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ETOSHA CRANE SURVEY, MARCH 2009

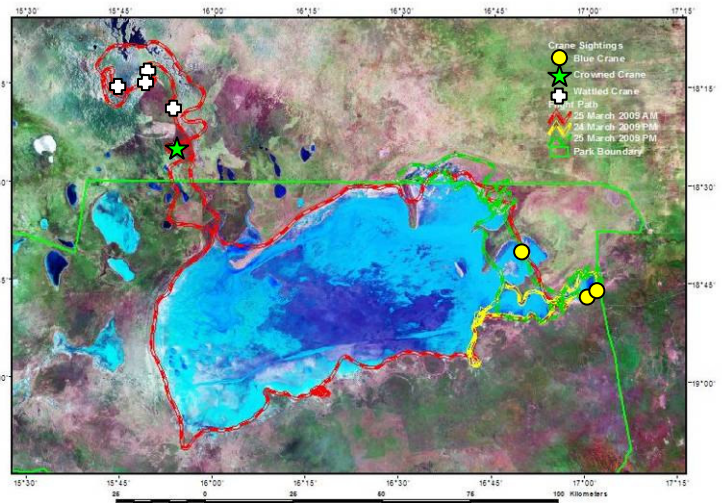
Still more questions than answers

Once again, after our annual wet-season crane survey at Etosha and environs, we are left with questions: where is the major part of our Blue Crane population? have the birds dispersed due to the high rainfall; and if so, are they in crane-friendly area(s)?

An intensive ground survey (23-27 March 2009) and an aerial survey (24-25 March) yielded a **total of only 11-12 Blue Crane adults + 5 chicks** (and a total of 7 chicks for the season), all within the Park. The aerial survey also produced **11 Wattled Cranes and 1 Southern Grey Crowned Crane** (but no Blue Cranes) in the Lake Oponono area. As in 2008, this area was extensively and dramatically flooded.



A rare and privileged view of newly hatched Blue Crane chicks at the Chudop Triangle, 14/2/09
(photo Sunday Nelenge)



The aerial survey, showing flight paths and Blue Crane = yellow dot; Wattled Crane = white cross; Crowned Crane = green star (map Holger Kolberg, MET DSS)

- The Blue Cranes were all recorded on the Pan edge:
- Salvadora: 2 adults + 1 juvenile (captured and ringed NHM, and fitted with a radio transmitter at frequency 151.190; previous radio transmitter fitted on 23/4/07, frequency 151.130)
 - Halali seep: 2 adults (one ringed in April 2006: NHD)
 - Chudop Triangle/Doringdraai: 2 adults + 2 chicks (captured and ringed NHN & NHO on 26/3/09)
 - Twee Palms: 1 adult (probably 2) + 1 chick
 - Stinkwater-west: 2 adults + 1 chick
 - Twee Palms/Doringdraai: 2 adults (apparently mobile, and possibly the same pair that produced two small chicks at Springbokfontein in February 2009; these chicks have not been seen since)



March 2009 survey team (L to R): Wilferd Versfeld, Ann Scott, Mike Scott, Hanjo Böhme, pilot Nad Brain, Holger Kolberg and Chantel Louw (inset)



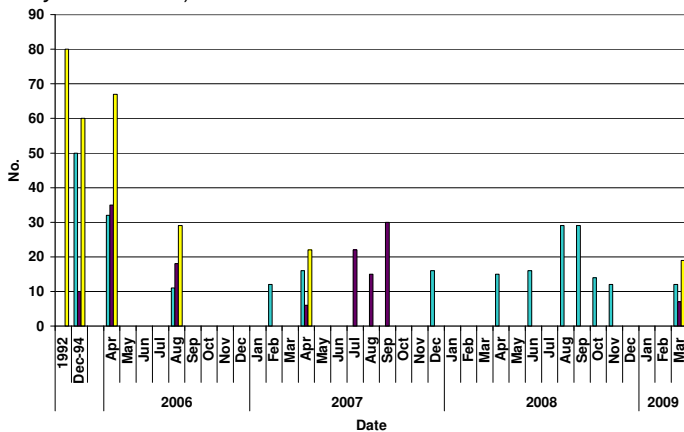
The Ekuma River is flowing strongly where it enters the Etosha Pan in the north (photo Ann Scott)



Radio tracking from the air over the Lake Oponono area at frequencies 151.190 and 151.130 (photo Ann Scott)

How does this count compare with previous ones?

