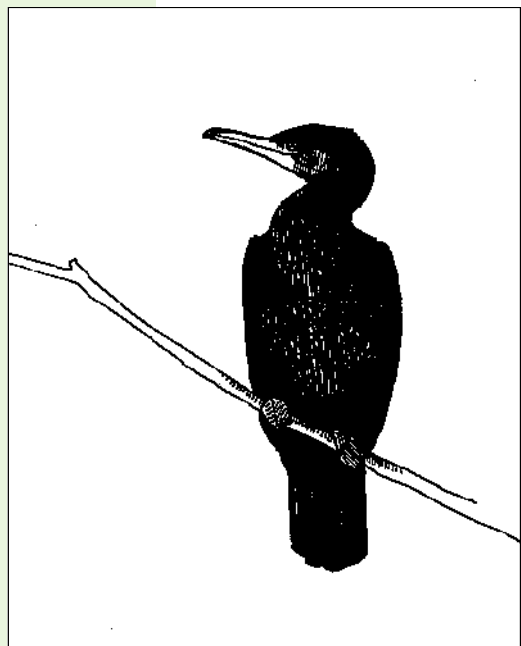


Number and distribution of Great Cormorants *Phalacrocorax carbo* in Switzerland in January 2003

Verena Keller
Marcel Burkhardt



Pan European Cormorant midwin-
ter census 2003 - national report
for Switzerland



Schweizerische Vogelwarte Sempach
Swiss Ornithological Institute, Sempach

Impressum

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Summary

The report presents the results of the count of Great Cormorants at roosts in Switzerland in January 2003, carried out as part of the coordinated European census organised by the Wetlands International Cormorant Research Group. In total, 4201 Cormorants were counted in Switzerland, 5885 if the roosts across the borders to adjacent countries are included. Overall, 60 occupied roosts were found, 46 of which were in Switzerland.

Zusammenfassung

Der Bericht stellt die Resultate der Kormoran-Schlafplatzzählungen in der Schweiz im Januar 2003 zusammen. Diese fanden im Rahmen der gesamteuropäischen, von der Arbeitsgruppe Kormoran von Wetlands International koordinierten Zählung statt. Insgesamt wurden in der Schweiz 4201 Kormorane erfasst, 5885 unter Einbezug der grenznahen Schlafplätze im Ausland. Sie verteilten sich auf total 60 besetzte Schlafplätze, 46 davon in der Schweiz.

Résumé

Le rapport présente les résultats des recensements aux dortoirs des Grands Cormorans en Suisse en janvier 2003, organisés dans le cadre des recensements européens coordonnés par le groupe de recherche Cormorans de Wetlands International. Au total, 4201 Grands Cormorans ont été comptés en Suisse, 5885 si les dortoirs frontaliers des pays voisins sont inclus. Les Cormorans étaient répartis en 60 dortoirs, dont 46 étaient situés en Suisse.

1. Introduction

The strong increase and the development of Great Cormorant breeding colonies is well documented in many European countries. On the other hand, information about the actual situation of the wintering population of Great Cormorants in Europe is incomplete. Not everywhere are Cormorants included in the traditional mid-winter census of waterbirds coordinated by Wetlands International, and counts during day-time may not give an adequate estimate of the total number of Cormorants in a country (Gilissen et al. 2002). The Wetlands International Cormorant Research Group therefore organised a coordinated census of Great Cormorants across Europe in order to get an overview on population size, migration patterns and distribution of Great Cormorants in winter. In each country, a national coordinator was appointed who organised counts at night roosts in mid January 2003. This report presents the results for Switzerland.

2. History of Great Cormorant censuses in Switzerland

In Switzerland, counting Cormorants has a long tradition. Great Cormorants were included in the national waterbird census from its start in 1967. However, a combination of methods was used. While some people counted Cormorants during daytime, others made a separate count at night roosts. These differences could largely be eliminated by a careful analysis of the data for the publications on population size and trend of Cormorants in Switzerland (Suter 1989, Pedrolì & Zaugg 1995). Since 1996, daytime counts and counts at night roosts can be indicated separately on recording forms, which largely eliminates double counts. In addition, Great Cormorants were counted at night roosts in a separate programme supported financially by the Federal Agency for the Environment, Forests and Landscape FAEFL. This programme covered the winters 1995/96 to 2000/01 and incorporated a count in mid-November and one in mid-January (Schifferli & Kestenholz 1998, Sieber & Keller 1999, Bornhauser-Sieber & Keller 2000, Burkhardt & Keller 2001). A summary of the situation of Great Cormorants was compiled in a fact sheet (Burkhardt et al. 2002a, Burkhardt et al. 2002b).

