



## African horse sickness vaccination permissions

*Adapted from the vaccinations permissions report—AHS surveillance and free zone—2017 by J.D. Grewar<sup>1</sup>, P. Burger<sup>1</sup>, B. Parker<sup>1</sup> and C.T. Weyer<sup>1</sup>*

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Annual vaccination against African horse sickness (AHS) is compulsory in South Africa according to the Animal Diseases Act, 35 of 1984, except in the AHS free and surveillance zones in the AHS controlled area in the Western Cape Province. Vaccination against AHS in the surveillance and free zones can only be performed following an application process and after written permission has been obtained from Western Cape Veterinary Services. Permission to vaccinate is only granted for vaccination to be performed between 1 June and 31 October each year. This vaccination period is based on the potential for vaccine virus reassortment or reversion to virulence and the risk of transmission during periods of increased vector activity. The restriction of the vaccination period to a period of decreased vector activity mitigates this risk.

During 2017 vaccination permissions were integrated into the same data system that is used in the Western Cape for equine disease surveillance, outbreak and movement data. For every application, the individual horses and their farm of origin, including location information, needed to be registered on the system. In addition, as is often the case with a new system, many of the initial applications were incomplete or incorrectly completed. All of the above resulted in a delay for the initial applicants with a median application processing time of 16 days. This should not recur in 2018 as applicants will be more aware of the requirements and the majority of the horses will already have been registered on the system in 2017. In addition, in 2018, horse owners will be encouraged to submit applications for their individual horses instead of veterinary practices applying on their behalf. This should improve the quality of information that is received. Permissions to vaccinate are then issued to both the applicant and the veterinarian associated with the application.

Figure 1 illustrates the vaccination permissions process where application for individual horses is made to State Vet Boland who issues permissions on behalf of the Chief Director for Veterinary Services in the Western Cape. Applications to vaccinate between 1 June and 31 October 2018 will be accepted from 1 March 2018 and close on 20 September 2018.

For the 2017 vaccination season a total of 1078 applications were received to vaccinate 7183 individual horses on 647 holdings. By far the majority (96%) were to

enable horses to comply with AHS movement requirements. Permission was granted for 6893 horses (96%) and declined for 290 horses. The primary reason permission was declined was that the horse did not have a passport complying with the minimum requirements.

Forty veterinarians were registered as the associated vet likely to perform the vaccination, with the top 5 practices responsible for vaccinating 67% of the horses.

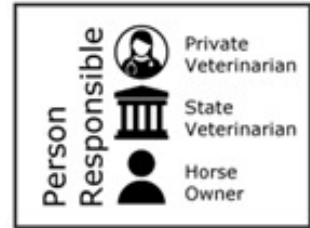


Vaccination coverage within the AHS controlled area, including the AHS surveillance and free zone, has been relatively wide spread. When the AHS surveillance program was reviewed in 2013, it was estimated that there were 14000 horses on 1400 properties in the free and surveillance zone. There are currently a total of 11565 horses registered on 943 properties in the equine dataset for the same area. As the AHS control system develops, it is estimated that by 31 October 2018, the number of registered horses on the data system will be close to the original estimate of 14000 horses. According to the vaccination permissions, vaccination coverage in the free and surveillance zone for the 2017 vaccination season will be in the region of 50%.

### References

- Sergeant, E.S. et al., 2016. Quantitative risk assessment for African horse sickness in live horses exported from South Africa. *PLoS one*, 11(3), p.e0151757. Available at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151757>.
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## VACCINATING AGAINST AFRICAN HORSE SICKNESS IN THE AHS SURVEILLANCE AND FREE ZONE OF THE WESTERN CAPE



V.C.4

### REQUIREMENTS

#### Passport

-registered equine Passport

#### Reason to vaccinate

-Examples include:

- \* Movement
- \* Competition
- \* Individual protection
- \* Insurance

#### Application

-Filled out in full so that SV Boland can identify:

- \* Location of horses
- \* Owner of horses
- \* Nominated vet performing vaccination

### VACCINATION APPLICATION

-ALL vaccination requests in the AHS Surveillance and Free zone must be sent to SV Boland

-Complete application form

[www.myhorse.org.za/forms/vaccrequest.xls](http://www.myhorse.org.za/forms/vaccrequest.xls)

-Email to [vaccinate@myhorse.org.za](mailto:vaccinate@myhorse.org.za)



### PERMISSION

- All permissions (granted or declined) will be sent to the email addresses provided in the application - both client and vet



#### Why?

- Vaccination against AHS in the AHS controlled area is controlled under the Animal Diseases Act
- Horses are not allowed to be vaccinated against AHS in the AHS Free and Surveillance zones unless permission is granted by the Provincial Veterinary Services or their authorised representative
- Once permission to vaccinate is obtained, horses may only be vaccinated during the period stipulated by the National Veterinary Services.