See graph below for counts for 1992, December 1994 and April 2006-March 2009 (blue = Etosha, purple = Oponono, yellow = total)



Our main findings to date are that, after high counts of 80 in 1992, 49 + 11 juv (60) in 1994 and 60 + 7 juv (67) in April 2006, total numbers have subsequently not reached more than 30 birds. This could be related to good rains in 2006, 2008 and 2009 (with high rainfall in the Cuvelai catchment in 2008 and, especially, 2009). To date Okaukuejo has received 630 mm (now higher than 2008). It also appears that there is a core group of birds that breed within Etosha and a “floating” population of non-breeding birds, both consisting of 20-30 individuals. It could be that the latter group has found (temporarily) suitable habitat elsewhere – and hopefully this is in a crane-friendly area. Time will tell, as we continue to monitor their numbers. Any sightings of Blue Cranes are welcome – and especially outside of Etosha!

Our intrepid ringing team braved the odds with great success. This included having to pursue the family group of Blue Cranes at Chudop/Doringdraai on foot through cold water and slippery, ankle-deep mud for considerable distances, with 15 lions lurking just around the corner! We now know with certainty that, when predators threaten, the adult cranes will take the chicks straight out into the water as an escape route, and that both adults and chicks can wade through the water and thick mud with considerable agility.



“Processing” the chicks from Chudop Triangle, 40 days after the photo on page 1 was taken: top (L) Wilferd Versveld & Holger Kolberg; bottom Hanjo Böhme (photos Chantel Louw)

Funding for the survey by *The Overberg Explorer* and the Wilderness Wildlife Trust through the NNF Sundry Trust is acknowledged gratefully, as well as the provision of aviation fuel and logistical support by the MET. Many thanks to our pilot and master chef, Dr Nad Brain of Wilderness Safaris Namibia, to Peter Hartmann of Civil Aviation for making a plane available and to our enthusiastic ringing/support team: Holger Kolberg, Wilferd Versveld, Hanjo Böhme and Chantel Louw.

MORE NEWS FROM ETOSHA

The build-up to the survey

Wilferd Versfeld (WV), MET EEI (email versfeld@mweb.com.na) - unless otherwise indicated

Holger Kolberg (Namibian Wetland Count Coordinator; email holgerk@mweb.com.na)

In January/February 2009, during the summer wetland bird counts, Wilferd counted 4756 birds of 20 species at the Ekuma River, whereas Fischer's Pan was dry.

3/2/09 WV On 3/2/09 Johannes found 2 adults and 2 chicks at Springbokfontein, and south of Salvador a 2 adults and a juvenile; two ringed birds:

- NHF (ringed on 26/4/06 at Chudop).
- NHH (ringed on 12/3/07 at Salvador)

12/2/09 WV Went east yesterday and found two more very small chicks at the Doringdraai turn-off on Chudop plains. They are a day old or so, heads are red (see photo p1). Nothing at Twee Palms and Andoni, and the pair with chicks at Springbokfontein was also missing. At Halali seepage there was 1 crane (NHD, ringed April 2006) all alone. East of Salvador a group of 3 (NHF and NHH); this group was reported at Newbrownii and Okondeka in December 2008. (NHH was reported from Newbrownii at the beginning of December, but alone.) Also east of Salvador was the pair with the chick which is getting big pretty fast. No rings on this pair.

13/2/09 WV One of our visiting scientists saw 5 cranes east of Adamax on Tuesday. It is confirmed by photographs. This is really great.

16/2/09 Holger Kolberg & Hanjo Böhme

On 16/2/09 friends of Hanjo saw three cranes on the Halali plains; two had rings NHF & NHH (see 12/2/09).

20/2/09 WV Have just seen the 3 cranes at Salvador, the chick is growing very fast. This one is in the same place where Holger and I saw them in January and seems an ideal candidate for the transmitter. The other 3 with the two rings seem to have moved on again with all our rain and I did not find them. The single bird at Halali seepage is still there. The Chudop 2 with the



Juvenile ringed NBY at Chudop Triangle on 10/4/08, observed at Andoni on 22/9/08 and then again at Chudop Triangle on Christmas Day 2008 (photo *Elsita Kiekebusch*)

2 small chicks were seen on 16/2/09. I cannot find the 2 adults with chicks at Springbokfontein

20/2/09 WV So far the rainfall for February is 258 mm and for the season 556 mm.