3. Organisation of the census in 2003

The European Cormorant census was organised by the coordinators of the Swiss national waterbird census at the Swiss Ornithological Institute in Sempach, Verena Keller and Marcel Burkhardt. It was coordinated with the waterbird census in mid-January, which was carried out on the weekend of 11/12 January 2003. All known night roosts of Great Cormorants were covered, mostly by experienced counters who had already participated in the earlier counting programme. In addition, all waterbird counters were informed about the European census and asked to look for any additional roosts and carry out counts in the evening. Overall, around 60 observers participated in the census.

In the Bodensee (Lake Constance) region the "Ornithologische Arbeitsgemeinschaft Bodensee" (OAB), which coordinates the waterbird census in the Swiss, German and Austrian parts of this cross-border site, carried out roost censuses every two weeks during the whole winter (coordinated by Anne Puchta). As the count dates did not correspond to the ones from the International Waterbird Census, we decided, together with the coordinators of the Cormorant census in Germany (Johannes Wahl) and Austria (Rosemarie Parz-Gollner) to use the data from 19 January 2003.

In addition to the roosts on Swiss territory, several roosts across the borders to the neighbouring countries were counted as well. The results of these counts are presented as well. Where roosts were situated right on or very close to the border, roosts were assigned to only one country to avoid double-recording for the national totals. This concerned roosts along the Hochrhein and in the Bodensee region, and was done in close contact with the other coordinators.

4. Results and discussion

In total, 4201 Cormorants were counted in Switzerland, 5885 if the roosts across the borders to Germany, Austria, Liechtenstein, Italy and France are included (Table 1, 2). Overall, 60 occupied roosts were found, 46 of which were in Switzerland. Observers indicated an additional eight roosts which on the count date were not occupied. Around two thirds of the roosts, holding 78% of Cormorants, were situated on lakes, one

third (22% of birds) on rivers. Islands are generally rare on Swiss lakes and rivers. It is therefore striking how many roosts were found on islands. In fact, roosts were mostly situated on the only island available on a lake. The Cormorant is widespread on the Swiss Plateau north of the Alps, while south of the Alpine chain roosts were found only on the two large lakes Verbano/Lago Maggiore and Ceresio/Lago di Lugano (Fig. 1). Most lakes, also very large ones like Lake Neuchâtel or Bielersee, had only one roost. The maximum number of roosts was four, on Bodensee-Untersee. The largest roost, Les Granges on Lake Geneva, held 984 cormorants (Table 2). This has always been the largest roost, with a maximum number of 3900 recorded in November 1994. The maximum number in January was 2250 in 1992. Two other roosts held more than 500 Cormorants: Lac de Morat and Crotti/Ramponio I close to the Italian/Swiss border near Gandria on Ceresio/Lago di Lugano.

Cormorant numbers in Switzerland increased strongly until the early 1990s (maximum number in January 8412 individuals in 1992, roosts across the borders included; Fig. 2). Subsequently numbers dropped to around 5000 birds in the last few years. The results of 2003 are similar to those of the previous years.

