

Report

Survival, mortality and skewed sex ratio of the Japanese Oriental White Stork reintroduced population at the end of 2014

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Abstract We report here the process and present situation of reintroduction of the Oriental White Stork *Ciconia boyciana* in Hyogo, Japan. From 2005 to 2014, 34 birds were released and 88 birds fledged in the wild. With the increase of breeding pairs, the number of fledglings produced in a year has increased to more than 20. Of the released birds 19, and of the fledglings 53 have survived at the end of 2014. Adding a genuinely wild female that formed a pair with a released male, the population is composed of 73 birds. Young birds before maturity seems to have higher risk of mortality than adults. The sex ratio of surviving fledglings is skewed to females, and we analyzed the reason. But we do not find any other special reasons than the limited number of breeding pairs.

Key words Oriental White Stork, Reintroduction, Skewed sex ratio, Survival

Oriental White Storks *Ciconia boyciana* are believed to have bred commonly in Japan, even in towns by 19th century (Blakiston and Pryer 1878 ; Niwa 1892 ; Yasuda 1987), but with the start of 20th century breeding records were almost limited to Tajima District represented

by Toyooka City of Hyogo Prefecture (Yamashina and Takano 1959 ; Sakamoto 1966). And the population was extinct in 1971 (HPOWS 2014). With the increase in size of captive population preceded by the first success of captive breeding by birds transferred from Russia in 1989, reintroduction of this species was planned by Hyogo Prefecture and the practice started in 2005 by Hyogo Park of the Oriental White Stork (HPOWS 2014).

Number of birds released in Toyooka City between 2005 and 2012 is 28 (7 in 2005, 9 in 2006, 5 in 2007, 2 in 2008, 2 in 2009, 2 in 2010 and 1 in 2012) including 6 young birds that fledged within and flew out of open cages reared by flightless parents. And in 2013 and 2014, 2 and 4 young birds were released by the same method in Yabu and Asago City, respectively. Thus 34 storks were released to the wild of Tajima District in 10 years between 2005 and 2014 (see Appendix 1a).

Age and sex of the released birds are shown in Table 1. Sixteen males were released, 9 of which are surviving in the wild at the end of 2014. Of the 7 males lost, 1 was captured and caged in order to avoid kin-breeding that can increase the risk of extinction in small populations (Yamamura 2013). Of the other 6 males, 5 was dead

Table 1. Age, sex and survival of released 34 storks. Birds that are living in the wild at the end of 2014 are indicated as “survival” and “lost” includes birds that were dead, caged or missing.

Sex	Number of birds										Total	Lost	survival	survival rate
	Released in age													
	0	1	2	3	4	5	6	7	8					
Male	6	2	2	1	1	1	2	1	0		16	7	9	0.56
Female	6	0	5	1	3	0	1	1	1		18	8	10	0.56
Total	12	2	7	2	4	1	3	2	1		34	15	19	0.56

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Table 2. Sex of fledglings that were produced by 12 different pairs and their survival. Male of Pair F-1 was dead and the female paired with a new male in the next year as F-2. Each one of fledglings of the three pairs with asterisks was neither banded nor paired with any banded mate. So the 3 birds were not sexed and hence the total number of fledglings sexed is 85 of the 88 fledglings. Number in parentheses shows the number of years each pair bred. Definition of “lost” and “survival” is the same with Table 1.

	Number of birds produced by												Total	lost	survival	survival rate
	A(3)	F-1(1)	F-2(2)	H(1)	I*(7)	N(6)	ND*(2)	S(6)	SZ(2)	T*(7)	Y(8)	YM(4)				
Male	1	0	2	0	7	3	3	3	1	7	5	6	38	16	22	0.58
Female	1	1	3	1	3	8	4	7	1	7	8	3	47	16	31	0.66
Total	2	1	5	1	10	11	7	10	2	14	13	9	85	32	53	0.62

Table 3. Production and survival of fledglings at the end of each year. Three fledglings neither banded nor sexed are not included. Number of breeding pairs is shown in parenthesis.

