



**African Penguin Health Progress Workshop: Wednesday 07 July 2021
Note of Meeting**

(1) Objectives

1. To review previous workshops' plans and progress made in achieving their objectives.
2. To update stakeholders on current projects/grants.
3. To explore further priorities and research plans.

(2) Attendees:

Darrell Abernethy (DA)	Aberystwyth University
Raceme Ben Romdhane (RBR)	Freie Universität
Dorothy Breed (DB)	City of Cape Town
Anne Emmet (AE)	Hans Hoheisen Charitable Trust
Mark Jago (MJ)	University of Namibia
Alison Kock (AK)	SANParks
Cloverly Lawrence (CL)	SANParks
Takdeera Lewis (TL)	University of Pretoria
Katta Ludynia (KL)	SANCCOB
Newi Makhado (AM)	Department of Forestry, Fisheries and the Environment
Alexis Olds (AO)	Cape Nature
Nola Parsons (NP)	SANParks (Associate)
Leslie Petrik (LP)	University of Western Cape
David Gordon Roberts (DR)	SANCCOB
Laura Roberts (LR)	Western Cape Government/University of Pretoria
Andrea Schnetler (AS)	City of Cape Town
Albert Snyman (ASn)	SANCCOB
Ralph Vanstreels (RV)	Institute of Research and Rehabilitation of Marine Animals (IPRAM), Brazil
Stephen vd Spuy (SvdS)	SANCCOB
Lauren Waller (LW)	SANCCOB
David Zimmerman (DZ)	SANParks

(3) Programme: Please see Appendix

(4) Meeting Outline, Key Points, and Conclusions

Important: Please note that slides and images from the presentations linked to this report should not be used without the owner's permission.

- 4.1. KL provided an overview of the status of the African Penguin (AP). The species has declined from several millions in the early 1900s to 56 000 breeding pairs in 2001, 22 800 in 2010 (leading to the AP being declared “Endangered” by the IUCN) and to an estimated 10 000 by 2020 (likely to be regarded as “Critically Endangered”). Egg and guano collection were responsible for the decline historically, followed by over-fishing of AP prey (sardines and anchovies), and more recently, collapse of the latter and spatio-temporal mismatch of the fish and APs. KL and colleagues (2014) developed a systems dynamic model to evaluate population trends and factors; however, data on health-related factors was not available. Extensive disease research has been undertaken by Dr Nola Parsons, who also completed a risk assessment of threats facing colonies. KL concluded with the example of the recent HPAI epidemic that killed hundreds of APs and commented that such events have the potential to lead to global or regional extinction of the species. A copy of the presentation is [available here](#).
- 4.2. Professor Abolnik was not able to attend the workshop and LR presented an overview of the current avian influenza situation in South Africa on her behalf. Her presentation, which is available online, compared the movement of HPAI H5N8 in 2017 and H5N1 in 2021 southwards through Africa and its impact on the poultry and ostrich industries, as well as on local avifauna. In 2021, thirty-three poultry premises in South Africa have been affected, since the first in Gauteng on 11 April, while eleven were affected in the W Cape. HPAI has been detected in multiple wild bird species, including a variety of seabirds. A copy of the presentation is [available here](#).
- 4.3. DA described progress in AP health research since the first workshop was held in 2017. Priorities identified at that event have been developed into an AP health research platform, involving 14 institutions from five countries. A copy of the presentation is [available here](#).
- 4.4. LR presented an update on the projects that comprise her PhD:
- Beached animal app project: See 4.5(c) below.
 - HPAI survey of AP populations. LR explained the objectives, background, and design of the survey, and why the sampling strategy and size had to be altered. So far, 64 birds were sampled on Dassen Island (Jan/Feb 2021); 102 on Halifax Island (Mar 2021) and 50 on Bird Island (May 2021).
 - Vaccination trial. LR described the background to the project underway at SANCCOB and the experimental design. One group of vaccinates had to be excluded due to adverse effects arising from bacterial contamination of a vaccine batch. However, results from the remaining groups appear promising, with antibody levels showing marked increases after the booster and remaining protective until approximately 150 days post-vaccination.
 - Contingency plans: These were first considered at a workshop in October 2018 and arose from lessons learnt in the 2017-2018 epidemic. They will be further formalised to assist epidemiological investigations, enable communication networks and guide management decisions.



- A copy of LR's presentation is [available here](#).

