

**THE ORCHID SURVEY  
2004**

**LE NOIR PRÉ, ST OUEN**

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## **Acknowledgements**

The methodology this year (2004) involved a total orchid count within those fields found to the north of St Ouen's Pond. This process enabled a more accurate survey to be undertaken, providing extremely important ecological information and creating a clearer picture of changing orchid species population and distribution dynamics.

The National Trust for Jersey acknowledges that this more in-depth survey would not have been possible without the assistance of its conservation volunteers, who selflessly gave their time and efforts by aiding the Trust during the week of the Orchid Survey.

The Trust would like to send a special thanks to Will Kirby, Richard Perchard and Louise Wilder and also to the Lands Team (Paul Holley, Jon Parkes, John Le Plongeon, Paul Wagstaffe and Jon Horn) who may well have been driven to the point of madness at counting almost 30,000 orchids during the course of the survey.

# Le Noir Pré and Le Clos du Seigneur

## Orchid Survey 2004

### SECTION 1: Introduction and Methodology

#### 1.1 Introduction

This survey was undertaken by National Trust for Jersey staff and volunteers during the last week of May. The main objective of this survey was to study the populations and to plot the distribution of the main orchid species present within the two fields. Three species of orchid were counted: Jersey Orchid, also known as the Loose-flowered Orchid (*Orchis laxiflora*), the Southern Marsh Orchid (*Dactylorhiza praetermissa*), and the Spotted Orchid (*Dactylorhiza fuchsia/maculata*); the Spotted Orchids are so hybridised that they are almost impossible to tell apart, so no attempt was made to distinguish between them. Some hybrids of the Southern Marsh and the Spotted Orchids also occur; for the purposes of this survey they were recorded as either 'Marsh' or 'Spotted' Orchids dependent on their main characteristics.

To achieve a whole picture of the changing nature of the orchid species populations and distributions within these fields, the data from this survey was compared to that of previous surveys. Unlike the earlier surveys, orchids were also recorded from several sites in close proximity to Le Noir Pré and Le Clos du Seigneur (collectively known as the 'Orchid Field') although in less detail. These sites were as follows: Donkey Field, Carrot Field, Frances Le Sueur Field and Fen Edge (the north western sector of the reed-bed surrounding St Ouens Pond).

#### 1.2 Methodology

In order to ensure the validity of this survey a similar approach was undertaken to that of previous surveys. The two fields were divided into 10m grid squares, which were measured out and marked using bamboo canes. This method was used in 2002 and the same grid system was used to maintain continuity. An extra square, labelled 151 (a), was added to the Le Noir Pré grid as a consequence of orchids spreading to a previously unsurveyed section of the field.

The survey began in Le Noir Pré, and the canes were marked out starting from the roadside (Le Chemin de l'Ouziere) and heading southwards down the field towards St Ouens Pond.

Due to limited numbers of bamboo canes and the risk that some canes would be lost or removed over the period of the survey, the entire field was not measured out in one

attempt. Instead, a rolling system was used in which grid squares were marked out in lines, the orchids were counted in these squares and then the stakes were lifted to measure out another set of grid squares and so on. In total 176 grid squares were measured out in Le Noir Pré (**Appendix 1**).

After the completion of the Le Noir Pré survey, work began on surveying Le Clos du Seigneur, the smaller of the two fields. The same method was applied and the grid squares were marked out from East to West. In total 43 grid squares were measured (see **Appendix 1**), compared with 52 in 2002. The reduction in the number of squares is because several ‘half squares,’ included in the 2002 survey to take the grid right up to the hedgerow on the northern boundary were omitted; moreover, the hedgerow has since grown out further into the field.

It should be noted that unlike the 2002 survey where a sample of the orchids were surveyed, a **FULL COUNT** was undertaken in 2004; this is the same method undertaken by Susie Grant in 2000. The results of the survey are displayed in **Appendix 2**.

## **SECTION 2: Survey Results**

### **2.1 Analysis of Results**

The results of the survey from each site are displayed in **Appendix 2**, and statistically analysed in **Table 1** below:

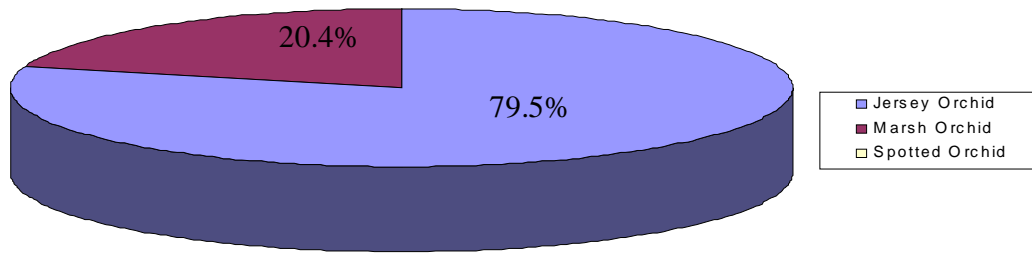
**Table 1: Statistical Information from All Sites**

	<b>Jersey Orchid</b>	<b>Marsh Orchid</b>	<b>Spotted Orchid</b>	<b>Total</b>
Orchid Numbers (LNP)	18855	4828	23	23706
Orchid Numbers (Clos)	1950	74	643	2667
LNP Mean per 10m grid	107.1	25.6	0.1	
Clos Mean per 10m grid	0.45	0.02	0.2	
Distribution (LNP) by no. of grid squares	140	139	12	
Distribution (Clos) by no. of grid squares	37	18	30	
Max. Flower Spike LNP	488 (sq.112)	142 (sq. 96)	4 (sq 161)	
Max. Flower Spike Clos	210 (sq 18)	14 (sq 27)	105 (sq 37)	
Percentage LNP	79.5	20.4	0.1	
Percentage Clos	73.1	2.8	24.1	
Percentage Donkey	44.1	55.5	0.4	
Percentage Carrot	51.5	48.3	0.2	
Percentage Frances Le Sueur	86.7	13.3	0	
Percentage Fen Edge	60	40		
Overall Percentage	77.9	19.6	2.5	

**2.1(i) Le Noir Pré**

In total, 23,706 orchids were counted in Le Noir Pré of which 18, 855 were Jersey Orchids, 4828 were Marsh Orchids and 23 were Spotted Orchids. It should be noted that Jersey Orchids are by far the most numerous in the field comprising 79.5% of the total orchids counted.

**Figure 1. Orchid Species Percentage Chart for Le Noir Pré - 2004**



In comparison with previous years this highlights some rather surprising and interesting trends. **Table 2**, below depicts the total figures for orchid counts in Le Noir Pré since 1995.

**Table 2: Total Orchid Figures for Le Noir Pré 1995-2004**

Year	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
1995	1364	2970	89	4423
1996	587	1768	68	2423
2000	4342	1882	51	6275
2004	18855	4828	23	23706

The 2004 data in the above table clearly demonstrates that there has been a dramatic explosion in the number of orchids within Le Noir Pré since 1995 and more incredibly since 2000; this is largely attributable to a rapid increase in the Jersey Orchid population within the field which has increased 14 fold since 1995 and 4 fold since 2000.