Year of birth	No of fledglings produced	Number of birds surviving at the end of								
		2007 (2)	2008 (4)	2009 (6)	2010 (7)	2011 (6)	2012 (9)	2013 (8)	2014 (7)	
2007	1	1	1	1	0	0	0	0	0	
2008	8	–	8	6	6	6	6	5	4	
2009	8	–	–	7	7	7	6	6	6	
2010	9	–	–	–	7	6	6	6	6	
2011	9	–	–	–	–	9	8	8	6	
2012	12	–	–	–	–	–	11	10	10	
2013	22	–	–	–	–	–	–	17	7	
2014	16	–	–	–	–	–	–	–	14	
Total	85	1	9	14	20	28	37	52	53	

or wounded non-artificially and for 1 male no records were available for more than one year and hence treated as “missing” meaning death in a high probability. On the other hand, 18 females were released, 10 of which are surviving in the wild at the end of 2014. Of the 8 females lost, 1 was captured and caged in order to avoid kin-

breeding and another female was captured and caged because she was wounded due to the small-sized leg-band. The other 6 females were dead or wounded non-artificially. If we regard the number of birds living in the wild as “survival”, the survival rate is just the same for both sexes (0.56, see Table 1). Further, if we regard the number

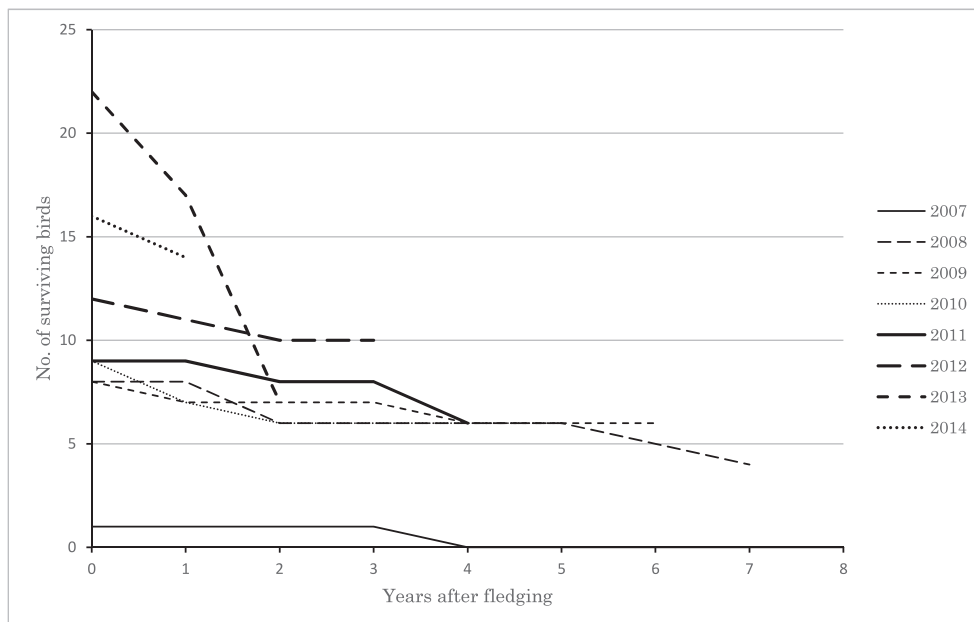


Fig. 1. Survival curves of fledglings when young birds fledged in a year are regarded as a cohort.

of birds dead or wounded or missing as “deceased in the wild”, the mortality rate is calculated as 0.38 (6/16) for males and 0.33 (6/18) for females. Thus we cannot find any difference in survival rate between males and females for released birds. The sex ratio of the surviving released birds is 0.9 (9/10).

