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Group of 8 Blue Cranes at Salvadora on 16/4/09, including Marconi, the radio-tagged bird (see page 2; photo Wilferd Versfeld)

## UPDATE ON BLUE CRANE NUMBERS AT ETOSHA

Holger Kolberg, email holgerk@mweb.com.na

Our visit to Etosha over the Easter weekend (10-13/4/09) turned out to be a bumper one. Although our main reason for visiting was to show Claire the full pan, we also looked for cranes and other birds. On Saturday we drove to Namutoni looking for cranes all the way. At the Salvadora road junction we spotted our radio bird with her/his parents quite close to the road near the gravel pit. A quick check with the receiver confirmed that this indeed was “the” bird. At the Halali seep we saw two birds but could not see any rings because of the high grass (it was actually quite funny to see the park from the tourist perspective i.e. from our low little Golf rather than a high Landcruiser!). To the west of Doringdraai we spotted two more birds, probably the same two we saw two weeks ago. Then we did the Doringdraai and found our group of four at more or less the same place close to the edge of the pan where we had seen them two weeks ago. This made it eleven cranes for the morning and we weren’t done yet. We drove along the northern edge of Fischer’s Pan and had already turned around when Gudrun and Neil (who just happened to be there!) pointed out four more cranes to us. This is a pair with two smallish chicks, perhaps the one spotted from the aircraft during our survey. Satisfied that we had done our bit regarding cranes we took the scenic route back but the best was still to come! Later that afternoon at the Salvadora road junction we spotted a group of birds and to our delight it turned out to be ten Blue Cranes! Marconi (the radio bird) was amongst them so this made it either five or seven new birds (we couldn’t tell whether the Halali birds were amongst this group) and a total of twenty to twenty-two Blue Cranes for the day.

*Ed: See Table 1 (right) for synthesis of the crane counts at Etosha on 23-27/3/09 and 10-13/4/09.*

Table 1: Synthesis of recent Blue Crane counts at Etosha

Site	23-27 Mar 09	10-13 Apr 09	Overall total	Notes
Salvadora	2 ad + 1 juv	2 ad + 1 juv	2 ad + 1 juv	Ringed NHM, radio 151.130 (24/3/09)
Halali seep	2 ad	2	2 ad	Already ringed (NHD 2006)
Salvadora road junction		10 (including radio tagged bird) - 5-7 new birds	5-7 new birds	Includes Salvadora group (2 ad + 1 juv); & possibly Halali group (2 ad)?
Springbokfontein			2 ad (+ 2 ch that did not make it?)	2 ad + 2 ch (Feb)
Twee Palms	2 ad			
Doringdraai W		2 ad		
Doringdraai/Chudop Triangle	2 ad + 2 juv	2 ad + 2 juv	2 ad + 2 juv	Ringed NHN & NHO (26/3/09)
Twee Palms	1-2 ad + 1 juv		2 ad + 2 juv	
Fischer’s Pan N		2 ad + 2 juv		Juvs smallish
Stinkwater W	2 ad + 1 juv		2 ad + 1 juv	
<b>Total</b>	<b>11-12 + 5</b>	<b>15-17 + 5</b>	<b>17-19 + 6(+2ch)</b>	
	<b>16-17</b>	<b>20-22</b>	<b>23-25 (+2ch)</b>	

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An unusual photograph of three (of a group of five) Blue Cranes in the rain (behind springbok) a few km east of Adamax on **10/2/07** (photo Royi Zidon)



On **4/5/09** I came across these two Blue Cranes on the main road across Salvadora in Etosha - the right one had a green ring on the right leg (photo Hartmut Kolb, tour guide; ringed bird is possibly NHD, ringed Apr 06 – W. Versfeld)

## MORE BLUE CRANE SIGHTINGS

**Linda Millington**, email millington@gmail.com  
 Jeff and I saw three adult Blue Cranes on Monday, **13/4/09** at 9:50 AM along the main road in Etosha about 2 kilometers east of the turnoff for Salvadora. The cranes were striding alongside a herd of springbok who were giving them some attitude!

