

Protocol for post-release monitoring of hand-reared Lesser Flamingos at Kamfers Dam, Kimberley

Version 1

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Background

Nearly 2000 Lesser Flamingo chicks and pipping eggs were rescued from Kamfers Dam outside Kimberley in January and February 2019 when nests were deemed to be abandoned due to receding water levels. These rescued chicks were sent to various rehabilitation facilities around South Africa and hand-reared being fed a specially mixed 'flamingo food' diet. Those individuals that survived were then returned to Kimberley just prior to fledging where they were colour-banded, weighed and measured prior to being put into a quarantine facility at the Kimberley SPCA facilities for two weeks. The first batch of birds arrived on 10 April. Over 600 birds have been repatriated to date with more birds expected. On May 8th, the first batch of 49 birds were metal-ringed, and final weights and wing lengths taken before being hand-released back into Kamfers Dam. Further batches will be released during May/early June 2019.

Purpose of the monitoring

In this final phase of this project, released birds need to be monitored to determine the survival, response behaviour and integration of the juveniles into the main flamingo flocks present at Kamfers Dam. Besides monitoring birds on-site, gathering information about any movements away from Kamfers Dam will also be critical in order to gauge the behavioural response of released birds.

Marking and tracking efforts

Colour- and metal-ringed birds

All released birds will carry a large yellow ring on the right tibia (upper leg) together with a metal ring on the left tibia (see image below). The yellow colour ring has a black four-digit numeric code which is read 'upwards' from the ankle ('knee') joint. The rings start at '0000' and currently end at '0600'. These colour band codes can be read relatively easily in the field at reasonable distances (< 400 m) with a 20-60X spotting scope. At these distances using binoculars observers will only be able to discern a yellow ring as the engraving will not be clear enough to read the number.

The metal rings will generally not be able to be read in the field unless the bird is closer than 50 m but this is unlikely as observers need to keep a safe distance from the flocks, which should not be closer than 200 m. However, the metal rings should be viewed as a long-term reference point while



the colour rings should be used to identify and re-sight individuals. Photo: D. M. Harebottle

Remote monitoring

In addition to the colour and metal banding above, twenty (20) birds will be fitted with GPS transmitters in order to track their movements in near real-time. The tracks will be displayed at <http://www.cfoo.co.za/flamingo/info.html> and all tracking data will be stored on at least 2 servers.

Monitors/Observers

The monitoring programme will require a coordinated approach making use of dedicated and committed volunteers in order to be effective. A group of local volunteers will be solicited (mainly from the Gariiep Bird Club) to take part in the monitoring of the released Lesser Flamingos at Kamfers Dam. A database will be created to curate observer contact information (email, cell phone number etc.) and a mailing list set up to communicate dates and other information to the volunteers.

In order to keep monitoring as regular as possible, a monitoring roster will be set up where observers will be allocated to time slots on specific days.

Recording of data

It is recommended that volunteers make use of BirdLasser (www.birdlasser.com), a free mobile application, to record information during monitoring sessions. The application uses GPS technology to mark the location of birds plus makes allowance to capture detailed information on other aspects of the species/individuals concerned, including count information, behaviour and ring number. The benefit of using BirdLasser is that an electronic file can be emailed to the coordinator allowing for easier integration and consolidation into the main monitoring database.

Hardcopy field data sheets will also be made available as a backup should there be problems with the application or battery life on cell phones.



Figure 1. Map of Kamfers Dam showing the different survey areas (green and yellow), survey routes (dark green and dark yellow lines), railway and power lines (red and blue lines) plus other relevant site information.

Data collection – On site

The planned procedure is for the monitors to divide into two groups and survey two halves of the dam simultaneously to streamline operations and minimise double-counting as much as possible. The one group will cover the western side while the other group will survey the eastern side. Surveys should start approximately 2 hours after sunrise and last for as long as it takes to cover the entire survey area.

During the surveys the following data will be collected:

1. Counts of ALL flamingos at the dam.

This includes counting all adult Lesser and Greater Flamingos and all released Lesser Flamingo juveniles. The released juveniles should be easy to separate from wild adult and juvenile birds based on the yellow colour-bands on their right legs and their darker (reddish-brown) plumage (refer to image above). The darker plumage should be prevalent for a couple of months.