Breeding in the wild started in 2006 by a pair, which laid eggs but did not succeed in hatching them. The first 1 young was fledged by one of 2 breeding pairs in 2007. Thereafter the number of breeding pairs increased up to 9 in 2012 and successful breeding is continuing until now.

Total number of fledglings produced by 12 different pairs is 88 from 2007 to 2014. Sex of 82 fledglings is known from blood samples taken at the time of their banding within nest. The other 6 birds were not banded and their sex was unknown when they fledged. But 3 of them were sexed as males, because they mated with banded females (see Appendix 1b). Number of male and female fledglings produced by the 12 pairs is given in Table 2. The sex ratio of fledglings is skewed to female as 0.81 (38 males to 47 females). The excess of females are clearly caused by the fact that the 4 (N, S, T and Y) of the 5 pairs that bred for 6

Table 4. List of 32 storks that were dead or caged for released birds (a) and fledglings (b). “Reason” indicates mortality factor for dead birds, and the reason of being caged or wounded for living birds in the cage. “Days” are those between the final records in the field and the day of capture or discovery of dead bodies. Abbreviations in parentheses indicate the reasons except for those intended or artificial mistakes.

a)							
No	ID	Sex	Situation	Age	Situation in the field	Reason	Days
1	R1	M	dead	8	dead body	electrocution (ELC)	1
2	R2	M	cage	13	healthy	escape from kin-breeding	0
3	R6	F	cage	15	wounded	conspecific attack (CSA)	0
4	R7	F	cage	14	wounded	conspecific attack (CSA)	0
5	R8	F	dead	5	dead body	net-entangling (NET)	20
6	R11	F	cage	10	healthy	escape from kin-breeding	0
7	R12	M	dead	6	dead body	net-entangling (NET)	4
8	R17	F	cage	6	wounded	band mismatch	0
9	R18	M	cage	8	wounded	other-bones broken (OBB)	0
10	R19	M	dead	4	dead body	caught in narrow space (CNS)	6
11	R24	F	dead	4	dead body	food shortage (FDS)	2
12	R26	F	dead	0	dead body	caught in narrow space (CNS)	22
13	R27	F	dead	3	wounded	leg-bone broken (LEG)	0
14	R28	M	dead	6	dead body	food shortage (FDS)	1
b)							
No	ID	Sex	Situation	Age	Situation in the field	Reason	Days
1	F2	F	dead	1	wounded	leg-bone broken (LEG)	0
2	F3	F	dead	6	dead body	unknown (UKW)	11
3	F6	M	dead	5	dead body	net-entangling (NET)	3
4	F8	M	dead	7	dead	other-bones broken (OBB)	0
5	F17	M	dead	3	dead	accident in capture	0
6	F18	M	dead	0	dead body	caught in narrow space (CNS)	3
7	F23	M	dead	1	dead body	electrocution (ELC)	0
8	F25	F	dead	0	weakening	disease (DSS)	0
9	F26	M	dead	0	weakening	disease (DSS)	0
10	F29	F	cage	3	wounded	other-bones broken (OBB)	39
11	F36	M	dead	0	wounded	other-bones broken (OBB)	0
12	F51	F	dead	1	dead body	other-bones broken (OBB)	1
13	F56	M	dead	1	dead body	leg-bone broken (LEG)	6
14	F69	F	dead	0	weakening	leg-bone broken (LEG)	0
15	F70	F	dead	0	dead body	net-entangling (NET)	3
16	F71	M	dead	0	weakening	other-bones broken (OBB)	6
17	F78	F	dead	0	dead body	unknown (UKW)	8
18	F85	F	dead	0	dead body	unknown (UKW)	1

Table 5. Factors of death, wounds or weakening for 28 storks that were lost from the wild in different ages. Number of males (left) and females (right) are given for each age and factor. For abbreviations of factors see Table 1.