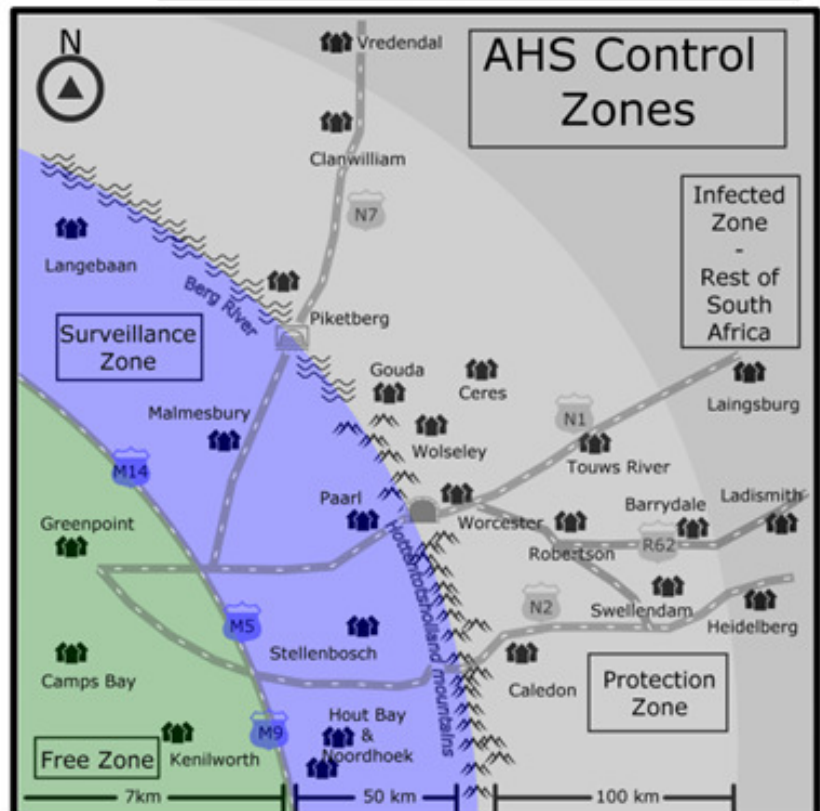


Figure 1: Vaccination application and permission process for the AHS surveillance and free zones of South Africa.

# Oudtshoorn canine distemper outbreak

Karlien Botha

This report focuses on the Canine Distemper Virus (CDV) epizootic in unvaccinated domestic dogs in the Oudtshoorn district. Smaller outbreaks of CDV occur annually in Oudtshoorn and have been observed to usually occur during the winter months when it is cold and moist. The current outbreak is unexpected as it started during the summer with the first records documented on 6 December 2017 [See the February 2017 epi report for another example of an increase in reported distemper cases in summer - Ed.]. This coincided with an official rabies vaccination campaign, which was unfortunate as uneducated rumours then linked the two events. However, it is unlikely that the rabies vaccination campaign contributed to the spread of the outbreak, as the campaign took place several weeks after clinical cases of distemper began, and the majority of the campaign was done door-to-door rather than at a central point. Since the start of the outbreak, more than 160 dogs have been euthanased, with more that need to be. It is unknown how many dogs died due to distemper, and how many are affected. It is estimated that far more than 50% of the population is affected out of a total population of 30 000 dogs. The dogs are owned by low income families. The areas most severely affected are Bongeletu, Smartietown, Rosevalley and Riemvasmaak, all within the Oudtshoorn district.

## Aetiology

Canine distemper is a highly contagious viral infection (family Paramyxoviridae, genus *Morbillivirus*, enveloped RNA) which mainly affects dogs. The most important means of transmission of the canine distemper virus is through direct contact with clinically affected and asymptomatic dogs. Except for oronasal contact through secretions or excretions, other modes of transmission include airborne spread and fomites (humans, equipment, vehicles, feed and water bowls).



**Figure 2: Canine distemper virus inclusion body seen in a neutrophil, indicated by blue arrow (Photo: K Botha)**



**Figure 3: Weakness is one of the clinical signs seen during distemper (Photo: C Smith)**

CDV is shed as early as five days after infection, while still asymptomatic. Shedding of virus can continue for as long as four months, but usually resolves after one to two weeks.