2. Flock integration and behavioural information.

Observers should note if the released birds are separate from the main wild flock or are integrated with the adults and other wild juvenile birds. The general behaviour of the birds should be reported to gauge their activity post-release. This includes noting if birds are preening, roosting, feeding or walking or flying. Birds that do not look in a healthy state should be identified and reported to the coordinator as soon as possible.

3. Identifying colour-banded individuals.

Should the code on the yellow band be readable (using binoculars or a scope) then this MUST be recorded and the GPS coordinates taken for that individual. Birds closer to the shoreline should provide easier opportunities for reading the numeric code. Taking photos of colour banded birds, particularly with hi-end DSLR and telephoto lenses, will be extremely valuable as rings could then possibly be read later once images have been downloaded. GPS coordinates of all potential identifiable birds must be taken so that rings that are confirmed post-download can have GPS tags allocated to them.

NOTE: If individual codes on the colour-rings cannot be read (birds too far away, lack of a scope) then a count of all the yellow-banded juveniles will suffice (see point 1) as this will provide an idea of the proportion of surviving released juveniles compared to the total number of birds released.

These data will help answer questions such as: minimum no. of birds that have survived (if not all colour-banded birds can be accounted for), are the released juveniles using specific areas of the dam (perhaps linked to the behaviour of the main wild flocks) or are they more widespread around the dam?

4. Collection of injured or dead birds.

It will be important to look for dead and/or injured birds under the power/railway lines as these may pose a high risk to the inexperienced juvenile birds. These lines are located adjacent to the dam on the southern and eastern shorelines.

If an injured or dead bird is found, GPS coordinates must be taken where the bird is found, a photo taken and the specimen collected and bagged (refer to bagging procedures below). Injured and dead birds should be taken to the Kimberley SPCA rehabilitation centre as soon as possible after the monitoring session has ended.

Bagging Procedure:

- Use gloves.
- Place into double plastic bag. If no gloves are available, the plastic bag can be inverted to pick up the dead bird, and then the bag is pulled over the bird.
- Tie bag close.
- Submit bird to the SPCA and log it in the PM register (speak to SPCA if unsure how to do this).
- Carcasses will be stored in a freezer.
- Carcasses are to be sent to Dr Katja Koepfel at Onderstepoort.

Data collection – Off site

In all likelihood, some of the juvenile birds will leave Kamfers Dam after a period of time. This may occur together with some of the adults or even as solitary departures and may well be in response to two factors: (a) food availability and (b) the need to explore. Lesser Flamingos have been reported in the Free State and other localities including Mozambique and Botswana. There is a chance that some birds may even be found at some local farm dams as birds explore their surroundings.

Given that the birds may well be at risk after leaving Kamfers Dam (i.e. power lines/railway lines/health issues), it will be important to embark on a media wide awareness campaign in order to alert the public and farming community to these colour-banded flamingos and to report any re-sightings and injured and/or dead birds to the coordinator (doug.harebottle@spu.ac.za). The colour bands should hopefully make these birds more noticeable in the field and the public and birding community should be encouraged to report re-sightings of colour band numbers.

Data from the GPS tagged birds will be collected remotely using Druid units and data will be collected from GPS networks through Debut® data service.

GENERAL

Clothing and refreshments for on-site monitoring

It will be important for monitors to wear comfortable clothing (cotton is advised) as monitoring sessions could last numerous hours in the field. A hat and sunscreen should be regarded as mandatory. If monitoring starts early then warm clothing is advised. Gum boots are strongly recommended as entering muddy or shallow water may be necessary at times, especially when an injured or dead bird is located and needs to be collected.

Provision should be made for water any other refreshments for the duration of the monitoring session.

Health considerations

Since treated and often raw sewage enters Kamfers Dam via Homevale WWTW it is important to consider human health issues when conducting the monitoring. Water quality may be poor and precautions MUST be taken.

Latex gloves and face masks will be made available to use should any observer feel the need to make use of these. ***However, it is imperative that no dead or injured bird should be picked up without wearing latex gloves.***

Observers will be encouraged to use a hand sanitizer (liquid or wipes) to sterilise hands after the monitoring session (especially if dead birds are picked up), and before eating or drinking.