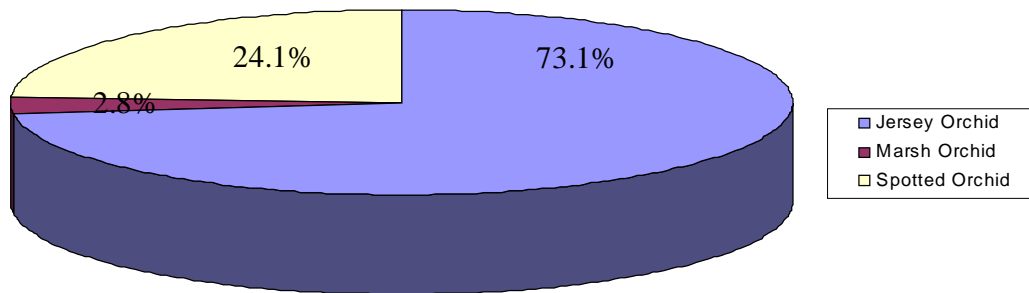
Marsh Orchids have also increased in numbers, with the 2004 total comfortably exceeding the previous highest figure in 1995. Spotted Orchids, which were never abundant in Le Noir Pré, have apparently continued to decline although this species hybridises readily with the Marsh Orchid, and many individual orchids counted showed features typical of both types.

**2.1(ii) Le Clos du Seigneur**

A total of 2,267 orchids were counted in Le Clos du Seigneur, of which 1,950 were Jersey orchids, 74 Marsh Orchids and 643 Spotted Orchids; 73.1% of this total

constituted Jersey Orchids, a similar percentage to that of Le Noir Pré. The big difference between this field and Le Noir Pré is the larger percentage of Spotted Orchids (24.1%), and the lesser percentage of Marsh Orchids (2.8%).

**Figure 2. Orchid Species Percentage Chart for Clos du Seigneur - 2004**



In comparison to previous surveys (see **Table 3**), the following observations can be made. Excluding 1996, a poor year overall, there has been a marked increase in the total number of orchids with the field. Again this is largely a reflection of the high increase of the Jersey Orchid population. Equally it is noticeable that Spotted Orchid numbers have risen substantially since 1995/6, although there has been a drop in their numbers since 2000 of almost 400 individuals. Marsh Orchids, although forming only a very small percentage of the overall number of orchids in this field, have nonetheless increased substantially from their almost negligible presence in 1995/6.

**Table 3: Total Orchid Figures for Le Clos du Seigneur 1995-2004**

Year	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
1995	227	3	85	315
1996	14	3	85	102
2000	1531	69	1032	2632
2004	1950	74	643	2667

## **2.2 Orchid Distribution**

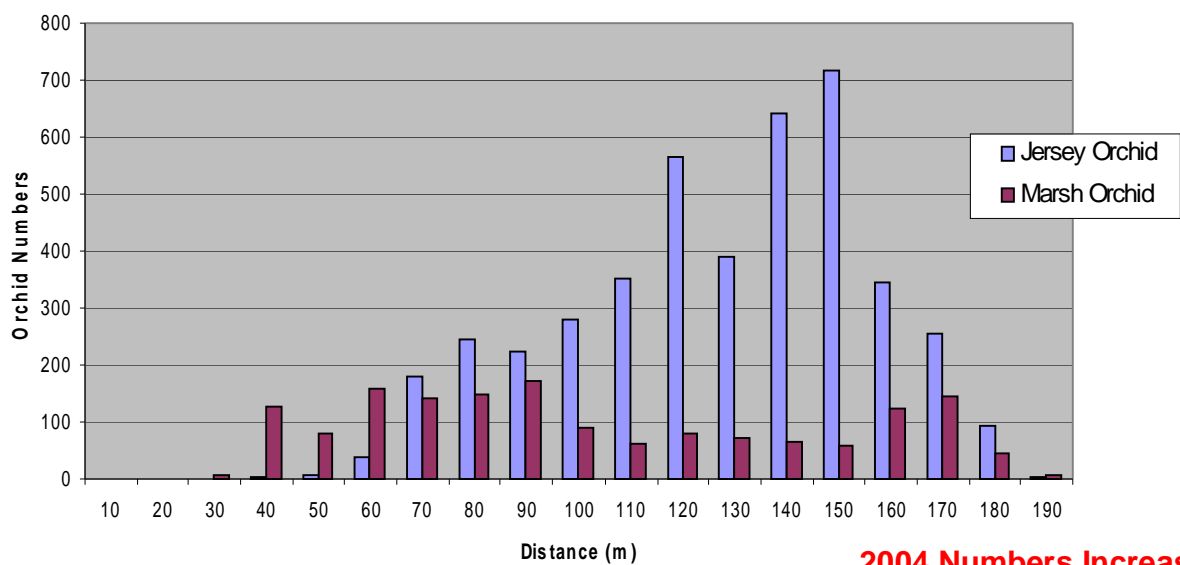
### **(i) Le Noir Pre**

The 2004 data shows that at least one orchid is present within 145 squares leaving 31 squares without any orchids. In 2002 orchids were counted in 121 squares in the field, which shows that the orchid distribution has spread within two years, with orchids now being found within 24 new squares. **Appendix 3** shows the total orchid distribution and from the illustration it can be seen that orchids appear in good numbers (20+ per square) throughout the majority of the field. Orchids can now be found in 3 squares within 20m of the road, suggesting an upward progression in the field. This suggestion is backed up

by reviewing the 2002 survey which identified that there were no orchids at all within 30m of the road.

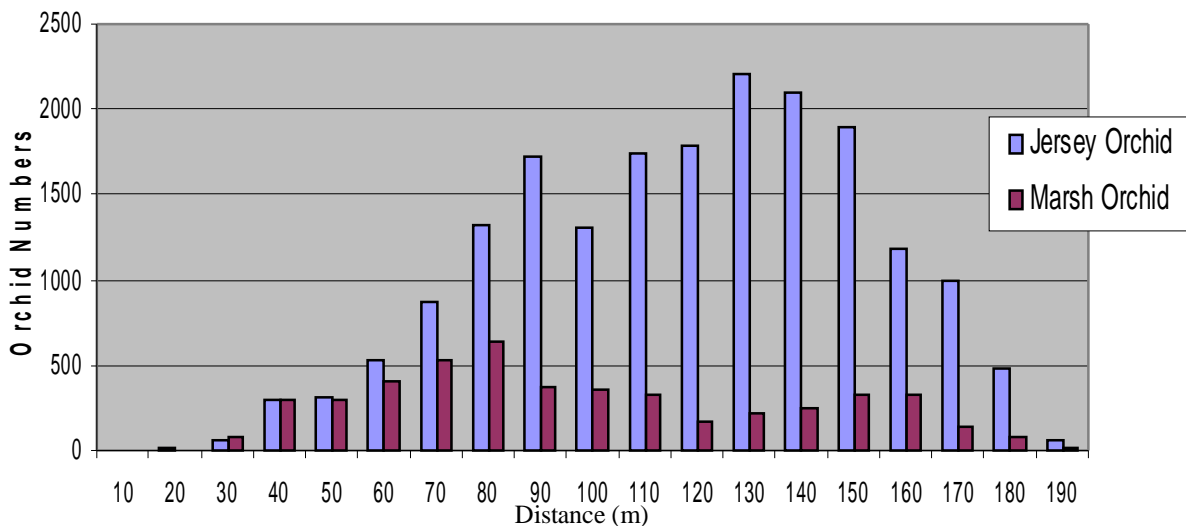
Further evidence is provided by comparison of the 2004 survey with the 2000 survey. **Figures 3 and 4** are graphs displaying the numbers of orchids compared to distance from the North Wall, i.e. the road. Although the scales of the graphs are different it is very evident that there has been a huge increase in orchid numbers between 70-150m from the North Wall. The 2004 graphs also compound the suggestion of the spread of orchids up the field. Less obvious is the re-colonisation of the lower section of the field since 2000.