## Diagnosis and clinical findings

History of disease, clinical signs and blood smear evaluation indicates the presence of CDV infection in the dog population. A combination of severe multisystemic signs, affecting the gastrointestinal, upper and lower respiratory, ocular and neurological systems is found. Clinical signs include anorexia, vomiting, diarrhoea, pyrexia, nasal and ocular mucopurulent discharge (figs 4 and 5), coughing, weakness (fig 3), neurological deficits (ataxia, tremors, myoclonus, paresis, paralysis) and footpad and nasal planum hyperkeratosis. Secondary bacterial infection follows viral-induced immunosuppression.

## Blood smear evaluation

Blood smear evaluation revealed large aggregates of intracytoplasmic viral inclusion bodies in erythrocytes and leukocytes (fig 2). CDV inclusions are pathognomonic but rarely identified as they are transient and more likely to be seen during the acute phase of infection. Anaemia and lymphopenia are also described in the literature and neutropenia, monocytopenia, and thrombocytopenia were observed in a minority of cases. Neutrophilia with a left shift and toxic neutrophils were present in most of the cases. All of these signs were evident in blood smears that were collected from affected dogs.

## Outbreak control

Current outbreak control measures include euthanasia of incubating, clinically affected and suspected cases of



CDV. Proper biosecurity, environmental decontamination and routine sanitation has been implemented to prevent spread of disease at the local pound and in the community. As an enveloped virus, CDV cannot survive in the environment for longer than one day and is readily inactivated by heat, drying and with disinfectants. The hot Oudtshoorn summer presents the ideal conditions for destruction of the virus, making this outbreak even more perplexing. Owners are educated on control and prevention of CDV, for example importance of depopulation, isolation and fencing-in of free roaming dogs. However, in these underprivileged communities, this is a daunting task and not always possible. An additional recommendation has been that animals admitted to the Oudtshoorn pound should receive individual risk assessment and are isolated from other dogs for a quarantine period of at least one month, which is difficult due to poor quarantine facilities.

Following proper disease control, prevention of disease should be the main focus, including effective vaccination of the remaining disease-free population. Effective vaccination and build-up of immunity is not achievable in dogs infected with distemper as they become immunosuppressed.

The vaccination coverage against CDV is far below the 80% required to prevent outbreaks. At this stage, vaccination coverage by welfare organisations and during sterilisation campaigns in these areas is less than 10%. Yearly vaccination campaigns against highly contagious diseases such as CDV and Parvo enteritis with MLV polyvalent vaccine should be implemented and made available to all neighbouring communities, but the limitations on resources to do so are an ever-

present problem.

Attenuated live vaccine should ideally be given every 3 to 4 weeks, commencing no earlier than 6 weeks of age. Maternal antibodies are usually absent by 12 to 14 weeks of age. The last vaccine should not be given sooner than 14 to 16 weeks of age (consider extension to 16 to 20 weeks in kennels and shelters). In adults receiving their first vaccination, two doses of vaccine should be given 3 to 4 weeks apart. A booster is recommended at 1 year with yearly vaccination in high risk areas or vaccination every 3 years in low risk areas. Infection can still occur, but disease severity is decreased. Although the vaccine is excellent, it is important to realise that the vaccine does not provide immediate protection against infection and shedding.

#### Reference:

Sykes, J., 2014. *Canine and feline infectious diseases*. 1st ed. St. Louis, Missouri: Elsevier Saunders



