#### **BIRD TO WATCH**

### An alarming decrease in the Milky Stork *Mycteria cinerea* population on the east coast of South Sumatra province, Indonesia

MUHAMMAD IQBAL, HERI MULYONO, AHMAD RIWAN & FADLY TAKARI

The population of the Vulnerable Milky Stork *Mycteria cinerea* is estimated to be less than 5,500 individuals, the majority in Indonesia, with fewer than 5,000 in Sumatra and about 400 in west Java. (BirdLife International 2001, 2012). The species is in decline throughout its range, due to habitat loss, hunting for food and capture for trade. Its present status in Indonesia is not well known, but although good numbers can still be found at sites in north and south Sumatra, reports indicate that numbers have declined considerably (Igbal & Hasudungan 2008, Shepherd & Giyanto 2009). Iqbal & Hasudungan (2008) documented observations between 2001 and 2005 in South Sumatra province. After this work, the Milky Stork population on the east coast of southern Sumatra was surveyed again in 2008, when most locations where Milky Storks were recorded in 2001-2005 were revisited, including the two where the largest and second largest numbers were reported in that period. The area covered was from the Pasir River in the south to Terusan Dalam River in the north, a distance of approximately 300 km. During this survey, a Milky Stork breeding colony was rediscovered at Kumpai lake in June 2008 (Igbal et al. 2008).

Four field visits were made to monitor Milky Stork population during 2008. It was surprising and alarming that after conducting intensive monitoring over 300 km of coastline, the number of Milky Stork found in 2008 did not exceed some incidental records during the 2001–2005 period. The largest number found in 2008 was 322 birds, compared with 500 birds during 2001–2005, implying a significant population decrease. Milky Stork populations had been monitored annually over a 3-year period 1984–1986 (Silvius 1988), when a maximum count of 1,587 birds was made in October–November 1984 and a minimum of 732 in July–August 1985. The average count during 1984–1986 was 1,040 birds; this contrasts with a maximum count of 322 birds in the 2008 survey, a decline of about 70% in 22 years. Table 1 summarises numbers found during the 2008 survey.

Based on our observations and recent interviews with local people about breeding colonies of Milky Stork on the east coast of South Sumatra province, we have divided the population into three major subpopulations: at Kumpai lake (2.434°S 105.581°E), Kuala Puntian (2.613°S 104.661°E) and the Siput River on the Banyuasin peninsula (2.142°S 104.968°E). Only Kumpai lake is a confirmed breeding site, the other two sites are still unconfirmed.

Kumpai lake subpopulation: During 2001-2005, the largest count of 500 birds was made on 2 August 2005 in Timbul Jaya village, Muara Padang subdistrict, but we did not find the species around Timbul Jaya village during our 2008 survey although we visited this area four times. The nearest area to Timbul Jaya village where large numbers of storks were found was Kumpai lake. We suspect the Milky Storks in Timbul Jaya village and at Kumpai lake are part of the same population—the sites are only about 15 km apart. A maximum count of 75 adult Milky Storks was made in the accessible part (approximately 25% of the area) of the Kumpai lake breeding colony on 17 June 2008 (Iqbal et al. 2008). Although more birds are at Kumpai lake (possibly up to a maximum of 300 birds), this number is lower than the 500 birds recorded during 2001–2005 surveys. On 17 September 2008, we also observed about 25 Milky Storks on the east coast between the Batang and Kumpai rivers, but these birds could also be part of the Kumpai lake breeding colony. After discovering the breeding colony on 17 June 2008, we interviewed local people in Sungai Batang village, the nearest village to the lake

Table 1. Milky Stork recorded on the east coast of South Sumatra province during 2008.

tion	Birds seen
coast of South Sumatra	172
coast of South Sumatra (including Kumpai lake & Kuala Puntian)	212
coast of South Sumatra (including Kuala Puntian)	322
coast of South Sumatra	43
	ntion coast of South Sumatra coast of South Sumatra (including Kumpai lake & Kuala Puntian) coast of South Sumatra (including Kuala Puntian) coast of South Sumatra



ALL PLATES BY MUHAMMAD IQBA

**Plate 1.** Captive Milky Stork *Mycteria cinerea* in Simpang Tiga village, reportedly collected from Kumpai lake, 25 June 2008.