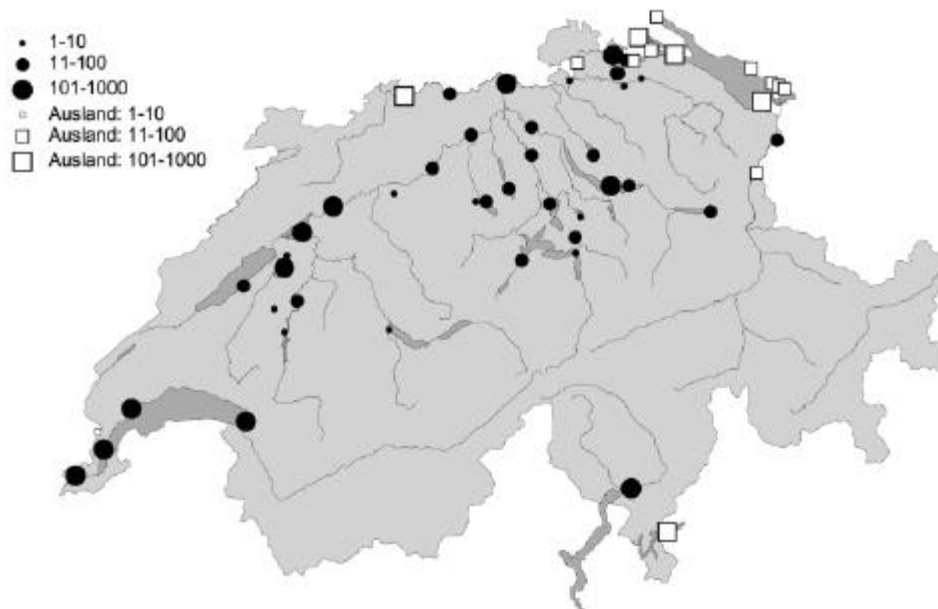


Fig. 1. Distribution of Great Cormorant roosts in Switzerland in January 2003. "Ausland": Roosts outside Swiss territory.

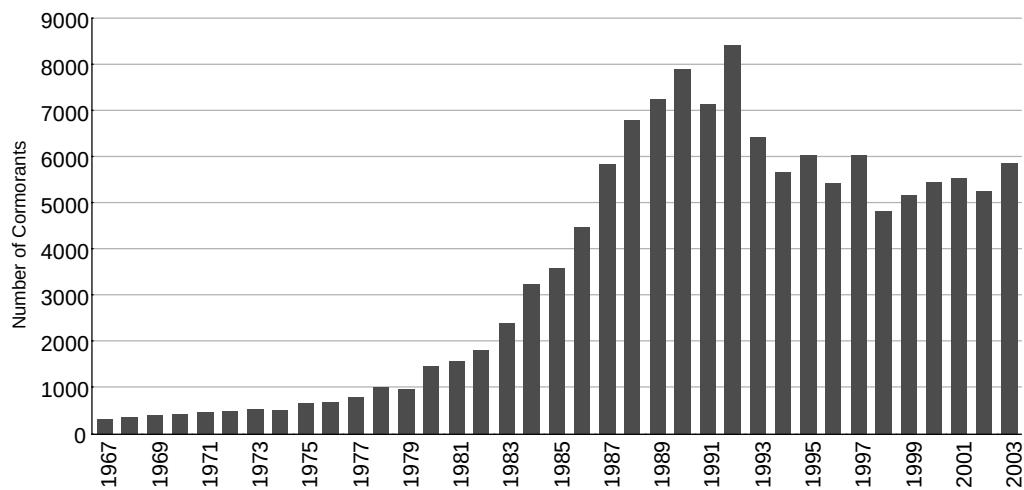


Fig. 2. Numbers of Great Cormorants in January for Switzerland, roosts across the borders included (Pedroli & Zaugg 1995; Burkhardt et al. 2002a,b, updated).

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Acknowledgements

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Table 1. Number of roosts and of Great Cormorants on different lakes and rivers.

Lake/river	Number of occupied roosts	Location of roost (habitat)	Number of Cormorants
Lac Léman	CH 3	Lake	1637
Lac de Morat	1	Lake	650
Ceresio/Lago di Lugano	I 1	Lake	650
Bodensee (Untersee)	CH 1, D 6	Lake	562
Aare	4	River / Reservoir (dammed river)	395
Hochrhein	CH 3, D 2	River	356
Zürichsee	3	Lake	242
Bodensee (Obersee)	A 3, D 4	Lake	240
Verbano/Lago maggiore	CH 1	Lake	235
Bielersee	1	Lake	129
Rhône	1	Reservoir (dammed river)	109
Zugersee	1	Lake	97
Lac de Neuchâtel	1	Lake	82
Greifensee	1	Lake	78
Alpenrhein	CH 1, FL 1	River	64
Sempachersee	1	Lake	61
Vierwaldstättersee	2	Lake	56
Limmat	1	River	42
Saane / Sarine	2	Reservoir (dammed river)	40
Reuss	1	Reservoir (dammed river)	32
Lauerzersee	1	Lake	28
Seebachtal TG	2	Small lakes	26
Baldeggersee	1	Lake	18
Walensee	1	Lake	12
Lac de Divonne	F 1	Lake	10
Thur	2	River	9
Mauensee	1	Lake	6
Inkwilersee	1	Small lake	5
Canal de la Broye	1	Canal	5
Aegerisee	1	Lake	3
Thunersee	1	Lake	3
Lac de Seedorf	1	Small lake	3
Total number on lakes	41 (CH 30, A 3, D 6, F 1, I 1)		4833
Total number on rivers/reservoirs	19 (CH 16, D 2, FL 1)		1052
Total number Switzerland			4201
Total number Switzerland	roosts across borders included		5885

