecio jacobaea*, curled dock *Rumex crispus* and sow-thistles *Sonchus spp.* occur across the whole transect, though in varied proportions in the different aged reversion swards. Smooth tare *Vicia tetrasperma* is an almost constant component of the vegetation across the transect.

There are some signs of woody species becoming established in the fields with seedlings and young plants of oak *Quercus robur*, blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, bramble *Rubus fruticosus* and rose *Rosa sp.* found especially near the hedgerows.

Two more notable species that were recorded were grass vetchling *Lathyrus nissolia* and the more surprising occurrence of two individual common spotted orchids *Dactylorhiza fuchsii* (in quadrats 22 and 40). These are both species of grassland rather than arable habitats, as is the common knapweed *Centaurea nigra* recorded in the 6 year old margin of 27 Acre Field.

In the table below the average vegetation height figures in brackets indicate extremes of height within the quadrat.

**Rainbow and 27 Acre Fields Transect**

Quadrat No.	Average Vegetation Height (cm)	Comments on Vegetation Structure
1	10 (60)	The field margins tend to have a lower, closed, rabbit-grazed sward whilst the main parts of the field have a generally tall sward with localised patches of bare ground or low vegetation particularly where rabbit grazing is focused.
2	20	
3	15 (2)	
4	15 (2)	
5	40	
6	50	Quadrats 48 and 49 fall on the wide, trampled path on the field margin between Rainbow Field and 27 Acre Field, which is part of a horse-riding route.
7	20 (50)	
8	10 (50)	
9	50 (10)	
10	60	
11	60 (10)	Quadrats 50 and 51 cover the area between the path and the base of the hedgerow whilst quadrat 52 lies within the hedge and includes a large oak tree as well as blackthorn shrubs.
12	30	
13	30	
14	40	
15	30	
16	30	Quadrats 53 and 54 cover the ditch on the south side of the hedge and the ditch margin, which have a tall, coarse flora.
17	30 (2)	
18	25 (2)	
19	25 (2)	
20	20	
21	30	From the ditch margin and into the main part of 27 Acre Field the sward is at first patchy with many gaps but has an increasingly closed, tall sward characterised by a similar suite of species to Rainbow Field.
22	40	
23	40	
24	15	
25	30 (2)	
26	15	The final 6 quadrats (65 to 70) have an almost uniformly closed, grass dominated sward with much thatch and reduced amounts of herbaceous species.
27	15 (25)	
28	15 (25)	
29	25 (2)	
30	15	
31	5 (25)	
32	30	
33	30	
34	25	
35	30 (5)	
36	40	
37	30	
38	25 (10 + 40)	
39	25 (10)	
40	40 (2)	
41	30 (10)	
42	40	
43	40	
44	50	
45	30 (5)	
46	40 (5)	
47	40 (5)	
48	30 (5)	
49	5 (20)	
50	50 (20)	
51	100 (0)	
52	200 (10m +0)	
53	200 (0)	

## Knepp Estate Transect Monitoring

Quadrat No.	Average Vegetation Height (cm)	Comments on Vegetation Structure
54	40 (0)	
55	10 (0 + 30)	
56	20 (2 + 40)	
57	30 (5)	
58	25	
59	30 (5)	
60	40	
61	40 (2)	
62	25 (2)	
63	40	
64	30	
65	30	
66	50	
67	50	
68	40	
69	40	
70	40	