**Wilferd Versfeld**, email versfeld@mweb.com.na  
 I was out at Halali on **16/4/09** and at Salvadora there were 8 Cranes. Our radio bird NHD is flying well, cannot see transmitter on back only antennae sticking out with tail feathers. In the group of 5 were two rings, NBN and NHF. Also in this group was a juvenile the same size as radio bird NHD. So they must have bred somewhere. Also the two were back at the Seepage, NHD and his mate. The Salvadora three were much relaxed with the others and I could drive to the gravel pit, see photo (page 1).

**Vernon Swanepoel**, email frantic.naturalist@gmail.com  
**19/4/09**: I am in Etosha and just wanted to let you know that I saw a total of six Blue Crane today. We saw two adults at Two Palms and two adults and two young on the other side of Fisher's Pan. I saw no tags or anything but we were far from the second group. We also saw one good sighting of a Woolly-necked Stork which I don't remember seeing in the park before.

**Peter & Andrew Cunningham**  
 Peter: Senior Ecologist, King Khalid Wildlife Research Centre, Thumamah, PO Box 61681 Riyadh 11575, Kingdom of Saudi Arabia  
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Saw 5 Blue Cranes at Koinachas area on **3/5/09** @ 14h30 foraging in vegetated wet pan area, but unfortunately 500m or so from the road and thus I could not ID rings/tags, etc. Coordinates: 0701066E, 7920386N (UTM). None in the Andoni area or north of king Nehale Gate area though. On holiday in Namibia for a few weeks and in Etosha with family & brother and his family, therefore the sightings.

## CRANE ECOLOGY

### Pertinent facts about Blue Cranes (Roberts VII)

- Sexually mature at 3-5 years (our first ringed bird to take up a mate, NHD at Halali seep hatched out in 2006 i.e. 3 years old)
- Age at first breeding (in captivity): males 5-8 years, females 4-7 years
- Incubation 29-30 days
- Fledges at about 12 weeks
- Simultaneous moult of primaries (tertials replaced sequentially), probably biennial not annual; flightless period about one month, February in Western Cape and January in captive birds.  
*Ed: do we have any evidence of moult at Etosha? Possibly among Andoni groups, or at Oponono?*

### Why cranes sometimes flee and don't fly Bradley Gibbons, email bradleyg@ewt.org.za

Moulting blue cranes are not often seen in the Karoo, but this year people have been privileged to see some 'runners'. "This term is used for these birds when they moult. Then they cannot fly for almost 30 days, and they behave strangely, running away with their wings held high when they perceive something as a threat – even if it is a long distance away," says blue crane expert, Bradley Gibbons. "The cranes immediately start to run when they spot an unfamiliar thing and this strange behaviour worries many people who fear the birds are injured, or have eaten something might be poisonous. Moulting cranes are often accompanied by other cranes that can fly and this is possibly for safety." Cranes tend to stay in groups of varying in numbers when they moult also mainly as a safety measure. This year there was a group of 16 cranes near New-Bethesda and another of seven near Richmond. Cranes usually moult in February and March, following good rains. This indicates that there is still enough food for them. "Cranes are not able to travel far when they moult and cannot fly so, they settle in veld that is in good condition mostly with a dam for water and a good place to roost at night,"

says Bradley. "The grey crowned crane, one of the two other species found in South Africa, can fly while moulting – which doesn't really make sense, as they have lovely wetlands in which to hide. The wattled crane, like the blue crane cannot fly while moulting."

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## Further comments on cranes and water

**Carl Mitchell** Wildlife Biologist, U.S. Fish and Wildlife Service, Southeast Idaho Refuge Complex, Wayan, Idaho 83285 USA, email Carl\_Mitchell@fws.gov

**CM 6/4/09:** Regarding the observation on p4 (newsletter No. 41) that Blue Cranes associate with herbivores, in addition to the preference for short grass and predator protection that was mentioned, several biologists working on Greater Sandhill Cranes (*Grus canadensis tabida*) over the long term here in the western US have suggested cranes find additional food resources (beetles, grubs, worms, fly larvae, etc.) on cattle dung. Indeed, I have found a rich invertebrate fauna associated with cattle faeces here. A number of fecal samples await quantification. Presumably both fresh and old ungulate dung would provide a rich and diverse source of invertebrate prey for Blue Cranes as well.