Age	CSA	CNS	DSS	ELC	FDS	LEG	NET	OBB	UKW	Total
0		1, 1	1, 1			0, 1	0, 1	2, 0	0, 2	4, 6
1				1, 0		1, 1		0, 1		2, 2
2										0, 0
3						0, 1		0, 1		0, 2
4		1, 0			0, 1					1, 1
5							1, 1			1, 1
6					1, 0		1, 0		0, 1	2, 1
7								1, 0		1, 0
8				1, 0				1, 0		2, 0
>8	0, 2									0, 2
Total	0, 2	2, 1	1, 1	2, 0	1, 1	1, 3	2, 2	4, 2	0, 3	13, 15

or more years produced more daughters than sons, in total 1.7 (30/18) times as many females as males. And the sex ratio of the surviving fledglings is also skewed to females as 0.71 (22/31).

As well as a wild male that migrated from the continent and settled in Toyooka in 2004 but was dead in 2007 as a result of conspecific battles with a released male (Ezaki et al. 2012), a wild stork joined the breeding population as the female parent (pair S). Thus, in total 124 storks (34 released, 88 fledglings and 2 wild from the continent) have joined the reintroduced Tajima population after the release in 2005, and 73 birds (19 released, 53 fledglings and one wild) are surviving in the wild at the end of 2014.

Table 3 shows production and survival of fledglings. With the increase of breeding pairs, the number of fledglings produced each year increased from 1 in 2007 to 22 in 2013. From this table we can draw 8 survival curves by regarding fledglings of each year as a cohort (Fig. 1). Although any clear patterns cannot be found yet, the steep decline of the survival curve in the early stage of the 2013 cohort suggests that a high mortality in the young stage before maturation of age 3 (Ezaki and Ohsako 2012) could appear in near future.

As described above, the main cause of the skewed sex ratio for fledglings exists in the fact that repeatedly breeding 4 pairs produced more daughters than sons. But the sex ratio of surviving fledglings (0.71) was more skewed than that at fledging (0.81). So the mortality could be different between sexes. Table 4 shows 14 released birds (a) and 18 fledglings (b) that disappeared from the wild, with the reason of their disappearance, removing missing birds

(1 released and 14 fledglings). Of the birds listed, R2 and R11 were captured in order to avoid kin-breeding as described above. Furthermore R17 and F17 were wounded and dead, respectively owing to artificial mistakes. So remaining 28 birds found dead/wounded/weakened are the proper material for analysis of the mortality factor in the wild.

As the cause of their death/ wound/weakening is dividable into 9 categories (CSA: conspecific attacks ; CNS: caught in narrow space ; DSS: disease ; ELC: electrocution ; FDS: food shortage ; LEG: leg-bone broken ; NET: net-entangling ; OBB: other bones broken ; UKW :unknown reasons) after the veterinary diagnosis, the frequency distribution of these causes was analyzed in relation to age and sex for the 28 birds (Table 5). It shows that almost half of their deaths/wounds/weakening occurred before they reached maturity of age 3 for both males (6/13) and females (8/15). After maturity, the number of birds dead/wounded/weakening is not different between ages (2 birds in almost all ages). Thus young birds before maturity seems to have higher risk of mortality than adults as was suggested from the survival curve of the 2013 cohort. On the other hand, difference between sexes is found for CSA (conspecific attack) and ELC (electrocution). As the former was caused by the genuinely wild male against released 2 females in 2005 and that male died after a battle with a released male, conspecific attack cannot be regarded as a cause of death unique to one sex. On the other hand, the latter, electrocution occurred only in males. But we can find no good explanation why this sexual difference occurred. Of course it could have hap-

pened by chance.

Thus we do not find any other special reasons than the limited number of pairs that explain the skewed sex ratio at the end of 2014, 9 years after the start of reintroduction of the Oriental White Stork in Japan.

Acknowledgements

Dr. Kazuaki Naito helped us in finalizing the draft. We are grateful to him. This study was supported by Grants-in-Aid for Scientific Research by Japan Society for the Promotion of Science: Category B, ID 24310033.

