

WATER AND BIODIVERSITY

Ensuring the future of Kamfers' flamingos

Phetole Peter Ramollo from the Northern Cape Department of Environment and Nature Conservation reports on government efforts to ensure the future of the Lesser Flamingo at Kamfers Dam, and ecotourism site in the Northern Cape.



All photographs courtesy Peter Ramollo

Kamfers Dam is one of only six known breeding sites for Lesser Flamingos in the world, and is the only one in South Africa. The pan extends across about 500 hectares, and is located 5 km north of Kimberley, in the Northern Cape. The pan also supports Greater Flamingos and other water birds.

Over the past 40 years Kamfers Dam has been changed from an ephemeral to a permanent pan due to the constant influx of effluent and stormwater. The Homevale Wastewater Treatment Plant pumps both treated and untreated sewage water into Kamfers Dam. Together with other effluent and stormwater released into Kamfers Dam by Sol Plaatje Municipality, a total of about 30 - 40 Ml flows into the pan daily.

The permanently inundated pan provides a suitable saline

environment that promotes the growth of spirulina, a major food source of flamingos. This endorheic pan accordingly provides (geographically and ecologically) a suitable habitat for flamingos and other water birds, while also playing a role in nutrient cycling. Conversely, when too much poorly treated or untreated sewage is pumped into the system it can increase the risk of disease outbreaks like avian botulism, putting the flamingos and other water birds' lives at risk.

In 2006, a breeding island and nests were built with clay to stimulate flamingo breeding. After the creation of this artificial island, an estimated 24 000 Lesser Flamingo and 100 Greater Flamingo chicks hatched on the island between 2007 and 2011. Sadly, due to the unregulated influx of stormwater and sewage effluent the island was flooded in over the 2010/11

period, and some of the chicks drowned. The flooding event was followed by an extremely dry and warm period, together with the breakdown of sewage water-supply pipelines from the Gogga Pump station, which left the pan dry by September 2016. Flamingos and other water birds abandoned the pan, leaving only catfish skeletons visible in the pan.

“With the development of suitable bird viewing infrastructure at Kamfers Dam it can become an even more popular birding locality, attracting more eco-tourists and bird photographers.”

During January 2017 rainfall brought some relief, and the former pan residents started to return in numbers. At the same time, the municipality secured funds to fix some of the broken pipelines. This enabled the release of treated sewage water into the pan again. By the end of October 2017, the flamingo population reached an estimated ten thousand. This time the birds not only built nesting (turrets) sites, they also successfully bred along the south-western edges of the pan, not on the island! It was not the first time they were building nests along the water edges, but it was the first time the birds successfully bred there. This was the first breeding event not facilitated by human intervention, something the provincial Department of Environment and Conservation were hoping for. While the reasons for the sudden successful breeding is uncertain at this stage, it is still valuable

towards the conservation of the species, and is a historic event for South Africa and, specifically, the Northern Cape.

With the development of suitable bird viewing infrastructure at Kamfers Dam it can become an even more popular birding locality, attracting more eco-tourists and bird photographers. Former unsuccessful breeding attempts were ascribed to disturbances caused by stray dogs, photographers and other people walking too close to the nesting areas. It is accordingly inferred that the biggest threats to the flamingos at Kamfers Dam include water quality (and associated changes in algae composition), water quantity (volume released into the pan system) and human-related disturbances.

Apart from the importance of Kamfers Dam in terms of species conservation (ecological value) the flamingos are also considered to be iconic, contributing towards ecotourism revenue (economic and cultural value. Many places in Kimberley derive their names from the flamingos, like the Flamingo Race Course and Flamingo Casino. The flamingo also features on the logos of the Sol Plaatje and Frances Baard District Municipalities. With people already coming from all over the country to view and enjoy the amazing congregation of flamingos at Kamfers Dam an economic opportunity presents itself. With the development of suitable bird viewing infrastructure at Kamfers Dam it can become an even more popular birding locality, attracting more eco-tourists and bird photographers.

Currently, the endorheic pan is not formally protected, and might be facing complete collapse if collaborative action and adaptive management is not implemented. The population of Kimberley continues to increase, which implies an increase



An abandoned chick.



Declining water levels are causing flamingo parents to abandon their nests.

in the volume of sewage water released into Kamfers Dam. It is feared that if the Homevale Wastewater Treatment Plant is not upgraded it would not be able to cope with the future volume of raw sewage potentially being released as untreated raw sewage into the pan.

Consequently, toxic algae blooms (toxin-producing cyanobacteria was first recorded in 2012 in Kamfers Dam) probably would result in large bird mortalities, as recorded in Kenya and Tanzania. If housing development is allowed on the periphery of the pan the presence of human activities and noises would disturb the flamingos and they will migrate as seen at Kamfers Dam and around McDougals bay. With the primary eco-tourism attraction gone the eco-tourism revenue will be lost for Kimberley.

On the one hand there are those who ask for Kamfers Dam to be proclaimed a nature reserve or to be managed under a stewardship programme. For them such action will ensure the protection of flamingos (and their breeding) while also boosting ecotourism and the local economy. Others argue that even though it is declared a conservancy as long as the poor water quality and high volumes of water are not addressed the problems will remain unsolved.

At the time of writing, some of the flamingos were still breeding and it was expected that they might breed until the end of

March depending on the water level. Once again, we are facing a situation where declining water levels are threatening the success of flamingo breeding, with several eggs and small chicks already been abandoned as the adults and juveniles follow the receding water edge. There are several abandoned turrets with eggs on the south-western side. With the receding water level, the flamingos continue building new nests towards the water edge while abandoning the outer nests, irrespective if they contain unhatched eggs and/or small chicks. The water level in the pan should be maintained at least until all the eggs have hatched and the chicks are mature enough to fly and feed on their own.

Discussions are underway between the Sol Plaatje Municipality, Department of Water and Sanitation, and the provincial Department of Environment and Nature Conservation to improve the responsive management of the water levels at Kamfers Dam to secure the successful completion of this historic breeding event. We hope that the estimated 10 000 to 15 000 chicks and juveniles in the crèche become fully fledged, being more mobile and able to search for other suitable habitats.