**Figure 3. Le Noir Pré – Distance from North Wall (2000)**



**2004 Numbers Increase**

**Figure 4. Le Noir Pré – Distance from North Wall (2004)**



**Spread Up-field**

**Lower field re-colonisation**

The 2004 survey highlighted that there are still no orchids within the north east corner of the field (which was formerly used as a dump) although there is evidence that orchids are slowly advancing towards this area. Only one square within the centre of the field did not have any orchids (no.95), due to the high water levels within this square.

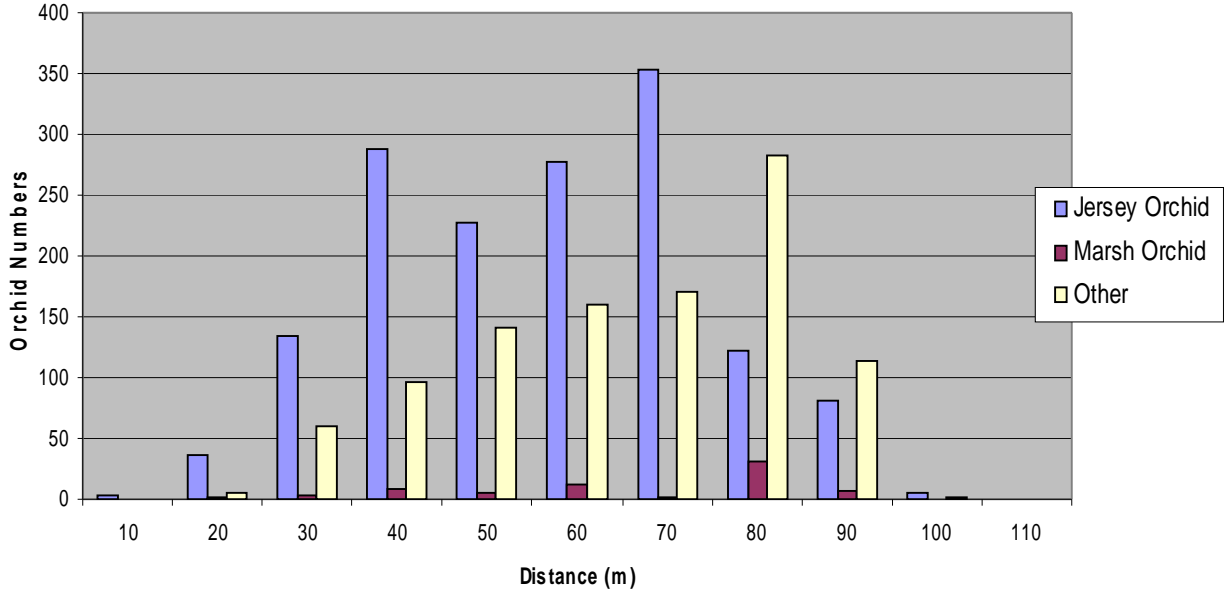
### **(ii) Le Clos du Seigneur**

In 2004 orchids were recorded in 38 of the 43 grid squares. The 2002 survey counted orchids in 39 of 52 squares; there were 32 out of 44 counted in 2000, 7 out of 44 in 1996 and 26 out of 44 in 1995. This shows that the orchid distribution is at its greatest in 2004; broadly speaking, the highest densities occur towards the field's middle section, but since 2002 the orchids have expanded their distribution at both the eastern and western ends of the field. In 2002, orchids were largely absent from the western section of the field but since then the Jersey Orchid, and to a lesser extent the Southern Marsh Orchid have moved into much of this area, apart from the 5 squares where no orchids were counted. This absence can be partly explained as this is the path of the stream crossing the field. **Appendix 4** shows the distribution for all orchid species in the field in 2004.

In 2004 a pink Jersey Orchid, a rare colour variation, was found in Le Clos and at least four other specimens were later detected in this field and in Le Noir Pré.

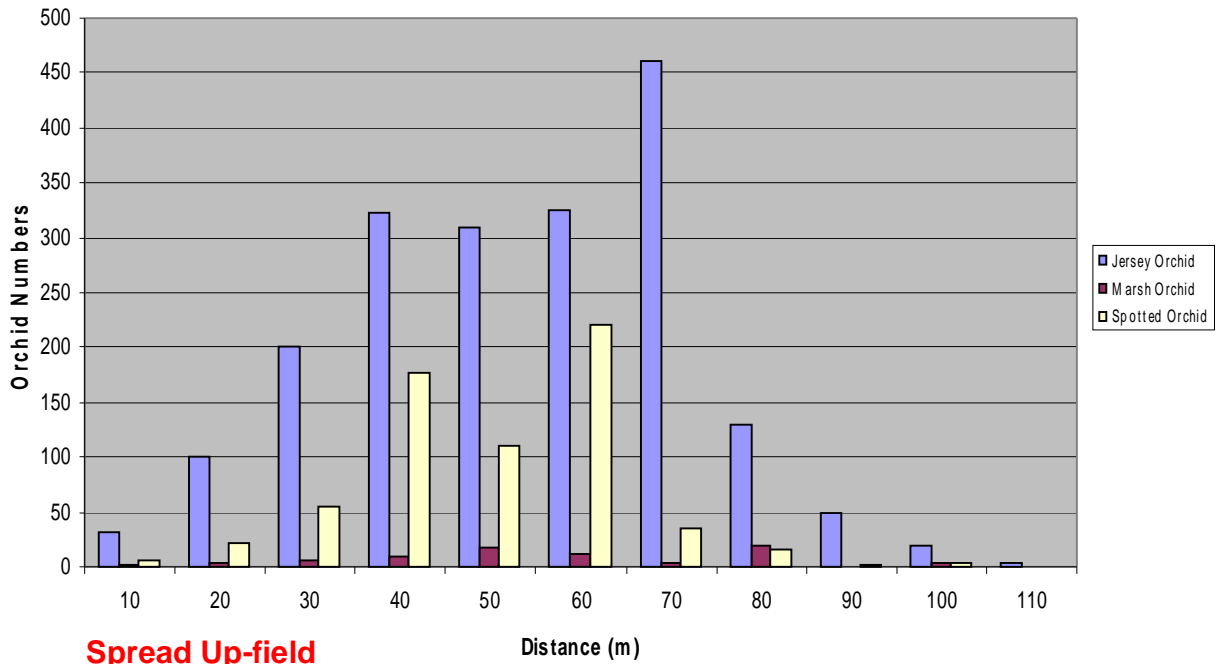
**Figures 5** and **6** show the distribution of orchids from the East Wall. Again there has been a dramatic increase in orchid numbers which can be seen by the scale bar on the y-axis. There has been a spread of orchids up the field since 2000. The other factor regarding distribution in Le Clos shows that Spotted Orchid numbers have gone down. Since 2000 this can be accounted for by the large loss between the 70-90m zone.

**Figure 5. Clos du Seigneur – Distance from East Wall (2000).**



**Spotted Orchid  
Decline**

**Figure 6. Clos du Seigneur – Distance from East Wall (2004).**



**Spread Up-field**

## **SECTION 3: Discussion and Conclusions**

### **3.1 Future Survey Methods**

The results of the 2004 survey can be most closely compared with the 2000 survey, as this one also involved the counting of every orchid in all the grid squares; the 1995, 1996 and 2002 surveys only recorded the presence or absence of orchids in each square although in each case individual orchids were counted in a small random sample of squares.

There is no doubt that the more thorough survey method, involving the counting of every individual orchid, provides far more scientifically accurate results and in future it is planned to carry out such a survey every second year, rather than undertake an annual survey using the random sampling method. (It should be noted that, due to time constraints and the availability of surveyors, the 2004 survey was initially intended to be a random sample survey albeit sampling a larger number of squares than in earlier efforts. Once survey work had started and was seen to be progressing well, such was the enthusiasm of the Trust staff and volunteers taking part, it was decided to undertake a full survey the results of which could be compared directly to that of 2000).