(administratively Kumpai lake is part of Sungai Batang village). Local people reported that taking Milky Stork chicks from nests is ongoing (Plate 1), although the area is difficult to access. Hunters come from various villages in the Ogan Komering Ilir district, including Sungai Batang, and fishermen from Bangka island (Bangka province). Based on this information, it is thought that hunting of chicks from the breeding colony area has had a big impact on the Milky Stork population at Kumpai lake causing or helping to cause a possible decline of

**Plate 2.** Adult Milky Stork roosting in mangrove at Kuala Puntian, 2 November 2008.



80% (from 500 birds in 2005 to an estimated 100 birds in 2008).

**Kuala Puntian subpopulation**: The second largest group (300 birds) was found on Banyuasin River at Kuala Puntian on 12 December 2005. Kuala Puntian was visited three times in 2008 and the maximum count was 80 storks on 1 November 2008 (Plate 2). Local people reported that there was a breeding colony near Kuala Puntian and every year they collected chicks for food and domestication (Plate 3). Again, hunting appears to be the main threat to this Milky Stork population—the maximum count declined from 300 birds in 2005 to 80 birds in 2008 in Kuala Puntian.

Banyuasin peninsula subpopulation: Most of the stork population on Banyuasin peninsula is concentrated between the Barong and Jentolo rivers (Plate 4 & 5). During 2001-2005 surveys of the Banyuasin peninsula, Milky Storks were observed 10 times, the average number seen then being 110 birds, but encouragingly, the average number during 2008 counts was 122 birds suggesting a stable population. The largest count of Milky Storks on Banyuasin peninsula during 2001–2005 was 324 birds, but had declined to 242 birds in 2008. Local people reported that an isolated island on Siput River might hold the nearest Milky Stork breeding colony on the peninsula. They did not report hunting of chicks in this area and the isolation of the breeding colony probably explains the absence of hunting there.

Based on these results, it is appears that the Milky Stork population in South Sumatra has decreased alarmingly—some 70% over 22 years from 1986 to 2008. Interviews with local people suggests that taking of chicks from nests is the main threat to the population in South Sumatra and in the areas where hunting is heavy, population declines of 73–80% were estimated. In contrast, on the Banyuasin peninsula where no hunting at the suspected breeding colony on the Siput River

**Plate 3.** Young captive Milky Stork in Simpang PU, Banyuasin, reportedly collected from Kuala Puntian breeding colony, 13 July 2008.





**Plate 4.** Milky Storks feeding along line of fish-traps in Dinding River, Banyuasin peninsula, 12 July 2008.

was reported, the population appears to be stable. A public awareness campaign is needed to educate the local communities and strict law enforcement must be implemented to prevent hunting of Milky Stork chicks at the breeding colonies. Further monitoring on the east coast of South Sumatra province is urgently needed to confirm the numbers in the three main subpopulations and monitor movements within South Sumatra province. Finally, protection of the remaining breeding areas is urgently needed to prevent the collapse of the South Sumatran population.

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Plate 5. Flock of Milky Storks resting at high tide in Siput River, Banyuasin peninsula, 1 November 2008.



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#### BIRD TO WATCH

## The rapid decline of the Black-headed Ibis Threskiornis melanocephalus in Indonesia

MUHAMMAD IQBAL & FERRY HASUDUNGAN

#### Introduction

**10HAMMAD 10BA** 

The Black-headed Ibis *Threskiornis melanocephalus* has a wide range from India and Sri Lanka, north and east to Nepal, Myanmar, Thailand and China, south to Vietnam, Cambodia, the Malay Peninsula, Sumatra, Java, north Borneo and the Philippines (Matheu & del Hoyo 1992). The population is in decline due to a full gamut of threats, from hunting and disturbance at breeding colonies to drainage and conversion of foraging habitats to agriculture; it is currently classified as Near Threatened (BirdLife International 2001, 2012). In Indonesia, the bird possibly still breeds in Sumatra but the numerous breeding colonies which existed in Java early in the twentieth century have vanished and

it is now at the very best local and declining (Silvius & Verheugt 1989, BirdLife International 2012). The population in east Asia (China) is extremely small (less than 100 adults) whilst those in South and South-East Asia, including Indonesia, probably also number less than 10,000 individuals each (Wetlands International 2006).

