

The White Stork in France – Census 2004/05

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Zusammenfassung

Der Brutbestand des Wei storchs ist sehr stark auf 975 Paare (HPa) im Jahr 2004 und 1.068 Paare 2005 angewachsen. Die Anzahl der erfolgreichen Paare (HPm) betrug 785 im Jahr 2004 und 816 Paare 2005. Seit 1994/95 nahm die Zahl der Brutpaare in Frankreich um 224% zu.

Summary

White Stork populations in France have grown significantly to 975 breeding pairs (HPa) in 2004 and 1,068 in 2005. The number of successful pairs (HPm) was 785 in 2004 and 816 in 2005. Since 1994/95, the breeding population of the White Stork in France has increased by about 224%.

Introduction

The population trend of the White Stork in France is surprising. During the mid-1970s, the White Stork was nearly extinct in France, but over the last 30 years the number of the breeding pairs has increased a factor of nearly 100.

The traditional core breeding area of the species in France is north-eastern France, and in particular Alsace. Historically, it was almost completely absent from other parts of the country. Breeding in western parts of France was first recorded in the 1970s; previously storks breeding in two areas were studied separately.

The *Groupe Cigognes France* was founded in 2001. Many ornithologists and associations which are involved in surveying White Storks co-operate through this group. The group meets annually to collate data and discuss action plans for the species.

Methods

The 6th International White Stork Census in France was organised by the *Groupe Cigognes*. Several regional coordinators were appointed. Each was responsible for collecting data from regional observer networks, and sending the collated data to the national coordinator: APRECIAL (Association for Protection and Reintroduction of White Storks in North-eastern France). More than 50 people participated in this census, which took place in 37 French departments in 2004, and 42 departments in 2005. They were either members of the Association for the Protection of Nature, or

representatives of Regional Inspections of Environment and Forest, Nature and Regional Parks. Stork data was collected on specially designed forms, intended to include as much information as possible about each pair of storks.

Results

In 2004, there were 975 breeding pairs (HPa) and 1,068 in 2005 (Tab. 1, Tab. 2). The number of successful pairs (HPm) was 785 in 2004 and 816 in 2005, breeding success rates (%HPo) of 80.5% and 76.4% respectively. Since 1994/95, the breeding population of the White Stork in France has increased by about 224%.

The total number of young fledged (JZG) in 2004 was 2,159. This represents productivity of 2.2 young fledged per breeding pair (JZa) and a mean fledged brood size of 2.8 young per successful pair (JZm). In 2005, overall chick production was 2,379 fledged young (productivity 2.2 young/breeding pair [JZa]; mean fledged brood size 2.9 young/successful pair [JZm]).

In 1975, there were only 12 breeding pairs (HPa) in France, 9 in Alsace and 3 on the Atlantic coast, which were the first pairs to colonise western France.

In 1995, 315 pairs were counted, 162 pairs in Alsace and 153 pairs in the rest of France. Productivity in Alsace was 2.2 young fledged per breeding pair (JZa), and 2.9 young fledged per breeding pair in the rest of France.

Discussion

The severe decline of the 1950s and 1960s, followed by the amazing increase over the last 30 years, prompt the questions of where have the birds come from, and why has the population growth rate been so high?

In north-eastern France, the obvious cause is reintroduction programs, begun by A. Schierer in the 1960s and continued on a larger scale by APRECIAL (*Conseil G n ral de Haut-Rhin*), with more financial help. As similar programmes have taken place at the same time in neighbouring countries (Germany and Switzerland), some birds will have come from these countries too. But, as shown by ringing returns, most birds were local, or the offspring of local birds.



The western population is derived from birds originating from the expanding Spanish population, a fact demonstrated by ringing recoveries from the 1970s. The rapid growth of this population has had a long-term effect on the colonisation of other parts of France. Other reintroduction programmes have been carried out in the Parc du Marquenterre (Somme), in LeTeich (Gironde) and in Villars les Dombes (Ain). The impact of these programs is not well known.

Average productivity in north-eastern France is around 2.2 chicks per breeding pair, which is similar to that in the neighbouring countries such as Switzerland (SCHAUB & PRADEL 2004, SCHAUB et al. 2004).

Although traditional meadow and marsh feeding areas have been lost by being converted to arable crop land, the stork population has continued to grow.

In western France, marshes and meadows are still widespread and tend to be biologically productive. This probably explains the difference in breeding success between the western and eastern populations. In addition, weather conditions tend to be quite different, and this might also be relevant (DUQUET 1990).

The reasons for the past absence of White Storks from western France are unclear. It is possible that historically there may have been high levels of persecution by humans in this part of France. It is not possible to give a clearer answer to the question of whether the French White Stork population is self-sustaining, as many reintroduction programs are still under way.

The population trend is upward, but the health of the current population structure is unknown, and this must be of high concern for future work in France.