Table 2. List of Great Cormorant roosts in Switzerland counted in January 2003.

Lake/river	Name of roost	Country	Canton (Bundesland, Département, Regione)	Swiss grid reference		Longitude (degrees, minutes)		Latitude (degrees, minutes)		Location of roost (habitat)	Date	Number of Cor- morants	Counter
Alpenrhein	Alter Rhein, Diepoldsau/Altach	CH	SG	766	248	9	38.2	47	21.7	River - shore	19.1.	31	E. Häfele
Alpenrhein	Ruggell	FL		758	235	9	31.6	47	14.8	River - shore	15.1.	33	G. Willi
Bodensee (Obersee)	Fussacher Bucht	A	Vorarlberg	767	263	9	39.3	47	29.8	Lake - shore	19.1.	0	A. Puchta
Bodensee (Obersee)	Rheinmündung	A	Vorarlberg	766	265	9	38.6	47	30.9	Lake - shore	19.1.	3	A. Puchta
Bodensee (Obersee)	Rheinspitz	A	Vorarlberg	760	263	9	33.7	47	29.9	Lake - shore	19.1.	125	A. Puchta
Bodensee (Obersee)	Alter Rhein, Mündung	A	Vorarlberg	759	263	9	32.9	47	29.9	Lake - shore	19.1.	4	A. Puchta
Bodensee (Obersee)	Lindau	D	Bayern	769	268	9	41.0	47	32.5	Lake - shore	19.1.	31	A. Puchta
Bodensee (Obersee)	Schachener Bucht	D	Bayern	767	269	9	39.4	47	33.0	Lake - shore	19.1.	20	A. Puchta
Bodensee (Obersee)	Wasserburg	D	Bayern	764	270	9	37.1	47	33.6	Lake - shore	19.1.	18	A. Puchta
Bodensee (Obersee)	Eriskircher Ried	D	Baden- Württemberg	756	276	9	30.8	47	37.0	Lake - shore	19.1.	39	G. Knötzsch
Bodensee (Untersee)	Stockacher Aach-Mündung	D	Baden- Württemberg	719	296	9	1.6	47	48.2	Lake - shore	19.1.	19	H. Werner
Bodensee (Untersee)	Wollmatinger Ried - Seerhein	D	Baden- Württemberg	726	281	9	7.0	47	40.1	Lake/river - shore	19.1.	230	H. Jacoby
Bodensee (Untersee)	Radolfzeller Aachried	D	Baden- Württemberg	712	288	8	55.9	47	44.0	Lake - shore	19.1.	189	S. Olschewsky
Bodensee (Untersee)	Hornspitze	D	Baden- Württemberg	717	283	8	59.8	47	41.2	Lake - shore	19.1.	3	S. Schuster
Bodensee (Untersee)	Mettnau	D	Baden- Württemberg	717	283	8	59.8	47	41.2	Lake - shore	19.1.	77	H. Reinhardt
Bodensee (Untersee)	Stein a.Rh./Eschenz, Werd	CH	TG	707	279	8	51.8	47	39.2	Lake - island	19.1.	12	H. Werner
Bodensee (Untersee)	Stein a.Rh./Öhningen, Stiegen	D	Baden- Württemberg	708	279	8	52.6	47	39.2	Lake - shore	19.1.	0	S. Werner
Bodensee (Untersee)	Öhningen-Wangen	D	Baden- Württemberg	710	279	8	54.2	47	39.1	Lake - shore	19.1.	32	U. von Wicht
Hochrhein	Bibermühle	CH	SH	702	281	8	47.8	47	40.3	River - shore	19.1.	110	S. Werner
Hochrhein	Rüdlingen, Alter Rhein	CH	SH	685	271	8	34.1	47	35.1	River - island	11.1.	2	K. Wanner
Hochrhein	Rheinau-Altenburg, Greut	D	Baden- Württemberg	688	278	8	36.6	47	38.8	River - shore	11.1.	18	M. Widmer
Hochrhein	Kaiserstuhl	CH	AG	673	269	8	24.5	47	34.1	River - shore	19.1.	0	W. Müller
Hochrhein	Rhein Wyhlen D, NSG Altrhein	D	Baden- Württemberg	620	265	7	42.3	47	32.1	River - island	12.1.	183	M. Leuzinger
Hochrhein	Stein/Bad Säckingen	CH	AG	638	266	7	56.6	47	32.6	River - island	12.1.	43	C. Berger