Ed: This point has been raised before, e.g. in the report "Etosha blues - cranes hang on in Namibia" by Rob Simmons (Africa Birds & Birding Sept 06, p51; see [www.nnf.org.na/cranes.htm](http://www.nnf.org.na/cranes.htm) under Products). One thing is puzzling though. When we visited the Lake Oponono area north of Etosha, which the Blue Cranes use at certain times of the year (during the dry season), we checked under the many cattle dung pats there and found - only one small beetle. So this may not be a source of food throughout the year, but possibly only during bottle-neck times, when other sources of food are not readily available. We still need to check more thoroughly at Etosha - not always easy with all the predators around!

**CM 27/4/09:** I find it quite interesting how similar some aspects of crane ecology is, wherever one is. I'm not familiar with the Etosha area (I haven't made it there yet!) but I suspect that the invertebrate community is quite different to what we have here in our relatively mesic, montane wetlands. We find flies, fly larvae, various worms and beetles, and sometimes in great abundance. Although, as you found, sometimes not. With all the larger predators you have in your environs, I suspect there are myriad reasons for Blue Cranes to associate with large herbivores. Flushing insects and small reptiles, etc., insects attracted to dung, early warning of predators, screening from predators, and so on. Do you happen to know if Blue Cranes associate more with cattle or buffalo, or larger bodied, more abundant herds of wild ungulates, or if they prefer smaller groups or smaller animals? The associations and crane behavior would be very

interesting to look at. We seem to have a lot of predation on eggs and colts (chicks) but not too much on adult cranes. Of course, the largest predator occurring in our crane habitat is the coyote, a slightly larger than jackal-sized canid.

**CM 28/4/09:** Thanks for the photo. It looks like some places in Idaho! Although we are at about 2150 m, and, at least this time of the year at least, quite wet. We have only Greater Sandhill Cranes here. For many years this was the site of the first cross-fostering Whooping Crane (*Grus americana*) experiment, but it eventually failed. Gray's Lake and its immediate vicinity supposedly has the largest nesting concentration of Greater Sandhills anywhere. We normally have 250-300 nesting pairs on about 15,000 ha or so.

I think the association of cranes with ungulates deserves more attention. I have some hopes of doing that here someday. Unfortunately, other duties currently prevent any real quantitative behavioral work. But I do think Sandhill Cranes at Gray's Lake can benefit from domestic livestock because of habitat alteration (grazing shortening grasses for better visibility), and dung pats as sources of invertebrates. Of course, young steers will also "mob" crane colts, simply out of curiosity, and trample them. And cranes do collide with fences needed for cattle management here.



Here are a couple of photos. The first is about what it looks like here right now (top). We had a lot of snow this winter and it has been a cold, late spring. The second (below) is just a good photo of Sandhill Cranes (*photos Carl Mitchell*)

## Rainfall in arid zones: possible effects of climate change on the population ecology of blue cranes

Res Altwegg & Mark D. Anderson

*Functional Ecology* 2009 doi: 10.1111/j.1365-2435.2009.01563.x Blackwell Publishing Ltd  
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### Summary

1. Understanding the demographic mechanisms through which climate affects population dynamics is critical for predicting climate change impacts on biodiversity. In arid habitats, rainfall is the most important forcing climatic factor. Rainfall in arid zones is typically variable and unpredictable, and we therefore hypothesise that its seasonality and variability may be as important for the population ecology of arid zone animals as its total amount.
2. Here we examine the effect of these aspects of rainfall on reproduction and age specific survival of blue cranes (*Anthropoides paradiseus* Lichtenstein) in the semi-arid eastern Nama Karoo, South Africa. We then use our results to predict the effect of changes in rainfall at the population level.
3. Using combined capture-mark-resighting and dead-recovery models, we estimated average survival of cranes to be 0.53 in their first year, 0.73 in their second and third year, and 0.96 for older birds.
4. We distinguished between three seasons, based on the blue cranes' breeding phenology: early breeding season, late breeding season and nonbreeding season. Cranes survived better with increasing rainfall during the late but not early breeding season. Based on road counts and success of monitored nests, reproduction was positively associated with rainfall during the early but not late breeding season.
5. A matrix population model predicted that population growth rate would increase with increasing rainfall. A stochastic analysis showed that variation in early breeding season rainfall increased population growth slightly due to the nonlinear relationship between rainfall and reproduction. This effect was opposed by the effect of variation in late breeding season rainfall on survival and overall, variation in rainfall had a negligible effect on population growth.
6. Our results allow predictions to be made for a range of climate-change scenarios. For example, a shift in seasonality with drier springs but wetter summers would likely decrease reproduction but increase survival, with little overall effect on population growth.