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(Accepted: 8 March 2016)

日本で再導入されたコウノトリ個体群—2014年末時点での生残と死亡および性比の歪み

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摘要

本稿では兵庫県で行われているコウノトリ野生復帰の2014年末時点での状況を報告する。2005年から2014年までの10年間に34羽が野に放たれたが、野外繁殖ペアの増加とともに、年間の巣立ち数は20を超えるようになり、これまで計88羽が野外で巣立った。2014年末の時点では、野に放たれた鳥のうち19羽、巣立ち個体のうち53羽が生き残っており、これに大陸から飛来した野生の1個体を加えた73羽が日本の個体群を構成している。生き残っている巣立ち個体の性比がメスに偏っているため、その理由を解析したが、繁殖ペアの数がいまだ1桁に限られている事以外に原因を見いだせなかった。また、3歳の成熟齢に達しない若鳥の死亡率が、成鳥に比して高い傾向が見出された。

キーワード コウノトリ, 再導入, 性比の偏り, 生残

Appendix 1. List of 122 storks that were released (a) and fledged in the wild (b) by the end of 2014. ID of birds consists of a symbol R (released birds) or F (fledglings) and the number that indicates primarily the order of "Flight day" (release or fledging) and secondarily that of "Hatching day". Fledging days in parentheses indicate that the chicks were rescued due to social reasons (strong local requests). "Site" shows the name of cities where birds were released or the locality name where they were borne. Fifty-two birds with # at the head of ID shows that they do not exist now in the wild because they were dead (dead), captured and reared in the cage (cage) or regarded as dead due to no information of living over a year (missing). Three birds (F16, F38, F50) that fledged in the wild were not banded and cannot be confirmed its existence now (Situation: unknown), although 3 other non-banded birds were individually identifiable because they had characteristic feather patterns and nested as parents of particular nests. Female F5 and male F12 were supposed to form a kinship pair and were artificially disturbed not to breed.