Mortality from power lines is known to be very high, and so an important aim is to make them safer for storks. APRECIAL has worked together since 1991 with *Electricité de France* to do this in Alsace. In addition, classic stork habitats such as meadows and marshes must be protected.

Conclusion

White Stork populations in France have grown significantly, but as it is not yet clear whether they are self-sustaining, monitoring and survey work needs to be continued. Once a clearer picture has been formed of population structure, it may be feasible to consider ending current reintroduction programmes.

Acknowledgements

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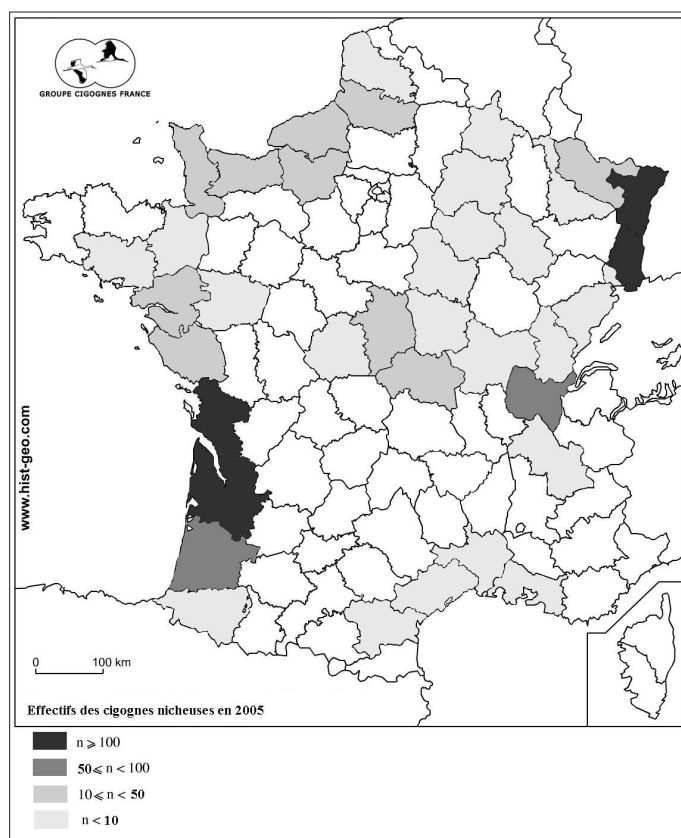


Fig. 1. Number of White Stork pairs in the departments of France in 2005.

Anzahl der Weißstorchpaare in den Departements Frankreichs im Jahr 2005.

Tab. 1. Results of the White Stork census 2004 in France.

Ergebnisse des Weißstorchzensus 2004 in Frankreich.

Départements	Nombre de HPa				Nombre de HPm				Nombre de jeunes (JZG)			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
01 – Ain	48	50	58	66	42	42	53	52	125	144	165	137
02 – Aisne			1				1				2	
03 – Allier	15	13	16	22	14	13	14	18	47	43	41	60
08 – Ardennes	2	2	2	2	2	2	2	2	6	6	4	5
10 – Aube	1	1	3	3	1	0	3	2	3	0	7	3
11 – Aude	5	8	10	12								
13 – Bouches-du-Rhône	7	11	17		6	9	10		8	25	26	
14 – Calvados	30	36	43	47	25	28	31	35	58	74	81	85
16 – Charente				1				1				
17 – Charente-Maritime	136	150	178	223	116	135	144	167	352	433	464	481
18 – Cher	15	16	21	18	12	12	14	16	36	33	34	40
25 – Doubs		1	0									
27 – Eure	11	12	12	13	9	10	12	10	19	26	34	27
30 – Gard	2	2	2	3	2	2	2	3	4	6	7	6
31 – Haute-Garonne	2	1	1	2	2		1	0	5		5	0
32 – Gers	1				1				0			
33 – Gironde	108	131	141	159	82	113	117	137	241	304	333	366
34 – Hérault	5	5	10	10	4	4	6	9	11	12	14	21
35 – Ille-et-Vilaine	1	1	1	1	1	1	1	1	2	3	3	3
36 – Indre	1	1	0	1	1	1	0	0	4	3	0	0
38 – Isère	2	2	1	2	2	2	0	0	6	4	0	0
39 – Jura	1	1	1		1	1	1		2	4	4	
40 – Landes	72	74	77	86	51	53	73	66	125	145	189	162
42 – Loire	0	0	1	1	0	0	1	1	0	0	4	2
44 – Loire-Atlantique	27	33	38	49	22	26	34	38	67	78	87	103
49 – Maine-et-Loire		1		1		1		1		2		2
50 – Manche	30	31	31	36	26	27	27	33	72	70	74	83
51 – Marne	1	1	0	1	1	1	0	1	3	2	0	2
52 – Haute-Marne	1	1	1	1	1	1	1	1	2	3	2	3
54 – Meurthe-et-Moselle	7	9	12	13	7	8	12	11	14	9	22	24
55 – Meuse			1	1			1	1			2	1
56 – Morbihan		1				1				0		
57 – Moselle	27	27	43	42	24	20	22	24	62	46	63	57
58 – Nièvre	4	9	11	14	3	7	7	10	11	20	19	25
60 – Oise			1				1				3	
62 – Pas-de-Calais		1	1			1	0			0	0	
63 – Puy de Dôme	0	0			0	0			0	0		
64 – Pyrénées-Atlantiques	9	9	12	12	7	8	12	8	14	24	34	16
67 – Bas-Rhin	167	119	143	145	127	88	114	100	354	228	280	199
68 – Haut-Rhin	203	220	249	269	165	164	172	206	440	427	446	511
70 – Haute-Saône			1	1				1				4
71 – Saône-et-Loire	7	9	11	12	5	7	10	11	15	23	32	37
76 – Seine-Maritime	12	16	22	23	10	14	17	17	23	37	40	46
80 – Somme	13	17	18		11	11			25	29	26	
85 – Vendée		43	52	18			48	18		114	122	47
89 – Yonne	1	1	1	1	1	1	1	1	1	2	4	3
90 – Territoire de Belfort	1	2	3	3	1	2	3	2	2	0	6	3
TOTAUX	975	1068	1247	1314	785	816	968	1004	2159	2379	2679	2567