**Figures 4 and 5: Dogs showing mucopurulent ocular and nasal discharge as a result of distemper**

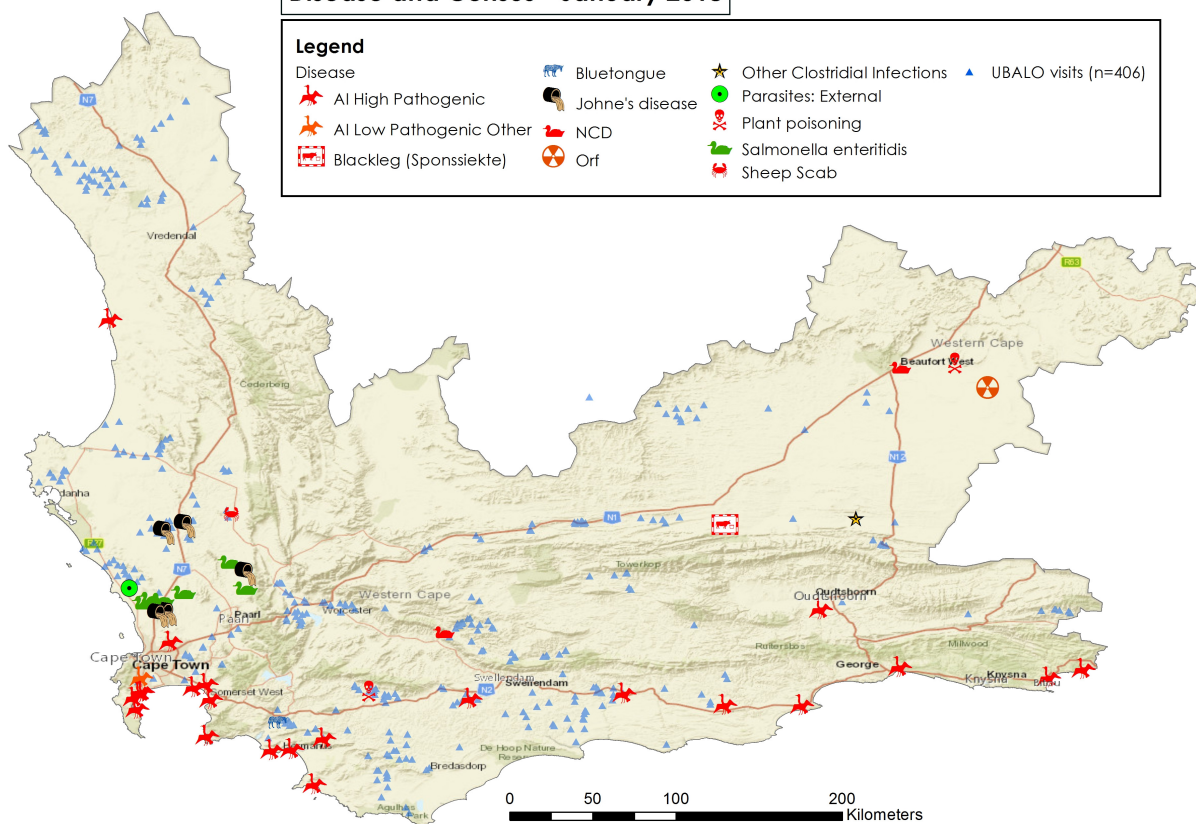
**(Photos: L Barendse and M Davel)**

# Disease and surveillance

## Disease and Census - January 2018

### Legend

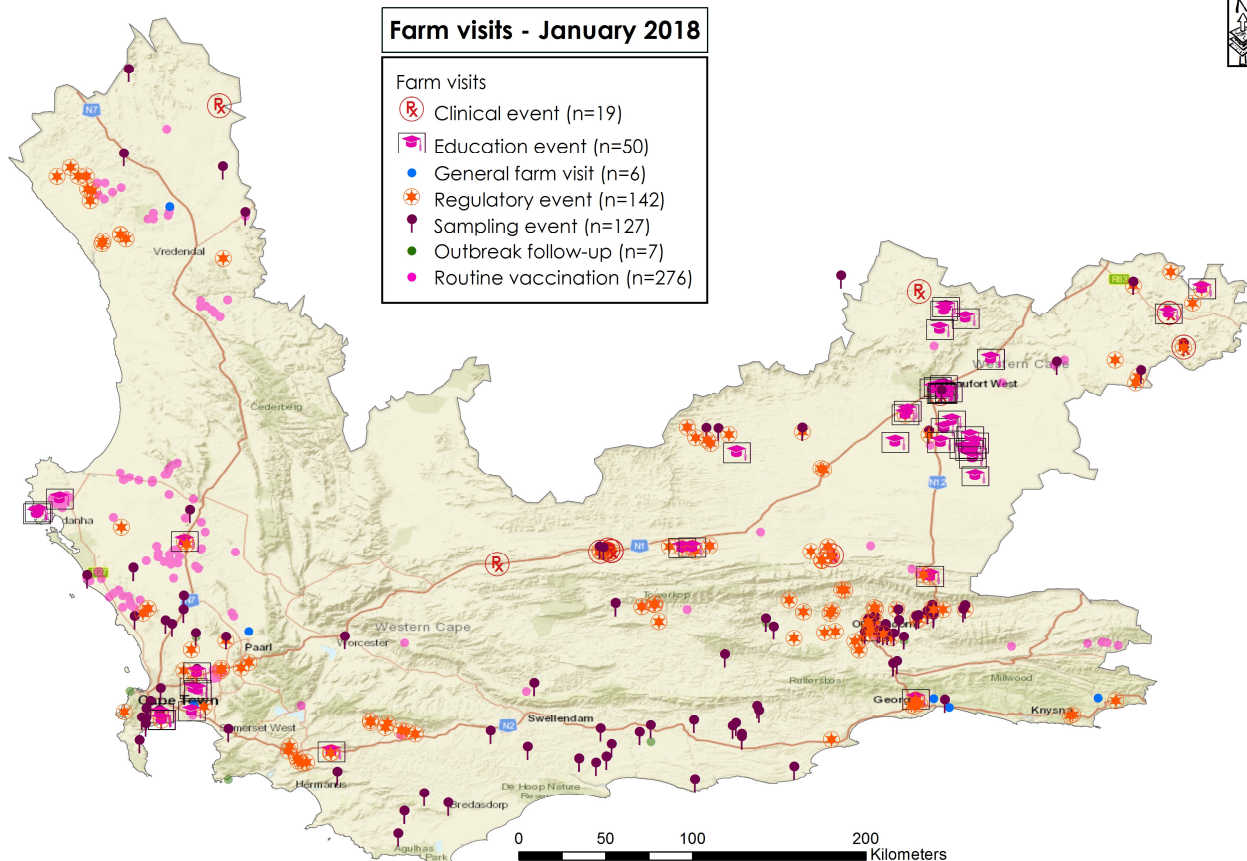
- |                         |                 |                              |                      |
|-------------------------|-----------------|------------------------------|----------------------|
| Disease                 | Bluetongue      | Other Clostridial Infections | UBALO visits (n=406) |
| AI High Pathogenic      | Johne's disease | Parasites: External          |                      |
| AI Low Pathogenic Other | NCD             | Plant poisoning              |                      |
| Blackleg (Sponssekte)   | Orf             | Salmonella enteritidis       |                      |
|                         |                 | Sheep Scab                   |                      |



