

A VISION IN PINK

LESSER FLAMINGO BREEDING SUCCESS

TEXT & PHOTOGRAPHS BY MARK D. ANDERSON



Who knew? It was simply a case of build it and they will come... Ornithologist **MARK D. ANDERSON** saw his vision of Lesser Flamingos breeding at Kamfers Dam, outside Kimberley, come to fruition in January this year, when the

birds multiplied in their thousands on a purpose-built island. This is only the sixth current breeding site for this species in the world and, as such, constitutes a spectacular success for all involved in this far-sighted conservation venture. ▶



Above The flamingos fly to different areas of the dam to feed on microscopic algae. They then return to the island, where they feed the chicks a liquid secretion from their upper digestive tract.

Previous spread A gathering of flamingos in breeding dress is a spectacular sight. The massive island can probably support more than 5 000 breeding pairs of Lesser Flamingos; the first few chicks are visible here.

With a population estimated to be about two million birds, one would consider the status of the Lesser Flamingo *Phoenicopterus minor* to be reasonably secure. However this is not the case and this flamingo is listed by the IUCN as 'Near Threatened', mainly because it has only a few breeding sites and breeding events are infrequent. These sites are also threatened by anthropogenic factors, such as river damming, soda-ash mining, low-flying aircraft and off-road vehicles.

Until recently, the Lesser Flamingo bred at only five localities across its global range: in Africa, south-west and southern Asia. So the species has its eggs in too few baskets, a situation which worries flamingo conservationists. In Africa, these sites are Etosha Pan in Namibia, Sua Pan in Botswana and Lake Natron in northern Tanzania.

Historically, Lesser Flamingos were recorded breeding at Aftout es Saheli in Mauritania in 1965, and further breeding there has been suspected in recent times. In 1962, when Lake Natron was

too flooded for the flamingos to nest, they bred successfully on Lake Magadi in Kenya. This event was documented by Leslie Brown and Alan Root, who ringed 8 000 chicks, one of which was recovered 40 years later and 6 197 kilometres away in Western Sahara. This provided what is still the only evidence for movement of the species between East and West Africa.

Lesser Flamingos were reported independently by both Victor van Someren and Richard Meinertzhagen to have bred successfully at Lake Nakuru in

Kenya in the early 1900s, but not subsequently.

Outside Africa, in India in 1974 they bred in the company of Greater Flamingos *P. ruber* at 'Flamingo City' in the Great Rann of Kutch, but they have not done so since. They currently breed at the Zinzuwadia and Purabcheria salt pans in north-western India.

Small groups, usually a few hundred at a time, have attempted to breed at a handful of other locations, and the assumption is that these are young birds building practice nests. Usually,



when the wetland's water level recedes, the nests and eggs are left high and dry and exposed to predators.

The Lesser Flamingo's preferred breeding habitat is a vast, isolated pan or lake that is inundated with only a few centimetres of water. Africa is, however, a dry continent and rainfall is infrequent, so consequently breeding events are not regular. Rob Simmons' research has shown that, at Etosha Pan, Lesser Flamingos attempt to breed every three years but do so successfully only once every nine years.

Africa's three breeding localities are threatened by various anthropogenic factors, particularly problems in their catchment areas. Lake Natron, by far the most important site, is now under the greatest pressure from developers (see *Africa – Birds & Birding*, August/September 2007, page 16).

Lesser Flamingos in southern Africa are very mobile and Graham McCulloch has shown through satellite tracking that there are extensive movements across the subcontinent, with the birds moving between permanent wetlands at the coast and, when they are flooded, ephemeral wetlands in the interior (see *Africa – Birds & Birding*, June/July 2004, pages 14–15).

