

A photograph of an African Painted Dog (Cape Hunting Dog) in a savanna setting. The dog is in the foreground, walking towards the right. It has a black body with white and tan patches. In the background, a large elephant is visible, slightly out of focus. The ground is covered in dry, yellowish grass.

**African Painted Dog:
Understanding and reducing the threat of
disease**

Project report September 2016

Photo: Luke Mashev

The Story So Far

African painted dogs (*Lycaon pictus*), also known as African wild dogs, have disappeared from much of their former range in sub-Saharan Africa, and appear to still be in decline. They are classified as Endangered on the IUCN Red List of Threatened Species.

Anthropogenic factors such as habitat fragmentation and human population growth have contributed to an increase in conflict with livestock and game farmers, accidental by-catch in snares, road traffic collisions, and both the incidence and negative consequences of infectious disease outbreaks.

Co-operative hunting and breeding behaviours, central to painted dog ecology, depend on a critical threshold pack size below which survival is unlikely. Therefore, small painted dog packs are highly vulnerable to the effects of infectious disease outbreaks.



Credit Manoj Shah

Domestic dogs can become a reservoir for viral diseases such as canine distemper and rabies which are both potentially lethal to painted dogs. In north-west Zimbabwe, WVI has been working with a local conservation NGO, Painted Dog Conservation (PDC), to reduce the threat to painted dogs in the area by running a series of vaccination and neutering clinics for domestic dogs in nearby villages. This programme has been running since 2010.

Whilst domestic dog vaccination and neutering clinics are undoubtedly valuable locally, WVI made the decision in 2015 to attempt a wider approach to understanding disease relevant to painted dogs and perhaps how to reduce the risks posed.

Identifying significant disease risks to the painted dogs must be based on surveillance of what disease agents circulate in the area. This approach requires that opportunities for disease surveillance must be identified over a larger area in that part of Africa, and involvement sought from a greater number of potential partners. Collaboration between such partners will be essential.



Objective for 2016/17

The objective proposed for 2016/17 was to draw up a proposed disease surveillance programme for carnivores across the Hwange National Park and the Victoria Falls area.

Within this objective we had the following activities:

- Review the literature available to provide the background knowledge concerning painted dog disease. (Completed)
- Identify and contact a range of conservation agencies and wildlife diagnostic laboratories in NW Zimbabwe that may be able to contribute to painted dog disease surveillance. (Completed)
- After meeting potential collaborators and discussing what is possible and practical, design a proposed surveillance programme for carnivores across the Hwange National Park and the Victoria Falls area of NW Zimbabwe. (Some disease surveillance activities will almost certainly exist and these could be incorporated in any larger scale programme). (To be completed following visit by Dr Lewis)
- To continue to work with PDC in supporting local vaccination and neutering clinics, thereby providing a service to the local community by enhancing welfare for domestic dogs and therefore also for painted dogs. In the case of rabies, vaccinating domestic dogs provides significant health benefits to local people. (Ongoing)

The programme will help WVI and PDC fulfil our long term objective:

To understand and reduce the threat of disease to African painted dogs throughout the Victoria Falls/Hwange National Park area.



Credit: Luke Massey

What progress has been made?

As a preparatory step, WVI's epidemiologist, Dr Alex Tomlinson, has completed a literature review of the diseases of painted dogs. ("Literature Review of Diseases of Free-ranging African painted dogs, *Lycaon pictus*")

This review is an essential first step in summarising the background of knowledge concerning painted dog disease from which our vets and collaborators can work.

Dr Tomlinson concluded that there is evidence that increased contact between painted dogs and domestic dogs in association with habitat degradation can result in fatal outbreaks of rabies, and that domestic dog vaccination can contribute to reducing the problem. However, it may not be the whole solution to the problem.

Outbreaks of anthrax and canine distemper have also occurred in painted dogs, though there is evidence of some resistance to these diseases. Continued habitat degradation / fragmentation is likely to increase the range of disease threats to painted dogs. For details please see the whole report on our website.



Credit: Luke Massey

What is next?

Armed with the background information provided by Dr Tomlinson's review, Dr Lewis is now planning a visit to discuss the broader disease surveillance opportunities with as many agencies as possible. He will visit PDC and partners in Zimbabwe to gather information, identify the surveillance opportunities, discover logistic issues, discuss local laboratory capacity and needs, identify opportunities for sample collection from domestic dogs, painted dogs and other relevant wildlife species, ascertain training and equipment requirements, and most importantly propose a budget for the programme.

Coordinating surveillance activities and collating results will be a large task. A coordinator (preferably local) must be identified and supported. This is another task for the exploratory visit, and perhaps the most difficult!

Although initially planned for 2016, it is likely that this initial visit will now happen in early 2017.

In the longer term, it is hoped that once surveillance activities are up and running, the information generated will help to determine whether village vaccine programmes over a wider scale are justified, or whether other approaches are needed in addition to protect the painted dogs.

With special thanks to

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WVI's Tom Ogivlie Graham and Steve Leonard with Peter and Foggie from Painted Dog Conservation set up for the 2012 vaccination clinics