Départements	HPa	HPm	HPo	%HPo	JZG	JZa	JZm
01 – Ain	50	42	8	16,0	144	2,88	3,43
02 – Aisne							
03 – Allier	13	13	0	0,0	43	3,31	3,31
08 – Ardennes	2	2	0	0,0	6	3,00	3,00
10 – Aube	1	0	1	100,0	0		
11 – Aude	8		8	100,0	0		
13 – Bouches-du-Rhône	11	9	2	18,2	25	2,27	2,78
14 – Calvados	36	28	8	22,2	74	2,06	2,64
16 - Charente							
17 – Charente-Maritime	150	135	15	10,0	433	2,89	3,21
18 – Cher	16	12	4	25,0	33	2,06	2,75
25 – Doubs	1	0	1	100,0	0		
27 – Eure	12	10	2	16,7	26	2,17	2,60
30 – Gard	2	2	0	0,0	6	3,00	3,00
31 - Haute-Garonne	1	0	1	100,0	0		
32 – Gers							
33 – Gironde	131	113	18	13,7	304	2,32	2,69
34 – Hérault	5	4	1	20,0	12	2,40	3,00
35 – Ille-et-Vilaine	1	1	0	0,0	3	3,00	3,00
36 – Indre	1	1	0	0,0	3	3,00	3,00
38 – Isère	2	2	0	0,0	4	2,00	2,00
39 – Jura	1	1	0	0,0	4	4,00	4,00
40 – Landes	74	53	21	28,4	145	1,96	2,74
42 – Loire							
44 – Loire-Atlantique	33	26	7	21,2	78	2,36	3,00
49 – Maine-et-Loire	1	1	0	0,0	2	2,00	2,00
50 – Manche	31	27	4	12,9	70	2,26	2,59
51 – Marne	1	1	0	0,0	2	2,00	2,00
52 – Haute-Marne	1	1	0	0,0	3	3,00	3,00
54 – Meurthe-et-Moselle	9	8	1	11,1	9	1,00	1,13
55 – Meuse							
56 – Morbihan	1	1	0	0,0	0	0,00	0,00
57 – Moselle	27	20	7	25,9	46	1,70	2,30
58 – Nièvre	9	7	2	22,2	20	2,22	2,86
60 – Oise							
62 – Pas-de-Calais	1	1	0	0,0	0	0,00	0,00
63 – Puy de Dôme							
64 – Pyrénées-Atlantiques	9	8	1	11,1	24	2,67	3,00
67 – Bas-Rhin	119	88	31	26,1	228	1,92	2,59
68 – Haut-Rhin	220	164	56	25,5	427	1,94	2,60
70 – Haute-Saône							
71 – Saône-et-Loire	9	7	2	22,2	23	2,56	3,29
76 – Seine-Maritime	16	14	2	12,5	37	2,31	2,64
80 – Somme	17	11	6	35,3	29	1,71	2,64
85 – Vendée	43			0,0	114	2,65	
89 – Yonne	1	1	0	0,0	2	2,00	2,00
90 – Territoire de Belfort	2	2	0	0,0	0	0,00	0,00
Total	1068	816	252	23,6	2379	2,23	2,92

Tab. 2. Results of the White Stork census 2005 in France.

Ergebnisse des Weißstorchzensus 2005 in Frankreich.

Imprint

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