**Key-words:** capture-mark-recapture, climate forcing, environmental stochasticity, Leslie matrix, ring recovery

## GENERAL CRANE/WETLAND BIRD NEWS

### Poster series on Namibia's threatened bird species

A new set of three posters on Namibia's threatened bird species features the attractive artwork of well-known local artist Christine Marais. The series focuses on 60



species of cranes/inland wetland birds, raptors and coastal/marine birds that are currently Red-Listed according to Simmons R.E. & Brown C.J. 2006 (Birds to watch in Namibia: Red, Rare and Endemic Species. Unpublished report, National Biodiversity Programme, Windhoek). The poster series is funded by the GEF Small Grants Programme and the NACOMA Project. Please contact us at email [ecoserve@iway.na](mailto:ecoserve@iway.na) for details of where you may collect your copies of these posters – unfortunately too heavy to send by post!

### The Namibian Biodiversity Database

(NaBiD; [www.biodiversity.org.na](http://www.biodiversity.org.na))

Dr John Irish, Gobabeb Training and Research Centre - EON Co-ordinator <http://www.gobabebtrc.org>, email [jirish@mweb.com.na](mailto:jirish@mweb.com.na)  
& Alice Jarvis, email [tr\\_aj@mweb.com.na](mailto:tr_aj@mweb.com.na)

The Namibian Biodiversity Database currently houses 209 000 distribution records for 17 000 Namibian plant and animal species from terrestrial, aquatic and marine habitats. Various sources of information are used, including existing atlases and other databases, the literature, museum specimens and unpublished records. The database includes bird atlas data (quarter degree grids); and raptor road count data (1 km resolution). The resulting database holds a huge amount of data and allows the easy extraction of information. The website represents the first steps towards putting Namibia's bird data into the public domain. The initiative was funded by the Namibia Environmental Fund through DANIDA. Of particular interest is the web version of the Namibian Bird Atlas: <http://www.biodiversity.org.na/birds/birdhome.php>. Here you can see distribution maps for individual species, or generate bird lists for a particular QDS or protected area. Other parts of the site present wetland bird counts, raptor road counts, nest records or museum specimen data (this represents the *status quo* as it was when the Avifaunal Atlas was produced in ca. 2000). Your feedback on the website, comments and suggestions are welcome! (Please contact Alice for the Bird Atlas and other associated bird pages; and John for the rest of the site.)

### An investigation of wetland birds using reeds alongside the Okavango River and the impact of reed harvesting on those birds

Josua Ndeliimona, Polytechnic intern in Rundu, email [s200641573@students.polytechnic.edu.na](mailto:s200641573@students.polytechnic.edu.na)



Here is a short report on a project funded by the GEF Small Grants Programme, through the Namibia Crane Working Group and supervised by Shirley Bethune. The research will be done by the end of May and the final report will be submitted by early July 2009. The project has

the following objectives:

1. At each site, map the distribution of endemic, rare, and endangered bird species as given in the list provided by NBCWG, and birds of common interest to be given by the Kavango Bird Club tour guides.
2. Map the distribution of reeds at selected sites, and choose one reedbed at each site for further study.
3. Investigate which species of the wetland birds use the reeds or reedbeds for breeding, perching, hunting, sheltering, and feeding, at regular intervals over the period of three months.
4. Investigate impact of reed harvesting on those birds.

The following outcomes are expected:

1. An annotated list of birds that depend on reeds for breeding, perching, hunting, sheltering and feeding.
2. A distribution map for a list of birds given under the categories in Appendix 1 and for the selected sites.
3. Information on where, when and how reeds are harvested, by whom and their impact on birds.
4. More reed harvesting is expected to be found in the villages than in protected or semi-protected areas.
5. Recommendations on how best to reduce habitat destruction and hopefully possible solutions will be provided.