a)								
	ID	Sex	Code	Band l/r	Site	Hatching day	Flight day	Situation
#	R1	M	J0232	gyr/yB	Toyooka	29 Apr. 1998	24 Sep. 2005	dead
#	R2	M	J0290	ysb/rB	Toyooka	1 May. 2000	24 Sep. 2005	cage
	R3	F	J0294	ysg/rB	Toyooka	3 Apr. 2001	24 Sep. 2005	T-Pair
	R4	F	J0296	ygy/rB	Toyooka	5 Apr. 2001	24 Sep. 2005	I-Pair
	R5	F	J0362	grr/rB	Toyooka	10 Apr. 2003	24 Sep. 2005	N-Pair
#	R6	F	J0242	gsr/yB	Toyooka	15 May. 1998	30 Sep. 2005	cage
#	R7	F	J0262	brr/rB	Toyooka	11 Jun. 1999	30 Sep. 2005	cage
#	R8	F	J0002	bbr/bB	Toyooka	19 May. 2006	14 Jul. 2006	dead
	R9	M	J0001	bby/bB	Toyooka	18 May. 2006	21 Jul. 2006	N-Pair
	R10	F	J0363	grs/rB	Toyooka	26 Apr. 2003	23 Sep. 2006	solitary
#	R11	F	J0384	byg/sB	Toyooka	28 Apr. 2004	23 Sep. 2006	cage
#	R12	M	J0389	brg/sB	Toyooka	10 May. 2004	23 Sep. 2006	dead
	R13	F	J0228	gbs/yB	Toyooka	15 Apr. 1998	24 Sep. 2006	Y-Pair
	R14	M	J0275	bb/ry	Toyooka	11 Apr. 2000	24 Sep. 2006	Y-Pair
	R15	M	J0381	yy/sb	Toyooka	26 Apr. 2004	24 Sep. 2006	I-Pair
	R16	F	J0382	byr/sB	Toyooka	27 Apr. 2004	24 Sep. 2006	solitary
#	R17	F	J0403	s/B	Toyooka	14 May. 2005	22 Sep. 2007	cage
#	R18	M	J0405	yyb/sB	Toyooka	16 Apr. 2006	22 Sep. 2007	S-pair & cage
#	R19	M	J0408	yy/sB	Toyooka	24 May. 2006	22 Sep. 2007	dead
	R20	M	J0391	bsy/sB	Toyooka	12 May. 2004	23 Sep. 2007	T-Pair
	R21	F	J0399	bgg/sB	Toyooka	8 Apr. 2005	23 Sep. 2007	YM-Pair
	R22	M	J0426	rby/sB	Toyooka	25 May. 2008	28 Jul. 2008	solitary
	R23	F	J0428	rbs/sB	Toyooka	25 May. 2008	30 Jul. 2008	solitary
#	R24	F	J0398	bgs/sB	Toyooka	6 Apr. 2005	31 Oct. 2009	dead
#	R25	M	J0400	ybb/sB	Toyooka	30 Apr. 2005	31 Oct. 2009	missing
#	R26	F	J0442	rsr/sB	Toyooka	29 Apr. 2010	4 Jul. 2010	dead
#	R27	F	J0443	rss/sB	Toyooka	28 Apr. 2010	5 Jul. 2010	dead
#	R28	M	J0411	ry/sy	Toyooka	1 Apr. 2006	27 Sep. 2012	dead
	R29	M	J0477	br/sg	Yabu	5 Apr. 2013	13 Jun. 2013	solitary
	R30	M	J0476	by/sg	Yabu	5 Apr. 2013	22 Jun. 2013	solitary
	R31	F	J0480	yb/sg	Asago	16 May. 2013	19 Jul. 2013	solitary
	R32	M	J0481	yy/sg	Asago	16 May. 2013	25 Jul. 2013	solitary
	R33	M	J0500	bb/gb	Asago	21 Apr. 2014	1 Jul. 2014	solitary
	R34	F	J0501	by/gb	Asago	21 Apr. 2014	2 Jul. 2014	solitary
b)								
#	F1	F	J0003	bbs/bB	Y	19 May. 2007	31 Jul. 2007	missing
#	F2	F	J0005	byb/bB	Y	20 Mar. 2008	4 Jun. 2008	dead
#	F3	F	J0004	bbg/bB	Y	20 Mar. 2008	10 Jun. 2008	F-Pair & dead

Appendix 1. Continued.