Lake/river	Name of roost	Country	Canton (Bundesland, Département, Regione)	Swiss grid reference		Longitude (degrees, minutes)		Latitude (degrees, minutes)		Location of roost (habitat)	Date	Number of Cor- morants	Counter
Thur	Frauenfeld, Erzenholz	CH	TG	706	269	8	50.8	47	33.8	River - shore	12.1.	1	W. Geiger
Thur	Pfyn, Eggenrain	CH	TG	713	272	8	56.5	47	35.3	River - shore	11.1.	8	A. Krämer
Seebachtal TG	Nussbaumersee	CH	TG	703	274	8	48.5	47	36.5	Small lake - shore	12.1.	13	W. Geiger
Seebachtal TG	Hasensee	CH	TG	704	274	8	49.3	47	36.5	Small lake - shore	12.1.	13	W. Geiger
Greifensee	Maur, Fluh	CH	ZH	694	242	8	40.9	47	19.3	Lake - shore	11.1.	78	H.U. Dössegger
Walensee	Walenstadt, Insel Bommerstein	CH	SG	740	220	9	17.0	47	7.0	Lake - island	12.1.	12	R. Noser
Zürichsee	Kloster Wurmsbach	CH	SG	708	230	8	51.9	47	12.7	Lake - shore	11.1.	68	K. Anderegg
Zürichsee	Ufenau	CH	ZH	701	230	8	46.3	47	12.8	Lake - island	11.1.	174	W. Schetz
Zürichsee	Halbinsel Au	CH	ZH	691	234	8	38.4	47	15.0	Lake - shore		0	W. Honegger
Limmat	Spreitenbach, Chessel	CH	ZH	670	253	8	22.0	47	25.4	River - island	12.1.	42	O. Honegger
Aegerisee	Ägerisee, Oberägeri, Nas	CH	SZ	689	218	8	36.7	47	6.4	Lake - shore	12.1.	3	S. Nussbaumer
Lauerzersee	Lauerzersee	CH	SZ	687	210	8	35.0	47	2.1	Lake - shore	12.1.	28	U. Glutz von Blotzheim, P. Kühne
Zugersee	Risch	CH	ZG	677	223	8	27.2	47	9.2	Lake - shore	12.1.	97	A. Zimmermann
Vierwaldstättersee	Treib	CH	UR	687	204	8	34.9	46	58.9	Lake - shore	11.1.	8	U. Glutz von Blotzheim
Vierwaldstättersee	Alpnachersee	CH	OW	666	201	8	18.3	46	57.4	Lake - shore	14.1.	48	A. Borgula
Reuss	Flachsee Unterlunkhofen	CH	AG	670	242	8	21.9	47	19.5	Reservoir (dammed river) - island	11.1.	32	A. Ingold
Baldeggersee	Stäfligen	CH	LU	661	229	8	14.6	47	12.5	Lake - shore	11.1.	18	W. Sager
Hallwilersee	Riesle	CH	AG	657	240	8	11.5	47	18.5	Lake - shore	11.1.	0	R. Berner
Sempachersee	Sursee, Gamma-Insel	CH	LU	652	224	8	7.5	47	9.9	Lake - island	11.1.	61	R. Wüst
Mauensee	Mauensee, Insel Bognau	CH	LU	648	224	8	4.3	47	9.9	Lake - island	11.1.	6	R. Wüst
Thunersee	Gwatt, Insel Bonstetten	CH	BE	614	174	7	37.3	46	43.0	Lake - island	11.1.	3	M. Wettstein
Aare	Stausee Niederried	CH	BE	585	205	7	14.5	46	59.8	Reservoir (dammed river) - shore	12.1.	0	E. Niggeler
Bielersee	Hagneck	CH	BE	580	212	7	10.5	47	3.5	Lake - shore	12.1.	129	T. Marbot
Aare	Häftli	CH	BE	592	222	7	20.0	47	8.9	River - shore	11.1.	125	A. Blösch
Aare	Rothrist Hungerzelg / Boningen	CH	AG	631	237	7	50.9	47	17.0	River - shore	12.1.	52	B. Rüegger
Aare	Telli/Aarau, Zurlindeninsel	CH	AG	646	250	8	2.9	47	24.0	River - island	11.1.	35	P. Jean-Richard