#### Sumatra

The east coast of south Sumatra was historically an important area for Black-headed Ibis—sizeable flocks were recorded with the largest (more than 800 birds), being counted in 1984–1986 (Silvius 1988, Silvius & Verheugt 1989); the estimated total population was about 2,000 individuals. During the

Table 1. Comparison of Black-headed Ibis populations in Jambi and South Sumatra provinces, Sumatra, during 1984–1986 and 2001–2011. (No site visits were made in 2005, 2006, 2007 & 2010.)

Year	Jambi	South Sumatra	Total	Sources
1984	29	735	764	Silvius (1988)
1985	8	607	615	Silvius (1988)
1986	53	244	297	Silvius (1988)
2001	8	103	111	Wetlands International (2004)
2002	0	10	10	Wetlands International (2004)
2003	-	11	11	Wetlands International (2004)
2004	-	0	0	Wetlands International (2004)
2008	0	17	17	lqbal, South Sumatra Milky Stork project
2009	-	6	6	Iqbal, South Sumatra Milky Stork project
2011	0	-	0	lqbal, Tanjung Jabung & Cemara beach, 25 February–2 March

**Plate 1**. The Banyuasin peninsula, South Sumatra province, is known to hold the largest concentration of waterbirds in Sumatra. However, although hundreds of the globally threatened Milky Stork *Mycteria cinerea* and Lesser Adjutant *Leptoptilos javanicus* are present, it is very hard to find Black-headed Ibis *Threskiornis melanocephalus* here. 31 October 2008.





**Plate 2**. During several days of waterbird surveys on the Banyuasin peninsula, South Sumatra, in October 2008, only one Black-headed Ibis *Threskiornis melanocephalus* was found. 31 October 2008.

last decade (2001–2011), as part of the preparation to designate Sembilang Wildlife Reserve as a National Park, both authors visited the east coast of Jambi province (Hutan Bakau Pantai Timur, Tanjung Jabung and Cemara beach) and South Sumatra province (Banyuasin peninsula)—the same areas where Black-headed Ibises were counted in the 1980s. Comparing the 1984–1986 population with our recent data (Table 1), it both surprised and concerned us that there had been a huge decline in the species in southern Sumatra. The sites were in some cases visited more than once, but only the largest number recorded each year is shown in the table. Figure 1 shows the rapid decline of the Blackheaded Ibis in southern Sumatra and suggests that the population is on the verge of extinction. In 2008, MI visited many sites on the east coast of Sumatra to assess the Milky Stork *Mycteria cinerea* population, in the course of which no Black-headed Ibis were seen in Aceh, North Sumatra, Riau and Lampung provinces, although two threatened ciconiids—Milky Stork and Lesser Adjutant *Leptoptilos javanicus*—were present in all of them.

Below we summarise the historical and present status of Black-headed Ibis on the east coast of Sumatra.

Aceh province: visited in late December 2008, covering the area from Banda Aceh in the north to Kuala Langsa in the south. No birds were seen, but there are no historical records of the species in Aceh province.

**North Sumatra province**: visited in early January 2009, from Karang Gading Langkat Timur in the north to Tanjung Balai Asahan in the south. No birds seen; historically the species had been reported in small numbers (van Marle & Voous 1988). Local birdwatchers who carry out regular surveys and have more than five years' experience in the Percut area informed us that none of them had seen the species in northern Sumatra.

**Riau province**: visited Tanjung Api-api, Sinaboi, Kuala Siak and Tembilahan in mid-March 2009. No birds were seen in this area although it had been identified as an important location for Black-headed Ibis (Silvius 1988). Further searches in this area are recommended.

**Lampung province**: visited from 28 November to 9 December 2009, covering the area between the Mesuji and Maringgai rivers. No birds were seen. Historically, only small numbers were



**Figure 1**. The collapse of the Black-headed Ibis population in southern Sumatra between 1984 and 2011.

reported from Lampung province (van Marle & Voous 1988, Parrot & Andrew 1988). Large scale conversion of coastal mangrove forest to fish ponds is probably the cause of their disappearance.