	ID	Sex	Code	Band l/r	Site	Hatching day	Flight day	Situation
	F4	F	J0006	byy/bB	F	19 Apr. 2008	22 Jun. 2008	solitary
	F5	F	J0009	byg/bB	T	27 Apr. 2008	2 Jul. 2008	kin-pair
#	F6	M	J0008	bys/bB	T	27 Apr. 2008	3 Jul. 2008	dead
	F7	F	J0010	brb/bB	N	1 May. 2008	3 Jul. 2008	solitary
#	F8	M	J0007	–	T	27 Apr. 2008	6 Jul. 2008	dead
	F9	M	J0011	–	I	13 May. 2008	20 Jul. 2008	YM-Pair
	F10	F	J0012	brr/bB	Y	11 Mar. 2009	24 May. 2009	SZ-pair
	F11	F	J0014	brg/bB	T	2 Apr. 2009	9 Jun. 2009	solitary
	F12	M	J0013	brs/bB	T	2 Apr. 2009	11 Jun. 2009	kin-pair
	F13	F	J0016	bsy/bB	N	22 Apr. 2009	29 Jun. 2009	solitary
	F14	F	J0017	bsr/bB	N	22 Apr. 2009	29 Jun. 2009	solitary
	F15	F	J0015	bsb/bB	N	24 Apr. 2009	2 Jul. 2009	solitary
#	F16		I-A	–	I	11 May. 2009	16 Jul. 2009	unknown
#	F17	M	J0058	–	I	11 May. 2009	17 Jul. 2009	dead
#	F18	M	J0018	bss/bB	I	15 May. 2009	8 Aug. 2009	dead
	F19	F	J0023	bgs/bB	T	28 Mar. 2010	8 Jun. 2010	solitary
	F20	F	J0022	bgr/bB	T	30 Mar. 2010	11 Jun. 2010	solitary
	F21	M	J0020	b/B	A	5 Apr. 2010	14 Jun. 2010	F-pair, solitary
	F22	M	J0021	g/B	S	17 Apr. 2010	23 Jun. 2010	SZ-pair
#	F23	M	J0019	bsg/bB	S	19 Apr. 2010	25 Jun. 2010	dead
	F24	F	J0024	bgg/bB	H	20 Apr. 2010	30 Jun. 2010	solitary
#	F25	F	J0027	br/by	Y	21 Jun. 2010	29 Aug. 2010	dead
#	F26	M	J0026	by/by	Y	21 Jun. 2010	29 Aug. 2010	dead
	F27	M	J0025	bb/by	Y	21 Jun. 2010	29 Aug. 2010	solitary
	F28	F	J0028	ybs/bB	T	5 Apr. 2011	9 Jun. 2011	solitary
#	F29	F	J0029	ybg/bB	T	6 Apr. 2011	11 Jun. 2011	cage
	F30	F	J0030	yyb/bB	N	28 Apr. 2011	2 Jul. 2011	solitary
	F31	F	J0043	yss/bB	I	11 May. 2011	17 Jul. 2011	solitary
	F32	M	J0044	sg/by	I	11 May. 2011	20 Jul. 2011	solitary
	F33	F	J0041	ysy/bB	S	17 May. 2011	20 Jul. 2011	solitary
#	F34	F	J0042	ysr/bB	S	17 May. 2011	20 Jul. 2011	missing
	F35	M	J0046	ygy/bB	Y	16 Jul. 2011	21 Sep. 2011	solitary
#	F36	M	J0045	gb/by	Y	16 Jul. 2011	24 Sep. 2011	dead
	F37	F	J0047	ygr/bB	T	2 Apr. 2012	7 Jun. 2012	solitary
#	F38		T-B	–	T	2 Apr. 2012	10 Jun. 2012	unknown
	F39	F	J0051	rby/bB	I	6 Apr. 2012	11 Jun. 2012	solitary
#	F40	M	J0052	br/br	I	6 Apr. 2012	13 Jun. 2012	missing
	F41	M	J0054	bg/br	Y	7 May. 2012	9 Jul. 2012	solitary
	F42	F	J0055	ryb/bB	Y	7 May. 2012	12 Jul. 2012	solitary
	F43	F	J0053	rbs/Bb	Y	7 May. 2012	13 Jul. 2012	solitary
	F44	F	J0059	ryg/bB	F	15 May. 2012	16 Jul. 2012	solitary
#	F45	F	J0056	ryy/bB	ND	24 May. 2012	16 Jul. 2012	missing
	F46	M	J0057	yr/br	ND	24 May. 2012	28 Jul. 2012	solitary
	F47	F	J0050	bb/br	N	22 May. 2012	29 Jul. 2012	solitary
	F48	M	J0048	gs/by	N	22 May. 2012	29 Jul. 2012	solitary
	F49	F	J0049	gg/by	N	22 May. 2012	30 Jul. 2012	solitary
#	F50		ND-B	–	ND	24 May. 2012	30 Jul. 2012	unknown

Appendix 1. Continued.