4/3/09 Hugo Haussmann hubis@iway.na

I've been on a daytrip through Etosha on 3/3/09. On my way from Halali to Namutoni I told my guest that we should be on the lookout for the rare Blue Cranes. And really: around 17h30 I detected a pair of birds in the triangle, where the roads depart from the main road towards Chudop! They were feeding in the high grass and weeds. When I took out my binoculars, I couldn't believe my eyes: the pair had 2 chicks with them! It was impossible to spot them with your eyes, as the grass was almost taller than them. With the glasses you could only see their heads. I made several photos of the birds, but due to the distance from my car you can't see the chicks on them. I also couldn't see if the birds were ringed because of the high grass. You can't believe how excited I was! This was the first time in my life to spot Blue Cranes chicks. The birds were very wary and I waited quite a while and hoped they would come closer to my car. Unluckily they didn't.

I had another good experience: on my way from the main road to the Etosha Lookout point I had to drive through several mud ponds. At a really muddy and greyish one I couldn't believe my eyes: an African Jacana was wading through it! I don't have an explanation for this funny behaviour, as cleaner water ponds are now abundant in Etosha!

At the beginning of February I saw another unusual thing: thousands of Abdim's Storks both in the Okaukuejo or Gembokvlakte area (this is of course not unusual). I watched one particular stork north of Okaukuejo walking next to the road. All of a sudden he picked up a small snake! He dragged it away and struggled to kill it somehow. He managed to and later got it swallowed.

6/3/09 WV Last week I went up to Halali, the chick at Salvador is doing well, nice and big, hope we have good runners. The group is very skittish - Oponono birds so will have to plan the capture well. The single bird at Halali seepage is still there.



The large green ring with its unique alpha-numeric code is clearly visible (photo *Chantel Louw*)

BLUE CRANES AND WATER IN DRY NAMIBIA

Blue Cranes *Anthropoides paradiseus* are the world's most range-restricted crane species and occur mainly in South Africa. However, a curious and highly isolated breeding population also occurs in Namibia, over 1 000 km north of any other population. They are found mainly within Etosha National Park, and on the grasslands to the north when there is water in the Lake Oponono wetlands. Genetically they are thought to be distinguished from South African cranes. From a conservation point of view they are regarded as *Critically Endangered*, and their numbers appear to be declining.

Cranes (family Gruidae) are usually associated with marshes and wetlands (Roberts VII). In South Africa, Blue Cranes occur primarily in dry grassland habitat where water regularly occurs. What is special about the Etosha grasslands in Namibia and how do the cranes survive in such an arid, predator-rich area? Here, the favoured areas among the arid grasslands are the perennial springs around the edge of the Etosha Pan, and isolated waterholes in grassy plains such as Andoni. Blue Cranes at Etosha have been observed to move to waterholes when darkness falls; here they roost, often in small groups that find one another by calling.

There appears to be a strong link between roosting behaviour and predators (and the type of predator). In the predator-free grasslands north of Etosha, the cranes do not always roost in the flooded wetlands, but sometimes just south of the main water body in relatively short grasslands; however, their flight distances are very high (500 m) in this area, relative to those in Etosha (60-100 m). These behavioural traits could be linked to the lack of predation by large carnivores such as lion and hyaena, but the potential threat posed by humans.

The cranes nest on the ground in open grassy areas, usually not far from water, such that chicks may be led to water to drink and especially to escape predators such as jackals and hyaenas (see page 2; Hilton-Taylor 1988). Although adult cranes do not have webbed feet, the chicks are able to swim (e.g. Oatley 1969). They also nest on islands when these habitats are available, such as in Fischer's Pan and at Twee Palms, as these sites provide protection from predators. The nesting period coincides with the rainy season, namely from December to March, with a peak in February.

At Etosha the cranes have been observed to peck in the mud at the water's edge, most probably finding small items to feed upon. Rain puddles also provide an opportunity for the cranes to drink and cool off during the heat of summer. During the dry season the cranes congregate to roost together in a few permanent water holes, and these areas are therefore probably critical to their survival in this arid country.

The Blue Cranes are often associated with herbivores, e.g. at Andoni they may be found in close proximity to wildebeest or zebras, and at Oponono to cattle. The reason for this behaviour is not clear; it may be due to a preference for short, well-grazed grasslands, or possibly to promote protection against predators. The herbivores are usually associated with water ... so it is a complex relationship, and the answers are still being sought.



Your comments and suggestions are most welcome!
Blue Cranes cooling off at a rain water puddle at Chudop Triangle in the summer heat, 25/12/08
(photo *Elsita Kiekebusch*)



Water is important for breeding Blue Cranes in the harsh habitats of Etosha, both for providing nesting sites (e.g. at Twee Palms on 1/1/09 - top), and as a means of escape from predators for chicks, seen above at Doringdraai on 26/3/09
(photos *Ann Scott*)



UPLISTING OF GREY CROWNED CRANE TO *VULNERABLE*?