### **3.2 Current Status of the Orchid Species**

The Results section clearly demonstrates, once and for all, that the orchids of Le Noir Pré and the adjacent National Trust for Jersey lands are prospering and for the most part increasing in terms of both range and numbers. The increase in the range and numbers of the Jersey Orchid is especially welcome, bearing in mind the fact that Le Noir Pré is the most important single site for this species which, in the British Isles, occurs only in Jersey and Guernsey; even here it has disappeared from many of its former sites due to agricultural intensification and unsuitable habitat management.

The Jersey Orchid is generally associated with wet grasslands, and during the 2004 survey it was found to be abundant in the very wettest parts of Le Noir Pré, apart from one square which contained 200mm/8ins of standing water at the time. It is perhaps therefore surprising that the species has spread so far northwards up Le Noir Pré, as here the wet, peaty conditions of the central and lower parts of the meadow give way to much drier sandy soils. Less surprisingly, the species was found to have consolidated its spread into the (wet) extreme southern part of the field. **Appendices 5 and 6** show the distribution of the Jersey Orchid in both Le Noir Pré and Clos du Seigneur respectively.

Unlike many other plants with a restricted distribution, the Jersey Orchid appears to have good powers of colonisation provided that conditions and grassland management practices are favourable. Most of the recent increases in orchid range and numbers outside Le Noir Pré and Le Clos du Seigneur can be accounted for by the Jersey Orchid, apart from in the Donkey Field where the Southern Marsh Orchid is slightly more numerous. This is the 'driest' of the newly colonised areas: the others (the Carrot Field, the Fen Edge and the Frances Le Sueur Field) all being subject to annual seasonal water-

logging. During the course of the survey, it was noted that the Jersey Orchid seemed to be more abundant than the Southern Marsh Orchid in the very wettest areas, and it is possible that it has a slight advantage over the Southern Marsh Orchid (despite the latter's name) in such conditions. **Appendices 7 and 8** show the distribution of Southern Marsh Orchids in Le Noir Pré and Clos du Seigneur respectively.

In contrast to the Jersey Orchid, the British Isles are regarded as a main stronghold of the Southern Marsh Orchid, although again many of the sites where this species formerly occurred have also been lost; the steady increase in both the range and numbers of this species at St Ouens is therefore to be welcomed. It has been noted that this species frequently hybridises with the Spotted Orchids, and the increase in Marsh Orchids in Le Noir Pré may possibly have contributed to the apparent decline in the number of Spotted Orchids in the meadow as the 'pure' Spotted Orchids are gradually replaced by hybrid Spotted/Marsh Orchids. Such hybrids are often extremely vigorous, and some enormous specimens approaching 600mm/2ft in height were measured during the 2004 survey.

Although in Le Noir Pré the 'pure' Spotted Orchids are apparently continuing to decline in numbers, they are still very abundant in Le Clos du Seigneur; although in 2004 there were fewer flower spikes than in the peak year of 2000, the 2004 figure (643) is still a vast increase on the 1995/6 total of 85 flower spikes. **Appendices 9 and 10** show the distribution of Spotted Orchids in Le Noir Pré and Clos du Seigneur respectively. Although forming less than 25% of the total number of orchids in this field, the flower spikes are large and conspicuous and they are at least as popular with many visitors as the Jersey Orchid.

The Common Spotted Orchid (which probably forms the main genetic component of the 'Spotted' Orchids at St Ouens) is the most numerous orchid in the British Isles and in much of Western Europe. It occurs in a wide range of habitats, and is able to colonise new sites, sometimes even derelict industrial sites, very readily. It is therefore perhaps surprising that at St Ouens it appears to be colonising new areas at a slower rate than the (reputedly more conservative) Jersey and Southern Marsh Orchids. A very small number of Spotted Orchids were however found in the Donkey and Carrot Fields during the 2004 survey, and it will be interesting to see if they eventually spread into the adjacent Frances Le Sueur Field, now that this is also being managed as a hay meadow with aftermath grazing.

### **3.3 Why Have the Orchids Increased?**

It is likely that many complex, inter-related ecological factors such as the weather, management practices etc have been responsible for creating the favourable conditions resulting in the increase in orchid numbers at St Ouens. Orchid numbers (at St Ouens and elsewhere) traditionally fluctuate from year to year, and it is possible that 2004 may yet prove to have been an exceptional orchid year; conversely, 1996 was a very poor year, and there may well be more 'poor years' in future. Nonetheless, the 2004 survey has provided firm evidence of a continuing increase in both the numbers and range of the orchids at St Ouens Bay, and it is likely that the current management regime has been at

least partly responsible for this; it would, therefore, be very unwise to alter management policies in future based on the results of a single poor flowering season. It is noteworthy that the 'new' areas of land which have been colonised by orchids have all received more active management by the Trust since 2001/2 (such as more extensive and consistent annual mowing, large-scale control of ragwort and other invasive species etc); this has almost certainly aided the spread of the orchids to these sites.

As a follow up to this survey report it may be worthwhile for a more in depth study regarding the fluctuation of orchid numbers. This study may involve a comparison of key external factors such as climate/weather or historical land management with the change in orchid species populations and distributions. This study may be a worthwhile project for an A-level or university student.

# **APPENDICES**

1	Grid design for the Orchid Survey
2	Survey Data
3	Total Orchid Density at Le Noir Pré
4	Total Orchid Density in Clos du Seigneur
5	Jersey Orchid Density in Le Noir Pré
6	Jersey Orchid Density in Clos du Seigneur
7	Southern Marsh Orchid Density at Le Noir Pré
8	Southern Marsh Orchid Density in Clos du Seigneur
9	Spotted Orchid Density at Le Noir Pré
10	Spotted Orchid Density in Clos du Seigneur

# APPENDIX 1

## Grid Design for the Orchid Survey

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33
34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	
55	56	57	58	59	60	61	62	63	64	
65	66	67	68	69	70	71	72	73	74	
75	76	77	78	79	80	81	82	83	84	
85	86	87	88	89	90	91	92	93	94	
95	96	97	98	99	100	101	102	103	104	
105	106	107	108	109	110	111	112	113	114	
115	116	117	118	119	120	121	122	123		
124	125	126	127	128	129	130	131	132		
133	134	135	136	137	138	139	140	141		
142	143	144	145	146	147	148	149	150		
151 (a)	151	152	153	154	155	156	157			
	158	159	160	161	162	163	164			
		165	166	167	168	169	170			
			171	172	173	174	175			

	43	42	41	40	39	38	37	36	35	34
33	32	31	30	29	28	27	26	25	24	23
22	21	20	19	18	17	16	15	14	13	12
11	10	9	8	7	6	5	4	3	2	1

# APPENDIX 2

## Survey Data

### LE NOIR PRE

Grid Square Number	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	1	0	0	1
14	3	0	0	3
15	9	2	0	11
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	0	0	0	0
23	0	0	0	0
24	2	2	0	4
25	15	15	0	30
26	20	29	0	49
27	11	5	0	16
28	8	6	0	14
29	4	16	0	20
30	0	0	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	1	0	0	1
35	29	40	0	69
36	18	53	1	72
37	118	93	0	211
38	84	28	0	112
39	45	67	0	112
40	1	16	0	17
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	2	1	0	3
46	40	19	0	59
47	32	32	0	64
48	82	40	0	122
49	120	78	0	198
50	23	107	0	130
51	3	15	0	18
52	0	0	0	0
53	2	0	0	2

