

KIMBERLEY'S PINK GEMS: AFRICA'S FOURTH BREEDING SITE FOR LESSER FLAMINGOS

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ABSTRACT

The recent successful breeding of ca 4500 pairs of Lesser Flamingos, *Phoenicopterus minor*, at Kamfers Dam, Kimberley, South Africa, is an important event in the conservation of this globally 'near-threatened' species. It has only a few breeding sites and these are threatened by various anthropogenic factors and breeding events are infrequent. The population is consequently declining.

The Lesser Flamingo breeds at only six localities across its global range in Africa and South Asia. In Africa these sites are Etosha Pan (Namibia), Sua Pan (Botswana), Lake Natron (Tanzania) and now Kamfers Dam (South Africa). Breeding at other wetlands in Africa has either not been properly document or only suspected and these include Aftout es Saheli (Mauritania) and Lake Magadi and Lake Nakuru (Kenya).

This presentation documents the precarious conservation status of the Lesser Flamingo in Africa, and the successful establishment of a sixth breeding locality for the species at Kamfers Dam, Kimberley.

Keywords: *Lesser Flamingo, Kamfers Dam, Kimberley, artificial breeding site, conservation success story*

PAPER

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 and so 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. Leslie Brown and Alan Root, who ringed 8000 chicks, one of which was recovered 40 years later and 6197 kilometres away in Western Sahara, documented this event. 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 1974 they bred in the company of Greater Flamingo, *P. ruber*, at 'Flamingo City' in the Great Rann of Kutch, India, 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 developers¹.

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 interior².

One of the Lesser Flamingos' favoured feeding places is Kamfers Dam (**Fig. 1**), 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 algal biomass for the dam has been estimated at 750000 kilograms. Monthly flamingo counts at the dam have been undertaken since the mid-1990s and these have shown that the population averages about 20000 Lesser Flamingos. Occasionally, however, it exceeds 50000 birds, which would constitute a significant proportion of the southern African population, estimated to number about 60000 individuals.



Fig. 1 Kamfers Dam (outside Kimberley), South Africa

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 northwest 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 the author about the status of Kamfers Dam's flamingos and what his company could do to contribute to their conservation. The author's idea, first mooted in 1995, of constructing a flamingo breeding island on the dam in an area where there is little human disturbance, was put forward. This proposal was presented to the Ekapa Mining board. It received unanimous support and the go-ahead was given to proceed with this massive project.

As part of the planning phase an Environmental Impact Assessment was submitted to the authorities. The landowners, Herbert and Brenda Booth, who are committed conservationists, liked the idea and gave their full support. Construction of the island eventually began in September 2006 and in less than two weeks, Ekapa Mining moved more than 26000 tonnes of calcrete, rock and clay, a huge engineering undertaking^{3,4}. 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 (**Fig. 2**), 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 that is powered by three large solar panels and these ponds provide the wet clay that the flamingos need to construct their nest turrets.



Fig. 2 The S-shaped island in Kamfers Dam

To encourage breeding about 1000 artificial turrets, much like building sandcastles, were constructed. 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 island, Ekapa Mining was the recent recipient of a prestigious Nedbank Capital Green Mining Award.

Two days after the island construction was completed, the author departed for Kenya and Tanzania to attend an international Lesser Flamingo conservation action-plan workshop and to visit the Masai Mara and Ngorongoro. Updated reports were received of developments at the island. These included reports of arrivals of the first duck, the first flamingo and then that 17 flamingos had been counted.

Three weeks later there were some 10000 Lesser Flamingos roosting on the island. It was a relief that they had accepted the site and 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, an inspection and repair to the island's ponds were undertaken. It was noted that the flamingos had constructed 160 nest turrets and laid two eggs, although both were addled.

During the winter months of 2007 the Lesser flamingos stopped using the island. However in September 2007, they returned in very large numbers, possibly as many as 20000 birds. By mid-December hundreds were sitting on nests but there was no confirmation of definite breeding.

During the author's absence from Kimberley and Kamfers Dam whilst on holiday, no check was made on the Lesser Flamingos' progress. However upon returning there were 6 Lesser Flamingo chicks and hundreds of adults sitting on nests!

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. What many considered to be impossible had been achieved.

During subsequent weeks daily checks and records were made of the Lesser Flamingos' progress and to do counts of the chicks.

If the Lesser Flamingos breed annually at Kamfers Dam this will alleviate their declining population and reverse current negative trends. It also offers an 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.

In addition, 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, is this 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, two webcams have been installed on the island. This state-of-the-art (PTZ, live-streaming, audio and infra-red) equipment will enable interested observers around the world to watch the antics of flamingo chicks and allow the word to be spread about flamingo conservation and the need to protect this beautiful bird.

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REFERENCES

1. Africa – Birds & Birding, August/September 2007, page 16.
2. Africa - Birds & Birding, June/July 2004, pages 14–15.
3. Africa – Birds & Birding April/May 2006, page 13.
4. Africa – Birds & Birding December 2006/January 2007, page 19.