One of the Lesser Flamingos' favoured feeding places is Kamfers Dam, a permanent wetland located north of Kimberley, South Africa. Research has shown that this wetland has a very high concentration of algae, the favoured food of this filter-feeding bird. The algal assemblage is dominated by cyanobacteria (mainly *Spirulina* species) and diatoms (mainly *Cyclotella* species), and the total wet



Construction of the island eventually began in September 2006 and, in less than two weeks, Ekapa Mining moved more than 26 000 tonnes of calcrete, rock and clay, a huge engineering undertaking

algal biomass for the dam has been estimated at 750 000 kilograms.

We have undertaken monthly flamingo counts at the dam since the mid-1990s and these have shown that the population averages about 20 000 Lesser Flamingos. Occasionally, however, it exceeds 50 000 birds, which would constitute a significant proportion of the southern African population, estimated to number about 60 000 individuals.

Lesser Flamingos previously attempted to breed at Kamfers Dam, but without success. They built hundreds of nests and even laid a few eggs, but disturbance by people and dogs, plus a rapidly receding water level during early summer, are the probable reasons for the aborted breeding attempts.

Besides disturbance, the dam's flamingos are threatened by a rising water level, as almost all of the treated sewage water from the rapidly growing city of Kimberley is pumped into the dam. A massive housing development is planned for construction to the north-west of the dam, but it is still not certain to what extent this development will impact on the birds. Minor threats include a rapid expansion of *Phragmites* reedbeds, collisions with overhead powerlines in the Kamfers Dam area, and disturbance from low-flying aircraft. There is also concern about the

possibility of toxic materials entering the dam through the city's storm-water run-off system.

In December 2005, Peter Hohne, a director of Ekapa Mining, asked me about the status of Kamfers Dam's flamingos and what his company could do to contribute to their conservation. I mentioned my idea, which was first mooted in 1995, of constructing a flamingo breeding island on the dam in an area where there is little human disturbance. Peter liked the idea and three days later he presented my proposal to his board. It received unanimous support and the go-ahead to proceed with a massive project.



We then started with the planning phase, and submitted an Environmental Impact Assessment to the authorities. The landowners, Herbert and Brenda Booth, both of whom are committed conservationists, liked the idea and gave us their full support. Construction of the island eventually began in September 2006 and, in less than two weeks, Ekapa Mining moved more than 26 000 tonnes of calcrete, rock and clay, a huge engineering undertaking (see *Africa – Birds & Birding* April/May 2006, page 13, and December 2006/January 2007, page 19). A 200-metre causeway had to be built to access the site on which the island was being constructed and, as this only allowed one-way traffic, progress was slow.

The island is S-shaped, providing two sheltered bays for easy access by the flamingos, and the long axis faces into the wind, limiting wind and water erosion. It has four large ponds, fed with water from a submerged pump which is powered by three large solar panels, and these ponds provide the wet clay that the flamingos need to construct their nest turrets. To encourage breeding, we also constructed about 1 000 artificial turrets, much like building sandcastles, and Kimberley's boy scouts, girl guides and a large contingent of schoolchildren were called in to assist with the task.

For their massive and commendable undertaking in constructing the

Above A Lesser Flamingo takes a break from feeding. The birds spend many hours each day sifting microscopic algae from the dam's water through their finely constructed bills.

Opposite The flamingos on the island are clearly visible from the air, even from 30 000 feet on commercial flights between Johannesburg and Cape Town. The large S-shaped island has its long axis facing north, which limits the area exposed to wind and wave erosion. The two sheltered bays allow easy access for the flamingos onto and off the island.



Above This chick swam across to the mainland, doubtless unaware of the dangers of mammalian predators and the resident pair of African Fish-Eagles.

Above, right Although it was extremely difficult to count them, by mid-February it was estimated that there were about 3 000 Lesser Flamingo chicks on the island.

island, Ekapa Mining was the recent recipient of a prestigious Nedbank Capital Green Mining Award.

Two days after the island construction was completed, I departed for Kenya and Tanzania to attend an international Lesser Flamingo conservation action-plan workshop and to visit the Masai Mara and Ngorongoro. I was kept up to date, via SMS and e-mail, of developments at the island. There were reports of the first duck, the first flamingo, and then the joyous news that 17 flamingos had been counted.