Grid Square Number	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
54	0	0	0	0
55	19	13	0	32
56	87	45	0	132
57	60	105	0	165
58	56	94	0	150
59	173	87	0	260
60	123	63	0	186
61	1	0	0	1
62	0	2	0	2
63	12	1	0	13
64	0	1	0	1
65	25	12	0	37
66	64	114	0	178
67	134	49	0	183
68	180	71	0	251
69	159	37	0	196
70	164	39	0	203
71	23	95	0	118
72	2	30	0	32
73	69	53	0	122
74	47	22	0	69
75	41	25	0	66
76	85	60	0	145
77	180	90	0	270
78	247	99	0	346
79	155	12	0	167
80	100	27	0	127
81	147	114	0	261
82	37	39	0	76
83	190	107	0	297
84	144	70	0	214
85	77	69	0	146
86	112	66	0	178
87	177	56	0	233
88	295	21	2	318
89	74	2	0	76
90	93	3	0	96
91	25	10	0	35
92	352	32	0	384
93	411	74	0	485
94	106	41	0	147
95	56	40	0	96
96	89	142	0	231
97	341	87	0	428
98	296	22	0	318
99	0	0	0	0
100	4	1	0	5
101	174	30	0	204
102	90	13	0	103
103	162	15	0	177
104	88	14	0	102
105	15	25	0	40
106	46	77	0	123
107	188	92	0	280
108	154	1	0	155
109	108	0	0	108
110	178	8	0	186
111	312	40	0	352
112	488	44	0	532
113	198	17	1	216
114	56	17	0	73
115	1	7	0	8
116	101	83	0	184
117	299	15	0	314
118	275	7	0	282
119	107	5	0	112
120	162	8	0	170

Grid Square Number	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
121	252	5	0	257
122	389	20	0	409
123	203	24	0	227
124	16	3	0	19
125	132	80	0	212
126	199	18	0	217
127	155	18	0	173
128	363	22	0	385
129	351	27	0	378
130	368	19	0	387
131	369	20	0	389
132	248	15	0	263
133	13	4	0	17
134	199	32	0	231
135	332	87	0	419
136	249	49	0	298
137	429	23	0	452
138	306	40	0	346
139	343	8	0	351
140	78	1	0	79
141	152	11	0	163
142	78	11	0	89
143	361	56	0	417
144	397	90	0	487
145	197	87	0	284
146	204	45	2	251
147	275	27	1	303
148	281	2	0	283
149	64	5	0	69
150	37	3	0	40
151	233	57	0	290
151a	31	13	0	44
152	233	62	2	297
153	84	76	2	162
154	148	99	0	247
155	205	14	0	219
156	220	1	0	221
157	19	1	0	20
158	42	8	2	52
159	97	57	2	156
160	211	45	2	258
161	293	7	4	304
162	200	3	0	203
163	95	8	0	103
164	51	13	0	64
165	76	25	2	103
166	98	27	0	125
167	91	4	0	95
168	109	3	0	112
169	53	10	0	63
170	50	5	0	55
171	4	5	0	9
172	3	7	0	10
173	12	1	0	13
174	39	1	0	40
175	11	0	0	11
<b>TOTAL</b>	18855	4828	23	23706

**CLOS DU SEIGNEUR**

Grid Square Number	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
1	11	1	0	12
2	9	0	3	12
3	40	0	23	63
4	81	0	60	141
5	42	1	58	101
6	35	0	91	126
7	48	0	15	63
8	44	11	13	68
9	23	0	1	24
10	1	0	0	1
11	0	0	0	0
12	13	0	2	15
13	18	1	2	21
14	38	2	2	42
15	98	3	2	103
16	113	0	5	118
17	145	3	0	148
18	210	2	2	214
19	60	9	3	72
20	20	0	0	20
21	0	0	0	0
22	0	0	0	0
23	7	0	2	9
24	53	3	4	60
25	88	3	1	92
26	82	6	10	98
27	106	14	16	136
28	91	2	36	129
29	173	0	5	178
30	26	0	0	26
31	0	0	0	0
32	1	0	0	1
33	4	0	0	4
34	0	0	1	1
35	21	0	12	33
36	34	0	29	63
37	61	0	105	166
38	48	3	31	82
39	53	6	93	152
40	30	1	13	44
41	0	0	0	0
42	6	0	0	6
43	17	3	3	23
<b>TOTAL</b>	<b>1950</b>	<b>74</b>	<b>643</b>	<b>2667</b>

	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
Le Noir Pre	18855	1	5	18861
Clos du Seigneur	1950	4	21	1975
Donkey Field	220	5	55	280
Carrot Field	177	9	177	363
Frances Le Sueur	13	18	110	141
Fen Edge	3	11	220	234
<b>Total</b>	<b>21218</b>	<b>48</b>	<b>588</b>	<b>21854</b>

**Statistical Information 2004**

	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
Le Noir Pre (LNP) Mean (per 10m grid)	107.1	25.6	0.1	132.8
Clos du Seigneur (Clos) Mean (per 10m grid)	45.3	1.7	15	62
Mean Density LNP per square metre	1.07	0.26	0.001	
Mean Density Clos per square metre	0.45	0.02	0.2	
Distribution LNP by No. of Grid Squares	140	139	12	
Distribution Clos by No. of Grid Squares	37	18	30	
Maximum flower Spike LNP	488 (sq. 112)	142 (sq. 96)	4 (sq. 161)	
Maximum flower Spike Clos	210 (sq. 18)	14 (sq. 27)	105 (sq. 37)	
Percentage Le Noir Pre	79.5%	20.4%	0.1%	
Percentage Clos du Seigneur	73.1%	2.8%	24.1%	
Percentage Donkey Field	44.1%	55.5%	0.4%	
Percentage Carrot Field	51.5%	48.3%	0.2%	
Percentage Frances Le Sueur Field	86.7%	13.3%	0.0%	
Percentage Fen Edge	60.0%	40.0%	0.0%	
Overall Percentage	77.9%	19.6%	2.5%	