(See <http://www.birdlifeforums.org> for ongoing discussion)

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Grey Crowned Crane *Balearica regulorum* is currently classified as Least Concern because it has a large range, with an estimated global Extent of Occurrence of 3,900,000 km² and a large global population estimated to be 58,000-77,000 individuals (Wetlands International 2002). Population trends had not previously been quantified but were not thought to approach thresholds for listing as Near-Threatened or under a Threatened category on the IUCN Red List. However, recent review of population data by Beilfuss *et al.* (2007) suggests that populations have declined over the past 20 years by between 48.6% and 61.5%. Extrapolation of these trends over a three generation trend period of 39 years (based upon a generation length of 12.9 years, BirdLife International unpublished data) equates to an overall population decline of 67-79% since 1969.

The threshold for listing a species as Endangered on the IUCN Red List based upon past declines under criterion A2 is a 50% decline over three generations. Even if declines began only after 1985 they have been sufficiently rapid (49-62%, therefore probably over 50%) to recommend listing the species as Endangered. Declines are attributed primarily to habitat loss and fragmentation, and illegal removal of individuals and eggs from the wild for food, traditional use, domestication and the international illegal trade market. Grey Crowned Cranes often move from wetlands into agricultural lands to forage, exposing them to the additional threats of poisoning and collisions and electrocutions with overhead power-lines. Therefore, there is no evidence to suggest that declines will not continue and hence the species also qualifies under criteria A4 (past and future declines) over the period 1985-2024. Comments on the timing of population declines are welcome as well as further information on current and past population sizes.

Ed: The Grey Crowned Crane is classified as Near-Threatened in Namibia at present. Of interest is the fact that on 9 April 2008 we spotted two individuals each on a nest during an aerial survey over Lake Oponono, north of Etosha National Park. As predicted by Simmons & Brown ("Birds to watch in Namibia: red, rare and endemic species", in press), this unusual event coincided with exceptionally good rains in the catchment of the Cuvelai system, which feeds into Etosha from the north. One individual was also spotted near Lake Oponono during the March 2009 survey (see page 1).



Lesser Flamingos at nests on Etosha Pan, 1971 (photo Hu Berry)

MASS BREEDING OF FLAMINGOS AND WHITE PELICANS ON THE ETOSHA PAN IN 1971

Dr Hu Berry, email ecoguide@iway.na

The Etosha Pan is recognized as a wetland of international importance. Flamingos have been recorded breeding there successfully eight times in the past 60 years. Very occasionally, such as during good rainfall years in the 1970s, mass breeding takes place. In 1971 not only flamingos bred in large numbers, but White Pelicans were recorded breeding on the Pan for the first time. I invite you to accompany me as we trace the remarkable sequence of events that led to the gathering of about one million flamingos and 6 000 White Pelicans on the Etosha Pan.

Part 1: The trek of the flamingos

(Published in "Flamingo" August 2007)

When reptiles shed their scales, replacing them with feathers about 200 million years ago, the forbearers of flamingos rose with *Archaeopteryx* and flew, phoenix-like from the morasses of the Triassic era. To survive in a pristine world of steamy swamps required evolving elongated legs to wade with and extended necks to feed on the rich nutrients that oozed from the bottom of tropical bogs. Their upside-down bills diverged from the typical shape of a bird's beak, enabling them to filter-feed most efficiently, very much like their nearest relatives, the ducks. Even the double-syllabled *honk-honk* of flamingos aligns them closely with geese. Imperceptibly, the huge paradises they inhabited shrank, transforming and reducing to isolated patches of soda lakes and saline pans where these specialists could still survive. Compounding their disadvantage in the modern world, Africa is dehydrating as an exploding human population, with its accompanying domestic stock, agriculture and boreholes deplete water reserves. There are very few places remaining where flamingos can reproduce successfully. One of them is Etosha Pan of nearly 5 000 square kilometres. These long-lived, long distance travelers have one more feather up their wing to stave off extinction – they are able to withstand years between breeding events, and then, when conditions are ideal, they are able to procreate explosively in mass events. At Etosha, seven such episodes have been recorded during the past 50 years, averaging one every seven years. To accomplish this potential, flamingos must achieve longevity. Research shows that barely half

of all eggs laid will result in a flying flamingo (and a breeding pair lays one egg only, possibly at seven year intervals). More mortality will follow when fledglings disperse to distant feeding grounds across Africa. Jackals, hyaenas, lions, eagles and humans all feed on flamingos. Consequently, it may take up to 50 years for a pair to replace themselves with fertile adults.