Based on the above, we suspect that the Sumatran Black-headed Ibis population in late 2011 was only about 100–150 birds, a decline of over 90% since 1984, suggesting that the species should be classified as Endangered in Sumatra.

#### Java and elsewhere in Indonesia

Java was historically another important island for Black-headed Ibis, with at least three breeding populations in the past, at Pulau Dua and Pulau Rambut in north-west Java and in the Solo delta in north-east Java (Milton & Marhadi 1985, Erftemeijer & Djuharsa 1988, Lambert & Erftemeijer 1989). Milton & Marhadi (1985) stated that the bird was in decline on Java and the last breeding report at Pulau Dua was in 1998, when approximately 50 birds were seen at nests in June, and several immature birds were there in August (Noor & Hasudungan 2000). Pulau Rambut holds the lastknown breeding population on Java, and the northeast Java birds have possibly moved there. Between November 2000 and July 2001 the maximum count was 51 individuals (Mardiastuti 2002). A decade

**Plate 3.** In 2011–2012 only one Black-headed Ibis *Threskiornis melanocephalus* was found in West Java, at Banten Bay on 7 July 2011.



later, a local birdwatcher in Jakarta who frequently travels to Pulau Rambut reported that the maximum number he has seen is less than 20 birds (Khaleb Yordan *in litt.*). More recently, a maximum of six birds was seen there in 2012 (Ade Rahmat *in litt.*).

The bird is now very hard to find in the wetlands of west Java and in 2011–2012 only one Blackheaded Ibis was found there in Banten Bay by Budi Hermawan (Plate 3). A wide survey in the coastal zone of Java in November–December 2006 did not recorded this species (van Balen *et al.* 2006) although four birds were seen on 7 October 2006 at Muara Angke on the mainland of Java north of Jakarta (Ady Kristanto *in litt.*). The annual Asian Waterbird Census in Indonesia has failed to locate any Black-headed Ibis on Java since 2008 (FH unpublished data). It is concluded that the current population on Java is less than 50 birds.

The Black-headed Ibis is reported as a vagrant in Borneo, but has not been recorded in Kalimantan (Mann 2008). There is one unconfirmed record from Sulawesi (White & Bruce 1986, Coates & Bishop 1997).

#### Conclusions

BirdLife International (2012) state that the population is suspected to be declining at a slow to moderate rate due to hunting, egg collecting, disturbance at breeding colonies, drainage and agricultural conversion. It is suspected that the decline of Black-headed Ibis in Sumatra has been accelerated by the loss of breeding habitat due to conversion of mangroves to fish-ponds and conversion of swamp forest to Acacia plantations for the wood pulp industry. During our search for breeding colonies of Milky Stork (Igbal et al. 2008), we heard convincing reports from local people that the Black-headed Ibis does (or did) breed in southern Sumatra and that villagers collected their eggs and chicks, as they did from other waterbirds (Iqbal & Hasudungan 2008, Iqbal et al. 2008). Local people also said that Black-headed Ibis usually breed two months after most other waterbirds-during September to December, the same period as in South Asia and South-East Asia (Matheu & del Hoyo 1992, Robson 2008). We fear that the presently published population estimates (Wetlands International 2006, BirdLife International 2012) are optimistic. The Asian Waterbird Census 2006 vielded the following numbers for Black-headed Ibis: Malaysia-2, Thailand-2 and Myanmar-252 to 340 (Li et al. 2007, Naing 2007, Round et al. 2007). From these results, it is clear that the population in Sumatra, Java, Malaysia, Thailand and Myanmar is under 600 birds and we suggest that the current South-East Asian population is less than 1,000 individuals, leaving South Asia as the last population stronghold.

A further assessment of the global status of Black-headed Ibis should be a priority. Conservation action as proposed by BirdLife International (2012), such as regular population monitoring at selected sites across its range, particularly at important colonies, assessing the effects of the various threats on population levels, conducting local education programmes to discourage hunting and disturbance, and the encouragement of protection of any remaining nesting areas, are urgently required on the east coast of Sumatra and on Java.

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