**Distance From North Wall**

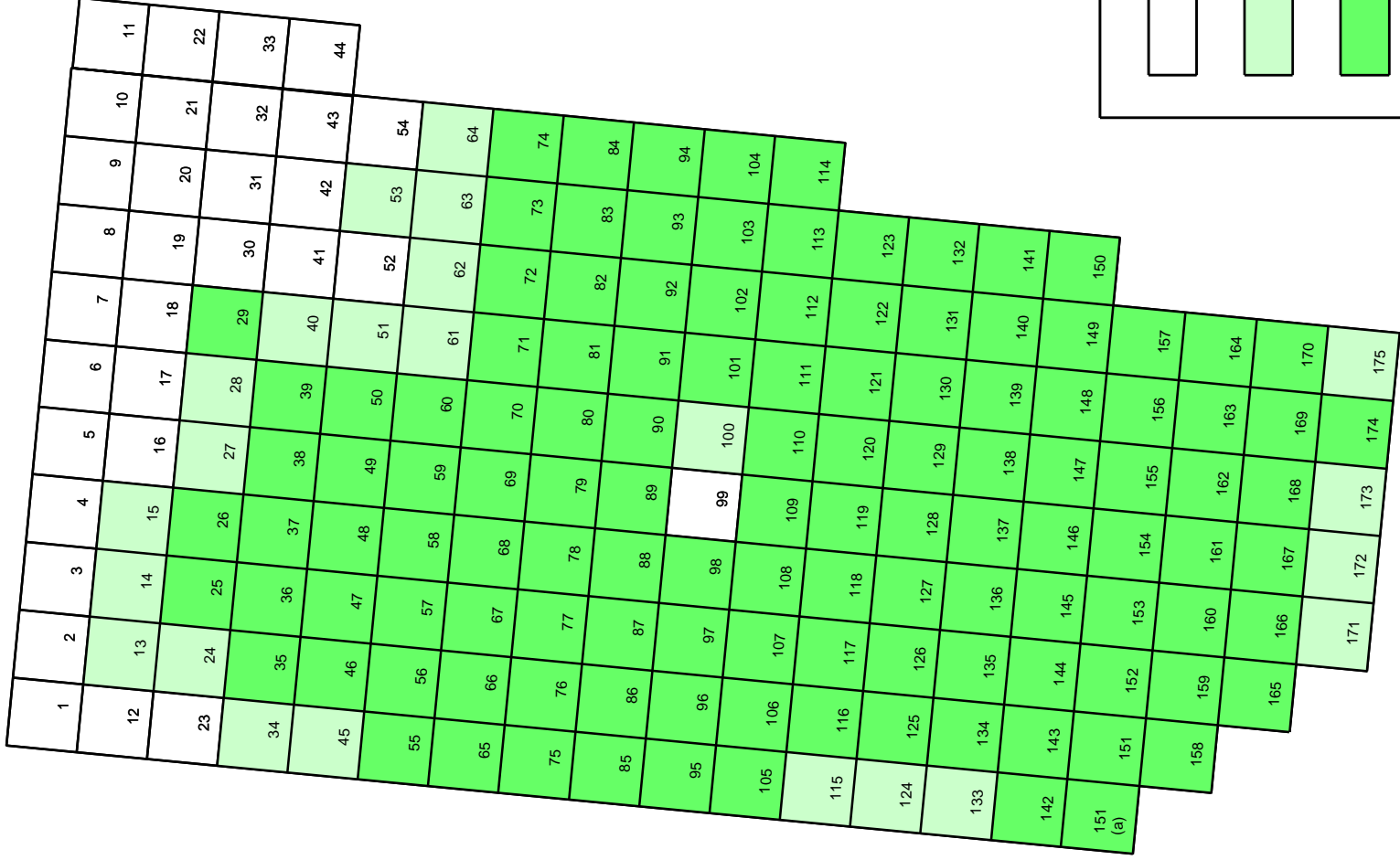
	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
10	0	0	0	0
20	13	2	0	15
30	60	73	0	133
40	296	297	1	594
50	304	292	0	596
60	531	411	0	942
70	867	522	0	1389
80	1326	643	0	1969
90	1722	374	2	2098
100	1300	364	0	1664
110	1743	321	1	2065
120	1789	174	0	1963
130	2201	222	0	2423
140	2101	255	0	2356
150	1894	326	3	2223
160	1173	323	4	1500
170	989	141	10	1140
180	477	74	2	553
190	69	14	0	83
	18855	4828	23	23706

**Distance From East Wall**

	Jersey Orchid	Marsh Orchid	Spotted Orchid	Total
10	31	1	5	37
20	101	4	21	126
30	200	5	55	260
40	322	9	177	508
50	309	18	110	437
60	324	11	220	555
70	461	3	35	499
80	130	20	16	166
90	49	0	1	50
100	19	3	3	25
110	4	0	0	4
	1950	74	643	2667