One of these episodic events took place on the Etosha Pan in 1971 when the right amount of rain fell at the right time, attracting more than a million flamingos from distant places in Africa. Within weeks the cracked, clay surface was transformed into a vast, saline, shallow lagoon surrounded by extensive, slushy mudflats that provided a daunting barrier for would-be predators. Bearing hues of the deepest pink, Lesser Flamingos dominated their counterparts, the Greater Flamingo in sheer numbers. The latter nevertheless possesses wing feathers of the deepest crimson that contrast sharply against its black primary flight feathers. Flamingos favour total isolation when they breed and so they choose to nest far into the Pan, out of sight, sound and scent of predators. Intricate ritualistic nuptial displays are essential to synchronize successful breeding. These begin before the flocks migrate to Etosha, at places like Walvis Bay lagoon. The trigger mechanism is when flamingos bunch tightly, necks raised, and begin snapping their heads sharply from side to side. As if under a hypnotic spell, the head-flagging progresses to a strutting march, culminating in a 'wing salute' as thousands of birds suddenly stop and extend their crimson and black wings in a spectacular blaze of colour. The scene is set and towards sunset they soar towards Etosha in long skeins of slender bodies. The dazzling effect of their colours prompted the author Lawrence Green to title his renowned book about the Namib coast *'On Wings of Fire'*.

Flying at night and using the stars for navigation, flocks arrive at Etosha, their instincts honed to breeding pitch. Moreover, upside-down beaks are perfectly shaped to scoop wet clay into crude, conical mounds to receive a single egg. One month later, at hatching, the most critical phase of a chick's life occurs. As it emerges, it cheeps repeatedly, inducing a reply from both parents. Without being aware of it, the chick and adults are establishing a vital linkage via 'voice imprinting' whereby they can recognize each other. In 1971 tens of thousands of these vocal links were created, and providently so. As the chicks became mobile, water surrounding their nests evaporated to expose wet, then drying, then cracked clay. The miracle began. Urged on by their parents, who began walking towards the receding waterline, the tiny chicks followed. They moved across the dehydrating Pan in 'kindergartens' thousands strong, guided by the parents who flew food from the distant feeding grounds to the marching chicks. Finding a specific chick among the multitudes would be impossible.....were it not for the magic of voice imprinting.

A feeding scene is nothing short of miraculous. Fresh from the feeding grounds, a parent bird lands at the edge of a milling mass of chirping chicks, walks into the thousands of downy young, all clamouring to be fed,

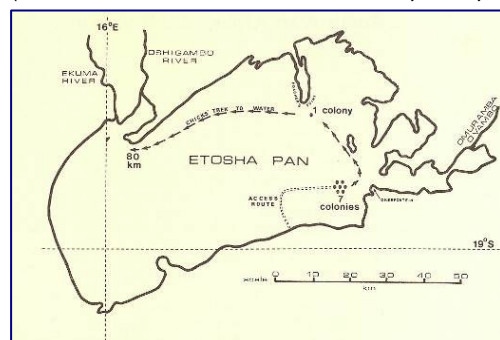


'Kindergarten' of thousands of Lesser Flamingo chicks with adults on Etosha Pan in 1971 (Hu Berry)

and begins honking. All flamingo chicks look alike and smell alike but, incredibly, don't sound alike (that is to say, to a parent flamingo). Soon, a specific chick, that chirped its emergence from the egg, and its parent link together, giving and receiving a rich regurgitation of the Pan's living soup. If this fantastic bond did not exist, only the biggest and strongest offspring would be fed, resulting in mass mortality of smaller chicks.

I watched these determined groups strutting tirelessly across the seemingly endless wastes of the Pan, attended by their parents who flew relays of many kilometres each time they searched for food. Many chicks accumulated wet clay that dried, forming hard, crusted balls on their tiny wings and legs. Weighed down by this lethal load, they soon lagged behind the others, eventually succumbing to vultures and eagles who accompanied the kindergartens as they moved like living carpets across the Pan. Eventually, after three weeks and a total distance of 80 kilometres, clusters of survivors reached the remaining water. About 25 000 of the 30 000 hatchlings completed this arduous trek to water. It may have been the first time that such a feat was witnessed by humans but, with hundreds of thousands of years of adaptation to aid them, we can only speculate on how many times flamingos and their flight-less chicks have trekked across Etosha Pan's expanses.

Ed: Good rains in 2008 resulted in a breeding event by about 50 000 Lesser Flamingos at Etosha in July, producing 10 000 chicks (see Namibia Crane News No. 38, Sept 08, p2).



Map of Etosha Pan, showing route followed by trekking flamingo chicks (Hu Berry)