	ID	Sex	Code	Band l/r	Site	Hatching day	Flight day	Situation
#	F51	F	J0071	rgy/bB	ND	19 Apr. 2013	(3 Jun. 2013)	dead
	F52	F	J0072	rgr/bB	ND	19 Apr. 2013	(3 Jun. 2013)	solitary
	F53	F	J0073	rgs/bB	ND	19 Apr. 2013	(3 Jun. 2013)	solitary
#	F54	M	J0074	gg/br	ND	19 Apr. 2013	(3 Jun. 2013)	missing
#	F55	M	J0075	bb/bs	ND	19 Apr. 2013	(3 Jun. 2013)	missing
#	F56	M	J0061	ry/br	N	26 Mar. 2013	6 Jun. 2013	dead
#	F57	M	J0060	rb/br	N	26 Mar. 2013	14 Jun. 2013	missing
	F58	F	J0064	rg/br	Y	9 Apr. 2013	16 Jun. 2013	solitary
	F59	M	J0065	sb/br	YM	10 Apr. 2013	21 Jun. 2013	solitary
#	F60	M	J0062	rr/br	Y	9 Apr. 2013	22 Jun. 2013	missing
	F61	M	J0066	sy/br	YM	10 Apr. 2013	22 Jun. 2013	solitary
#	F62	F	J0070	gb/br	I	14 Apr. 2013	22 Jun. 2013	missing
#	F63	M	J0068	ss/br	I	14 Apr. 2013	22 Jun. 2013	unknown
	F64	M	J0067	sr/br	YM	10 Apr. 2013	24 Jun. 2013	solitary
	F65	F	J0078	bs/bs	S	23 Apr. 2013	24 Jun. 2013	solitary
#	F66	M	J0082	yr/bs	T	10 Apr. 2013	25 Jun. 2013	missing
#	F67	F	J0077	br/bs	S	23 Apr. 2013	28 Jun. 2013	missing
#	F68	F	J0076	by/bs	S	23 Apr. 2013	29 Jun. 2013	missing
#	F69	F	J0063	rs/br	Y	9 Apr. 2013	1 Jul. 2013	dead
#	F70	F	J0080	yb/bs	F	9 May. 2013	13 Jul. 2013	dead
#	F71	M	J0079	bg/bs	F	9 May. 2013	13 Jul. 2013	dead
#	F72	F	J0081	yy/bs	SZ	21 May. 2013	20 Jul. 2013	missing
	F73	F	J0085	rb/bs	S	24 Mar. 2014	31 May. 2014	solitary
	F74	M	J0083	ys/bs	SZ	23 Mar. 2014	1 Jun. 2014	solitary
	F75	F	J0084	yg/bs	S	24 Mar. 2014	4 Jun. 2014	solitary
	F76	M	J0086	ry/bs	S	24 Mar. 2014	4 Jun. 2014	solitary
	F77	F	J0089	rg/bs	F	2 Apr. 2014	10 Jun. 2014	solitary
#	F78	F	J0090	sb/bs	F	2 Apr. 2014	10 Jun. 2014	dead
	F79	F	J0087	rr/bs	N	1 Apr. 2014	11 Jun. 2014	solitary
	F80	F	J0093	ss/bs	YM	16 Apr. 2014	20 Jun. 2014	solitary
	F81	M	J0088	rs/bs	F	2 Apr. 2014	23 Jun. 2014	solitary
	F82	M	J0092	sr/bs	YM	16 Apr. 2014	26 Jun. 2014	solitary
	F83	M	J0094	sg/bs	I	22 Apr. 2014	26 Jun. 2014	solitary
	F84	M	J0091	sy/bs	YM	16 Apr. 2014	28 Jun. 2014	solitary
#	F85	F	J0095	gb/bs	Y	22 May. 2014	3 Aug. 2014	dead
	F86	M	J0097	gr/bs	T	4 Jun. 2014	9 Aug. 2014	solitary
	F87	M	J0096	gy/bs	T	4 Jun. 2014	11 Aug. 2014	solitary
	F88	M	J0098	gs/bs	T	4 Jun. 2014	12 Aug. 2014	solitary