## News from Bushmanland

**Dries Alberts**, MET Tsumkwe

17/4/09: The water in Nyae Nyae Pans has finally gone and the cranes have left. We had a lot of Wattled Cranes – mostly 60-70, one group of 42; but no Blue Cranes.

## White Stork sightings

**Marion Klingelhoefter**, email [namtours@iafrica.com.na](mailto:namtours@iafrica.com.na)

On 1/1/09 we counted 14 White Storks 15 km inside Botswana, after the Ngoma border post, in the area bordering on Chobe. They were right next to the road.

## New ICF/EWT Partnership for African Cranes

**Debbie Thiart**, Grus Grapevine March 2009

Website: [www.ewt.org.za](http://www.ewt.org.za) email: [crane@ewt.org.za](mailto:crane@ewt.org.za),  
blog : <http://cranemania.wildlifedirect.org>

From 1 March 2009, the Endangered Wildlife Trust's (EWT) South African Crane Working Group (SACWG) and the International Crane Foundation (ICF) / EWT Partnership's African Cranes, Wetlands and Communities (ACWAC) amalgamated under the "ICF/EWT Partnership for African Cranes". The new structure offers increased opportunities for networking, shared learning and, in general, greater efficiency and involvement in all projects that we support across Africa.

The group will be managed by Kerryn Morrison, assisted by Debbie Thiart and Cynthia Chigangaidze. Osiman Mabhachi will coordinate and support the community based projects that are assisted in Africa. A full-time GIS and Database coordinator position is planned, to assist with projects across Africa. The SA projects based locally in key crane regions will continue in a similar way to now, except with an exciting new strategy in place for each. These projects will operate under the EWT banner in South Africa.

For further details please contact Kerryn on [Kerrynm@ewt.org.za](mailto:Kerrynm@ewt.org.za) or 082 877 5126.

## WHITE PELICAN BREEDING AT HARDAP DAM, FEBRUARY 2009

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Pelican breeding at Hardap Dam, February 2009  
(photo Holger Kolberg)

Early in February 2009 I had the opportunity to check up on pelican breeding activity at Hardap. There are three islands now because the dam is currently quite low (50%) – the "regular" bird island, then a smaller, rocky one to the dam wall side of that and then a sandbank on the other side of bird island. On the small rocky island about 20 pairs were breeding (we didn't go onto this island). On the main island I guesstimated about 200 nests. There were a few ( $\pm 15$ ) small black chicks, the rest all eggs that were just busy hatching so we left the island very quickly but managed to find five colour rings and three metal ones. On the sandbank there are probably another 150 nests, all with eggs still. The problem with this island is that if the water level rises about 50cm then the nests will be flooded, if the water drops much further there will be a shallow connection to the mainland and jackals will have access. So this colony is basically doomed one way or the other. My total pelican count for the dam was 736 plus 9 Pink-backed Pelicans although I'm sure some of the pelicans that I counted as immature White Pelicans may in fact have been Pink-backed ones.

## PELICAN AIRLIFT

**Dr Hu Berry**, email [ecoguide@iway.na](mailto:ecoguide@iway.na)

(Published in *Flamingo* February 2007; see *Namibia Crane News* No 41, March 2009 p5-6 for Part I of this report)

It was 1971 and the Great White Pelican was determined to breed. Propitious rains fell across many parts of the country, changing the face of Etosha Pan from a desiccated, saline desert into a vast, ephemeral but shallow lagoon. To its north, deluges on the Angolan highlands brought to torrents of water, reverently referred to by the Owambos as *efundja* (meaning flood), coursing through the maze of *oshanas*. These transient water courses converge on Lake Oponono, overflowing into the Ekuma River, which in turn drains into the great Pan. Initially targeting Oponono, about 3 000 pelicans began nesting on islands in June, and before long their eggs dotted the sandbanks. The local fisher folk soon discovered and harvested this rich source of protein, causing the pelicans to abandon their nests. The urge to reproduce remained unsatisfied, sending the pelicans

southwards, towards Etosha Pan. On its southern shore they located a tiny island near Okerfontein waterhole. Commencing their second breeding attempt there in July, hundreds of birds crowded the small island, but it was not long before predators and scavengers were attracted by the promise of abundant food. As the Pan dried, they made their way through the porridgy clay slush, creating havoc among the nesters. For the second time the pelicans watched as their egg clutches were devastated.