Then, three weeks later when I returned to Kimberley, there were some 10 000 Lesser Flamingos roosting on the island... I was relieved that they had accepted the site and thought that, even if they never bred on this artificial structure, they would at least have a safe place to roost.

The flamingos continued to use the island, but there was no sign of successful breeding. Early in 2007, when the birds were temporarily absent, we boated across to do an inspection and to repair the island's ponds. We were pleased to see that the flamingos had constructed 160 nest turrets and laid two eggs, although both were added.

During the winter months of 2007, the flamingos stopped using the island and we grew increasingly disheartened. Had our project been a waste of time and resources? Come September 2007, however, our pessimism was allayed as the Lesser Flamingos returned, in very large numbers, perhaps as many as 20 000 birds. By mid-December we counted dozens, perhaps hundreds, sitting on nests, but there was no confirmation of definite breeding. We then departed for the coast for our annual summer holiday and the Lesser Flamingos at Kamfers Dam were left to their own devices, with no one in Kimberley checking on breeding activities. Needless to say, shortly after returning to Kimberley on



2 January 2008, my wife Tania and I made a beeline for Kamfers Dam.

Greeting us were six Lesser Flamingo chicks and hundreds, perhaps thousands, of adults sitting on nests. We sat in awe, marvelling at the magnificent sight in front of us, and I had to repeatedly remind myself that I was not dreaming. It was eventually too dark to see the birds and in high spirits we made a happy retreat to Kimberley. The good news was conveyed to all the project participants and we celebrated late into the night.

This was now the fourth breeding locality for Lesser Flamingos in Africa, the sixth in the world, and only the first time that Lesser Flamingos had bred in South Africa. We had achieved what many considered to be impossible, and credit was due to all the participants, especially Ekapa Mining.

During subsequent weeks I visited the island on an almost daily basis, to check on progress, make extensive notes to document my observations, and count the Lesser Flamingo chicks. Following the announcement of the breeding event, a media frenzy erupted and it was perhaps only then that the significance of the event struck home.

This breeding episode has opened the door for wonderful opportunities at

Kamfers Dam. If the birds breed annually, they will pump Lesser Flamingos into the declining population, hopefully reversing current negative trends. It also offers a unique opportunity to conduct scientific studies of Lesser Flamingos: as breeding usually takes place at massive, inaccessible pans and lakes, observations are virtually impossible, and little is known about the breeding biology of these threatened birds.

Flamingo-watching is an important ecotourism activity in East Africa, but the Rift Valley's lakes are not easily accessible. In contrast, outside Kimberley, in the centre of South Africa, we have a large, permanent and now breeding population of Lesser Flamingos. The tourism potential of this wetland gem is waiting to be harnessed.

With sponsorship from Nedbank and hosted by Africam, we will be installing two webcams on the island in mid-2008. These state-of-the-art (PTZ, live-streaming, audio and infra-red) pieces of equipment will enable interested observers around the world to watch the antics of flamingo chicks, and allow us to spread the word about flamingo conservation and the need to protect this beautiful bird. □

For regular updates, information and images of the breeding event on the island, visit www.andersonafrica.co.za

This was now the fourth breeding locality for Lesser Flamingos in Africa, the sixth in the world, and only the first time that Lesser Flamingos had bred in South Africa. We had achieved what many considered to be impossible

ACKNOWLEDGEMENTS

The author acknowledges the following people and organisations who have contributed to the success of this project: Peter Hohne and Jahn Hohne (Ekapa Mining), Herbert and Brenda Booth, Peter Roux (Envirosec), Tania Anderson (McGregor Museum), Julius Koen (Flamingo Environmental Trust), Brooks Childress (Chairman: IUCN-SSC/Wetlands International Flamingo Specialist Group), Rob Simmons (University of Cape Town), Wildlife & Environment Society (Northern Cape Region) and the Department of Tourism, Environment & Conservation.