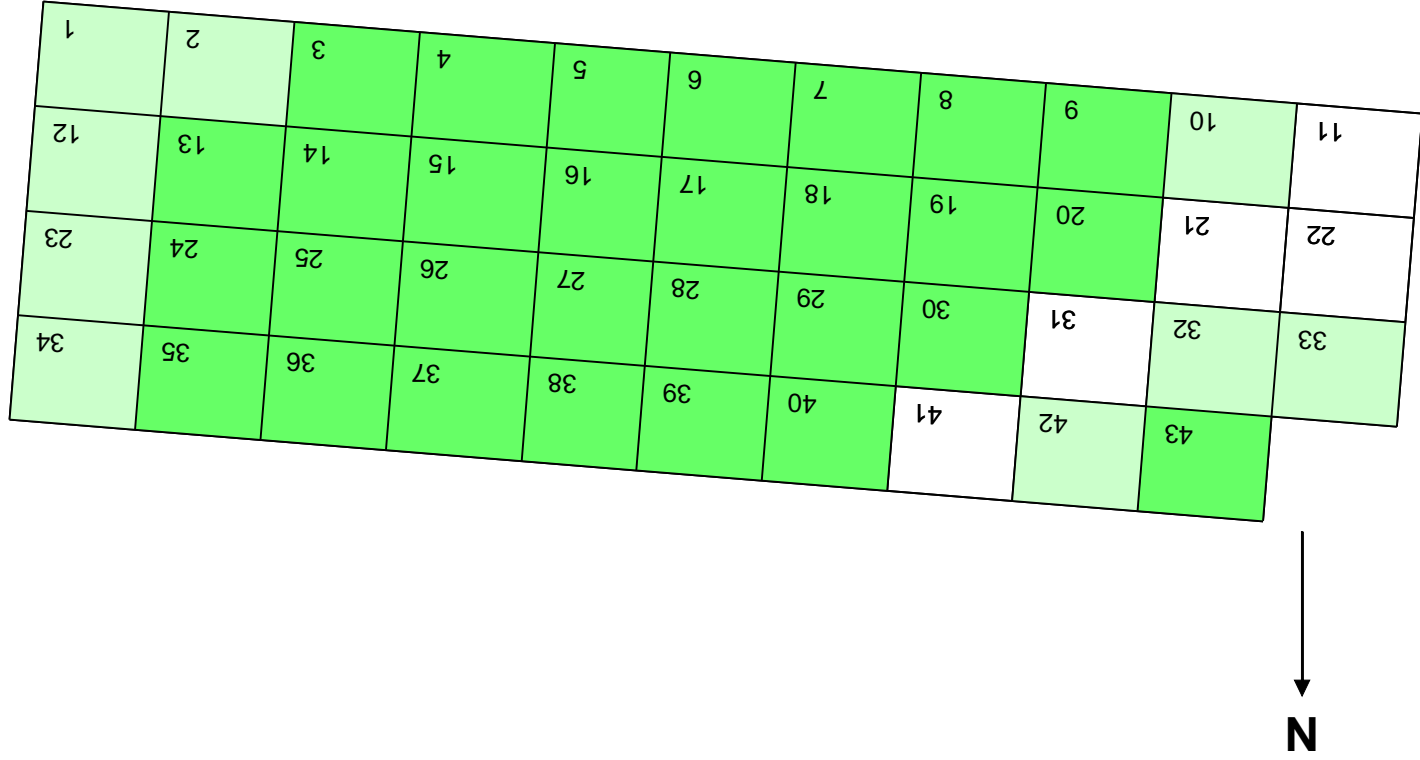
# APPENDIX 3

## Total Orchid Density at Le Noir Pré



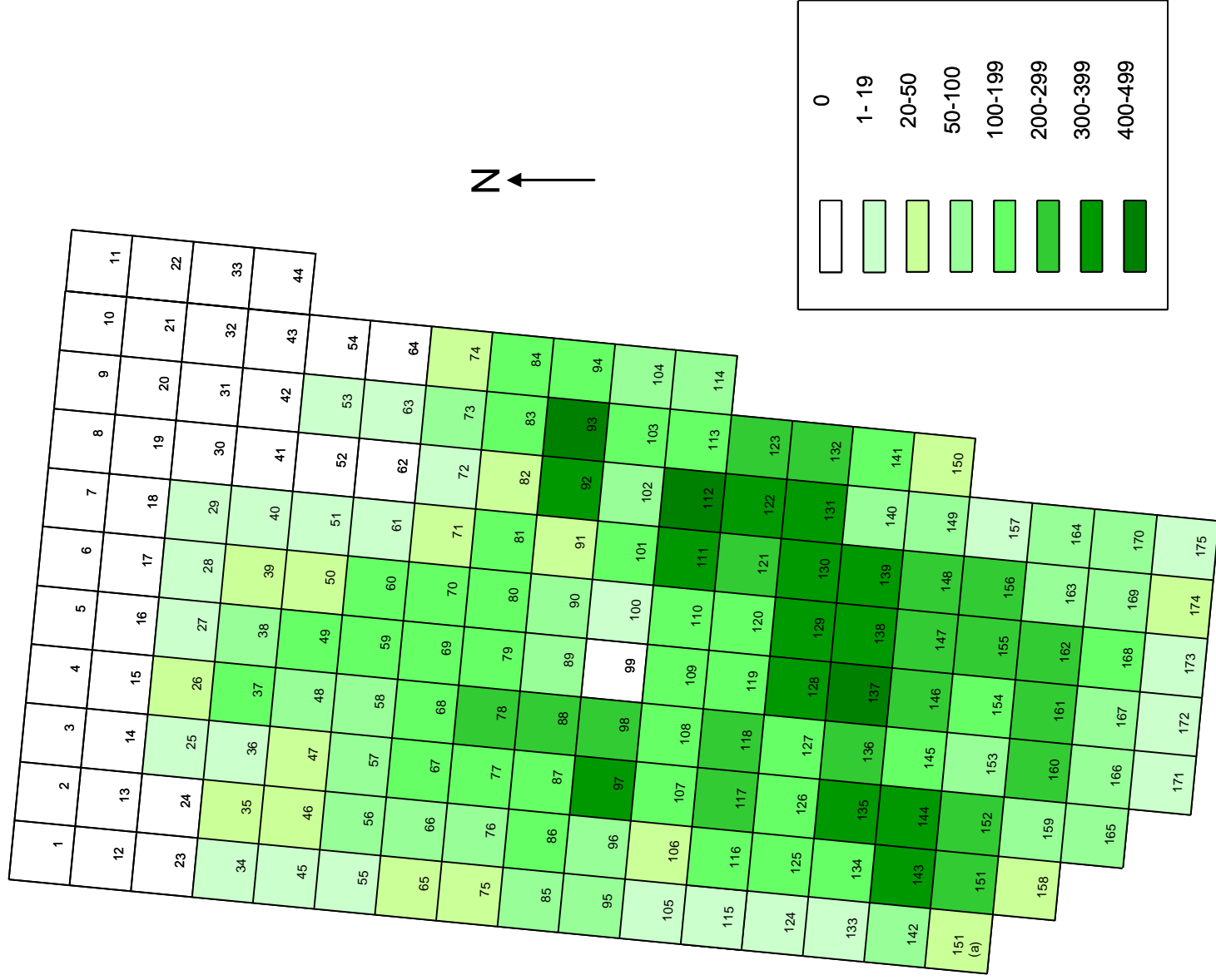
# APPENDIX 4

## Total Orchid Density in Le Clos du Seigneur



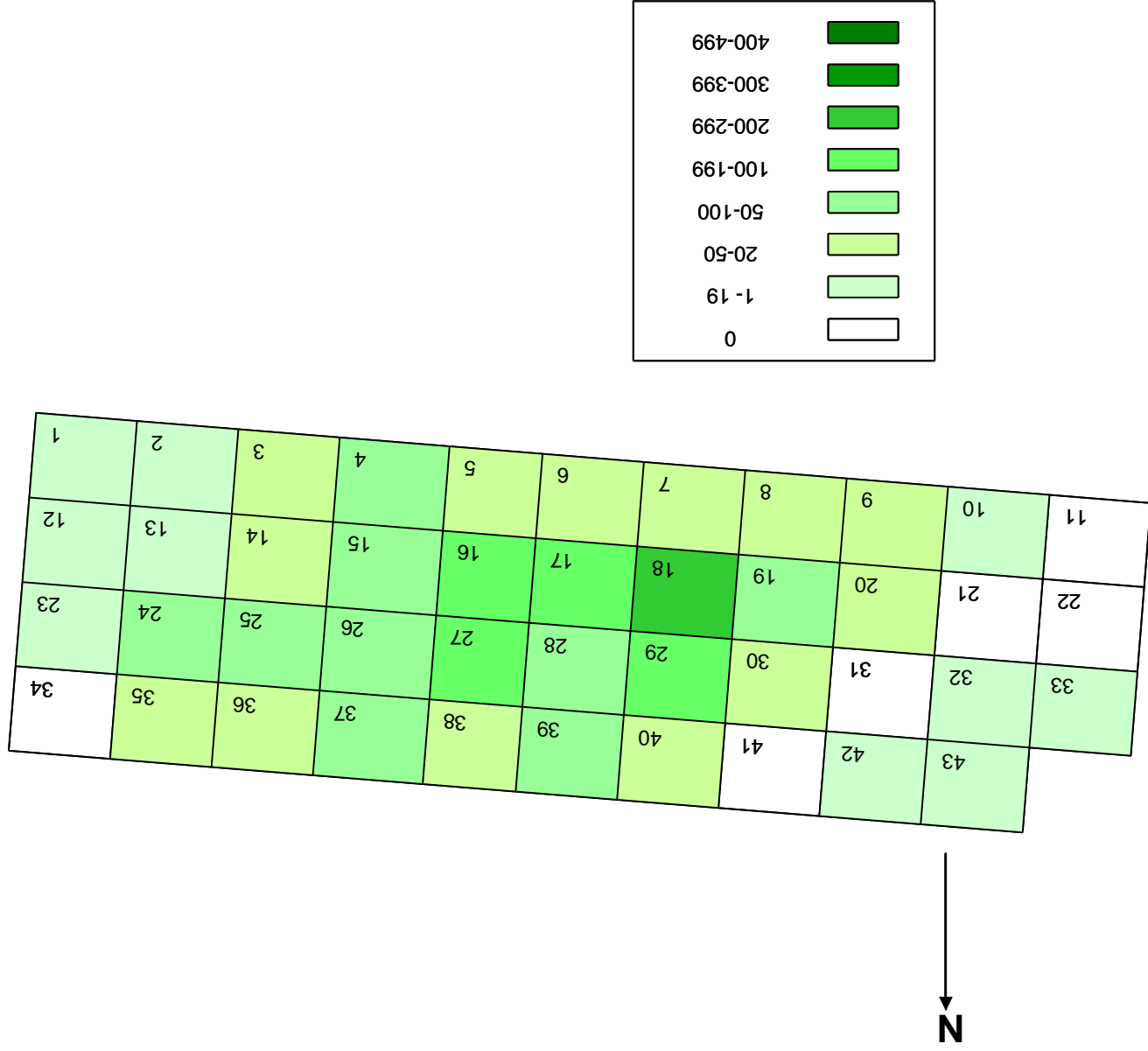
# APPENDIX 5

## Jersey Orchid Density at Le Noir Pré



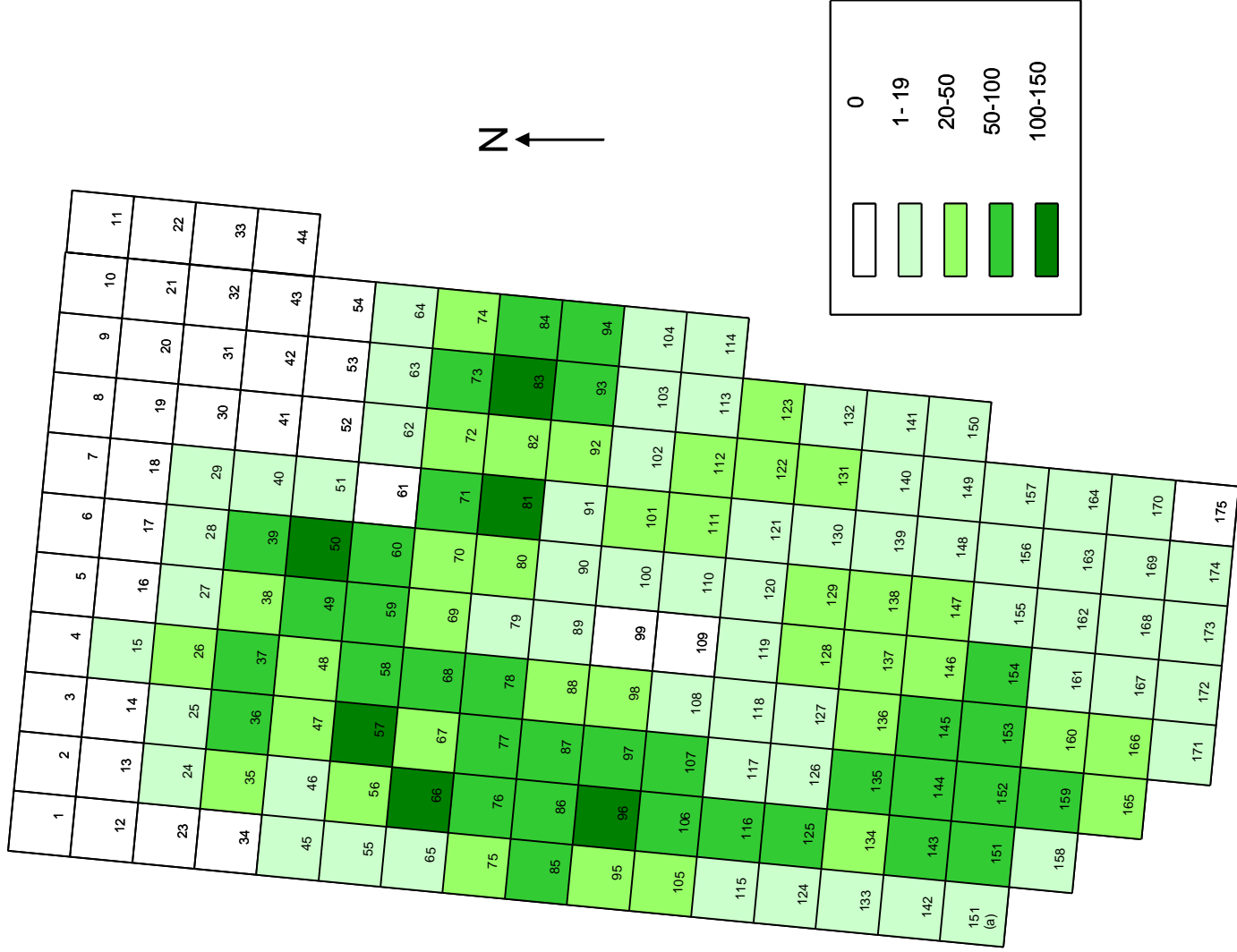