The third attempt was at a most unlikely place. Jutting 15 kilometres into the northern section of the Pan, Poacher's Point rises steeply above the surrounding bare expanse. It previously afforded poachers an ideal vantage point to look for game. Flamingos nested on the Pan, a few kilometres from its tip, but abandoned the site as the water dried. This is where the desperate pelicans were drawn to, possibly because of the vacated flamingo nests present. From the elevation of Poacher's Point, using a powerful telescope, I watched in amazement as the pelicans descended on the old flamingo nests. By September there were an estimated 2 500 pairs and thousands of charcoal-coloured chicks were evident. Moreover, the water had evaporated and the colony was stranded on an inhospitable, dry pan. Where were the adults finding their fish? Setting up camp, I watched the scene from a respectful distance, because pelicans are notorious for abandoning their brood if they sense that intruders are threatening them. The last chill of winter was still in the October air as the Sun's rays illuminated the incredible scene before me. Out on the glimmering, bleak surface the pelican colony created a circle of thousands of white and black specks as adult birds mingled with their brood. I could not see any sign of water remaining on the distant horizon. As the day warmed, heat waves began to shimmer, making the colony appear to drift above the surface.

Then, a synchronized movement of the adult birds began. Flights of up to 100 birds took off, flapping heavily in the heat as they struggled to become airborne. Flying in long skeins towards Poacher's Point, they resembled big, overloaded aeroplanes. But when they reached the mainland, a magical transformation took place. They encountered rising thermals and suddenly were lifted upwards in a living spiral. Their earlier exertion ceased and the laboured wing-beats were replaced by effortless gliding as they soared into the sky, forming a wheeling vortex of great, white bodies. Following the thermals, the pelicans soon became white dots in the heavens and then disappeared from view. I was uncertain as to which direction they took, but later that afternoon, scanning the sky with binoculars, I sighted pelicans returning from the north. This time they did not spiral down but were set on a straight, raking glide. Although grossly distorted by the heat waves, I could nevertheless see that they were mobbed by chicks when they landed. Obviously they had brought fish back to the ravenous young, but from where? Using a shortwave radio, I contacted Okaukuejo, requesting a spotter plane to be made available. Early the next day we ascended from the rest camp's airfield and headed to Poacher's Point, landing on the Pan and a good distance from the colony. At virtually the same time of day as previously, the thermal-seeking flights began. We were ready and when the pelicans located lifting thermals we taxied and took off, flying in wide circles around their



Top: Male (background) & female (foreground)  
White Pelicans in breeding plumage  
Below: White Pelicans at nests on Walvis Bay guano platform (photos Hu Berry)

ascending spiral. Approaching 10 000 feet the birds peeled off and set sail, as it were, in a north-westerly direction. We throttled back and followed the flocks, looping around them. Lake Oponono came into view, exactly to where the flight was heading. They settled on the water, joining hundreds of others, which were feeding on the abundance of fish trapped in the shallows. Back at base, we pored over a map. The minimum straight line distance from the breeding colony on the Pan to the lake was 100 kilometres. Consequently, the return trip made by the adults totaled 200 kilometres or more each time they wanted food, which was probably at least every second day. Apart from feeding themselves, the adults were also meeting the voracious appetites of rapidly-growing young.

I resorted to a calculator. The logistics of the pelican's airlift of fish are awesome. It is well established that an adult requires 10% of its body mass in fish daily. Adult pelicans weigh, on average, 10 kilograms and a chick increases up to this weight and even higher before it can fledge. In the process, a pair of adults and their two chicks need about 420 kg of fish. When this is extrapolated by the 2 500 breeding pairs and 5 000 chicks that were present, allowing for the high, but natural mortality of 50% of chicks that perished, the total amount of fish eaten is astounding. During the four months occupying the breeding cycle, from nest-building and egg-laying to fledging, the Etosha pelican colony consumed approximately 1 000 tonnes of fish, air-freighting much of this over a distance of 100 kilometres! This epic event has not since happened on the Etosha Pan in the past 35 years.