4.5. Members of the MeerWissen Project presented the rationale for, and progress in development of their projects:

- Measure 1: Avian Flu Survey (LR): Please see 4.4 above.
- Measure 2: Toxicity: LP presented on progress in acquiring and testing 20 penguin carcasses for a range of toxic pollutants and in evaluating their effect on spermatogenesis. A copy of the presentation is [available here](#).
- Measure 3(a): Beached animal app. LR described the aim of the project (to develop a smartphone app that uses citizen science to monitor coastal animal mortality and morbidity) before presenting a range of apps currently in use and issues involved in the development of a proof-of-concept project. A copy of the presentation is [available here](#).
- Measure 3(b): Use of drones for monitoring colonies. DA presented the background to the drones project and conclusions arising from a workshop held on 06 July. A copy of the presentation is [available here](#).
- Measure 4: Mathematical modelling: RBR provided a rationale for the modelling project, why it is important and what it hopes to achieve. A copy of the presentation is [available here](#).
- Measure 5: TL presented on her MSc project, which will assess stakeholder views, from researchers and policy makers to fisherman and the general public, on African penguin issues. She requested participation in an online survey:

<https://aber.onlinesurveys.ac.uk/stakeholder-assessment--researchers>

A copy of TL's presentation is available here.

4.6. SvdS presented on the role of SANCCOB in seabird conservation and a perspective on the role of the research v rehabilitation for organisations such as SANCCOB. He emphasized the importance of rehabilitation (promoting animal welfare, conservation, ecosystem health, disease monitoring and surveillance, research, training and advocacy) and research (improving animal welfare and conservation, advocacy, fact checking, record keeping, record keeping according to research questions and post release monitoring) and argued the two roles are not antagonistic but complementary. He explained why some are wary of researchers and how such wariness could be overcome. He then provided data from SANCCOB showing its essential role in conserving seabirds, especially the African penguin, and the support provided by its research arm. A copy of the presentation is [available here](#).

4.7. Key points that arose during or from the discussion during the day included the following:

- There was widespread agreement with the research role of SANCCOB presented by SvdS, advising it gave SANCCOB credibility, assisted with advocacy and was greatly appreciated by stakeholders.

- ii. There was strong support for workshops with colony managers on contingency plans. This had been identified at the 2018 workshop and was a key element of the MW project as well as being a part of LR's PhD programme. The need to identify the needs of the managing authorities beforehand was stressed.
- iii. The importance of APs for tourism was discussed at some length as was their potential socio-economic (SE) value. There is a fine line between economic value, with its associated increase in visitors and the negative impact this might have on penguin colonies. The revised BMP recognises the value of tourism to the need to enhance the tourist offering at Boulders, Stony Point and Robben Island. The need for further SE studies was highlighted.
- iv. DR reported finding antimicrobial resistance in wild APs and felt it exceeded what was commonly encountered in dogs or cats. He queried if this might be linked to sewage effluent. LP advised this was possible as faecal contamination of the South African coastline was very bad. This could be a valuable area for future research.

D. Abernethy

12 July 2021



Appendix: Programme.

Time	Activity	Lead
0900 - 0915	Welcome, introductions & workshop objectives	Darrell Abernethy (AU)
0915 - 0935	Current status of the African penguin	Katta Ludynia (SANCCOB)
0935 - 0945	Current HPAI outbreaks in South Africa	Celia Abolnik (UP)
0945 - 1000	Progress update from last workshops	Darrell Abernethy
1000 - 1030	Avian Influenza <ul style="list-style-type: none">- Update on seabird epidemic- AI African penguin Survey- AI Vaccination study- Contingency Plans	Laura Roberts (UP)
<i>1030 - 1045 Comfort Break</i>		
1045 - 1135	MeerWissen Projects: 10-minute updates <ul style="list-style-type: none">- Toxicity Study- Citizen Science and Reporting App- Drones and Colony Monitoring- Computer Modelling	Leslie Petrik (UWC) Laura Roberts Darrell Abernethy Marcus Doherr (FU)
1135 - 1145	Stakeholder Assessment & Survey	Takdeera Lewis (UP)
1145 - 1215	Rehabilitation v Research – the role of the Rehab. Centre.	Stephen v.d. Spuy (SANCCOB)
1215 - 1230	Discussion	
<i>1230 - 1300 Comfort Break</i>		
1300 - 1330	Stakeholder Perspectives & Priorities	
1330 - 1430	Feedback & Next Steps: <ul style="list-style-type: none">- What are the priorities?- What further research is required?- What is missing or could be improved?	