## APPENDIX 6

### Jersey Orchid Density in Le Clos du Seigneur



# APPENDIX 7

## Southern Marsh Orchid Density at Le Noir Pré



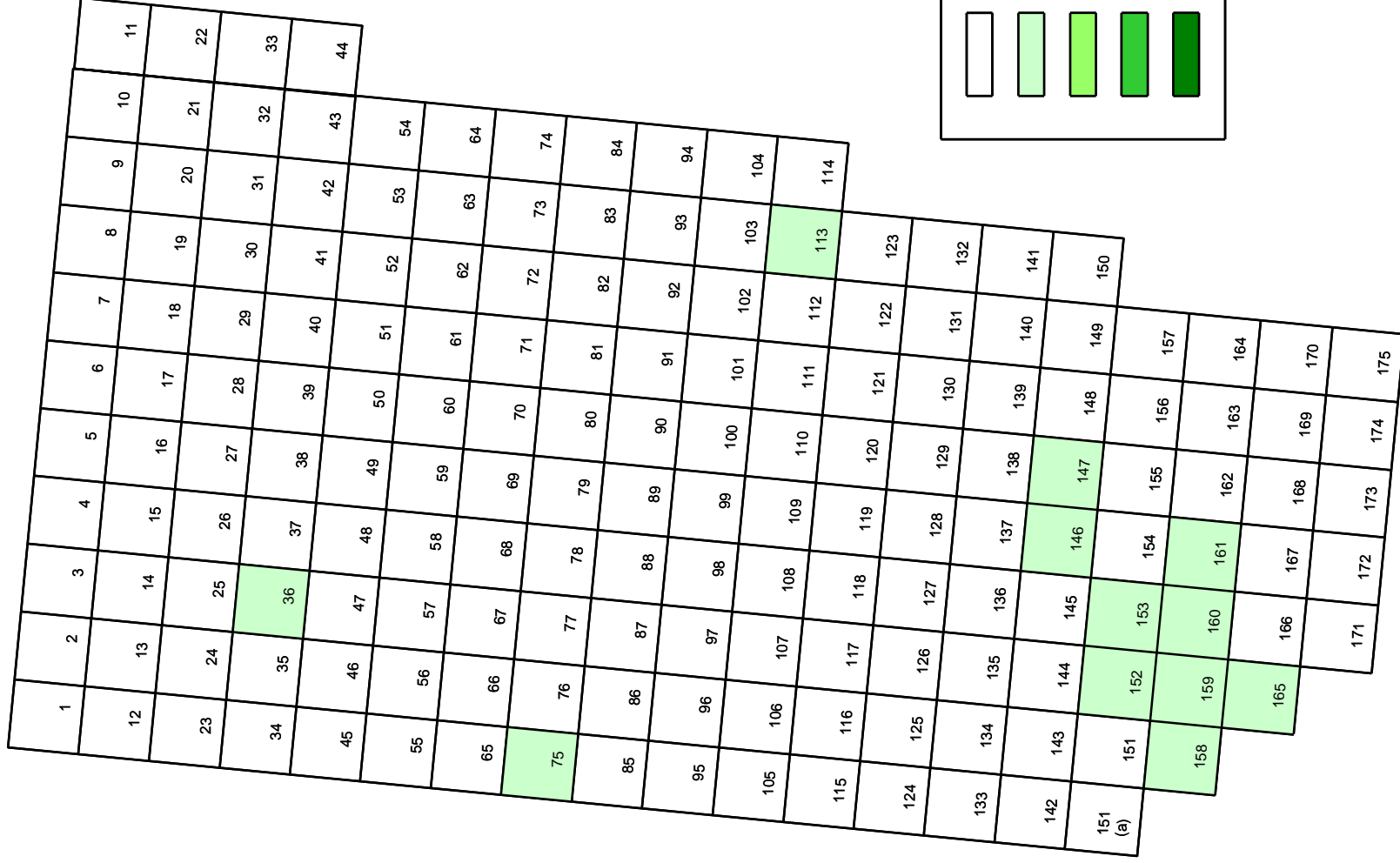
# APPENDIX 8

## Southern Marsh Orchid Density in Le Clos du Seigneur



# APPENDIX 9

## Spotted Orchid Density at Le Noir Pré



# APPENDIX 10

## Spotted Orchid Density in Le Clos du Seigneur