Lake/river	Name of roost	Country	Canton (Bundesland, Département, Regione)	Swiss grid reference		Longitude (degrees, minutes)		Latitude (degrees, minutes)		Location of roost (habitat)	Date	Number of Cor- morants	Counter
Aare	Klingnauer Stausee	CH	AG	660	270	8	14.2	47	34.7	Reservoir (dammed river) - shore	11.1.	183	M. Güntert
Inkwilersee	Inkwilersee	CH	SO	616	227	7	39.0	47	11.6	Small lake	12.1.	5	H.P. Aeschli- mann
Saane / Sarine	Schiffenensee, Palatinot/Windig	CH	FR	578	185	7	9.0	46	48.9	Reservoir (dammed river)	12.1.	32	S.-P. Parrat
Saane / Sarine	Schiffenen, Barberêche	CH	FR	579	190	7	9.8	46	51.6	Reservoir (dam- med river)	12.1.	0	A. Aebischer
Saane / Sarine	Lac de la Gruyère, Rossens	CH	FR	573	173	7	5.1	46	42.5	Reservoir - shore	12.1.	8	J. Gremaud
Lac de Neuchâtel	Forel	CH	FR	557	191	6	52.5	46	52.1	Lake - artificial structures	12.1.	82	P. Rapin
Lac de Seedorf	Lac de Seedorf, Corjolens	CH	FR	569	182	7	2.0	46	47.3	Small lake - shore	12.1.	3	H. Vigneau
Lac de Morat	Guévoz (Vallamand)	CH	VD	573	198	7	5.0	46	56.0	Lake - shore	11.1.	650	P. Monney, G. Banderet, E. Curty
Canal de la Broye	Kanal Grosses Moos	CH	BE	574	203	7	5.8	46	58.7	Canal - shore	13.1.	5	M. Beaud
Lac Léman	Les Grangettes	CH	VD	558	138	6	53.6	46	23.5	Lake - island	13.1.	984	O. Epars
Lac Léman	Bursinel	CH	VD	513	143	6	18.4	46	26.0	Lake - shore	12.1.	421	C. Sterchi
Lac Léman	Versoix- Prévorsier	CH	VD	502	127	6	10.0	46	17.2	Lake - shore	12.1.	232	B. Piot
Lac de Divonne	Lac de Divonne	F	Ain	500	134	6	8.4	46	21.0	Lake - island	12.1.	10	B. Piot
Rhône	Verbois/Aire-la-Ville, 13.22	CH	GE	491	117	6	1.6	46	11.7	Reservoir (dammed river) - shore	11.1.	109	B. Lugrin
Rhône	Etournal	F	Ain	484	109	5	56.3	46	7.4		11.1.	0	B. Piot
Verbano/Lago maggio- re	Bolle di Magadino	CH	TI	709	112	8	51.0	46	9.0	Lake - shore	11.1.	235	F. Croci, M. Garbani-Nerini
Ceresio/Lago di Lugano	Crotti, Ramponio (near Gandria TI)	I	Lombardia	723	95	9	1.6	45	59.7	Lake - shore	12.1.	650	S. Pittaluga
Total Switzerland												4201	
Total Switzerland (roosts across borders included)												5885	