## Farm visits - January 2018

### Farm visits

- (R) Clinical event (n=19)
- (P) Education event (n=50)
- (B) General farm visit (n=6)
- (S) Regulatory event (n=142)
- (V) Sampling event (n=127)
- (G) Outbreak follow-up (n=7)
- (M) Routine vaccination (n=276)





# Outbreak events

Cases of **highly pathogenic H5N8 avian influenza** were detected in several different species:

- Four backyard **chickens** on a farm near **Caledon** died.
- **African penguins** showing neurological signs and weakness were found in several locations along the coast of **False Bay**. These penguins all died or were euthanased for welfare reasons. A sick penguin found in **Onrus** (fig 6) was isolated and treated at a seabird rehabilitation centre and appears to be recovering.
- Dead and dying **swift terns** were found in **Lamberts Bay**, various locations within the **City of Cape Town, Pringle Bay, Hermanus, Franskraal, Betty's Bay** and **Nature's Valley**.
- A dead **common tern** was found in **Hermanus**.
- A **jackal buzzard** was found sick in **Wilderness** and later died at a wildlife rehabilitation centre.
- A sick **Egyptian goose** was found at a golf course in **Plettenberg Bay**. It was taken to a wildlife centre where it was euthanased.
- **Ostrich** farms in the local municipalities of **Swellendam, Hessequa, Mossel Bay, Oudtshoorn** and **Kannaland** tested positive for H5N8 avian influenza. No clinical signs have been observed in ostriches.

**Laughing doves** found dead in the southern suburbs of **Cape Town** tested positive for **influenza A**, but H5N8 was not detected. The owner of the property has noticed doves dying since mid-December 2017.

A **pied crow** and **turtle doves** found dead in **Montagu** and **laughing doves** found dead in **Beaufort West** tested positive for **Newcastle disease** and pigeon paramyxovirus.

An outbreak of **bluetongue** occurred in **sheep** near **Bot River**.

Five **sheep** farms in the **Malmesbury** state vet area tested positive for **Johne's disease**. All farms were placed under quarantine and the farmers plan to vaccinate their flocks.

A sheep flock infested with **sheep scab** (*Psoroptes ovis*) was discovered near **Porterville**. The flock will be treated under official supervision. Neighbouring farms were inspected and no signs of sheep scab detected.

**Salmonella enteritidis** was detected in six **chicken** farms in the **Malmesbury** state vet area. Chick box liners, boot swabs and/or cloacal swabs tested positive on four broiler farms, while boot swabs were positive on two broiler breeder farms.

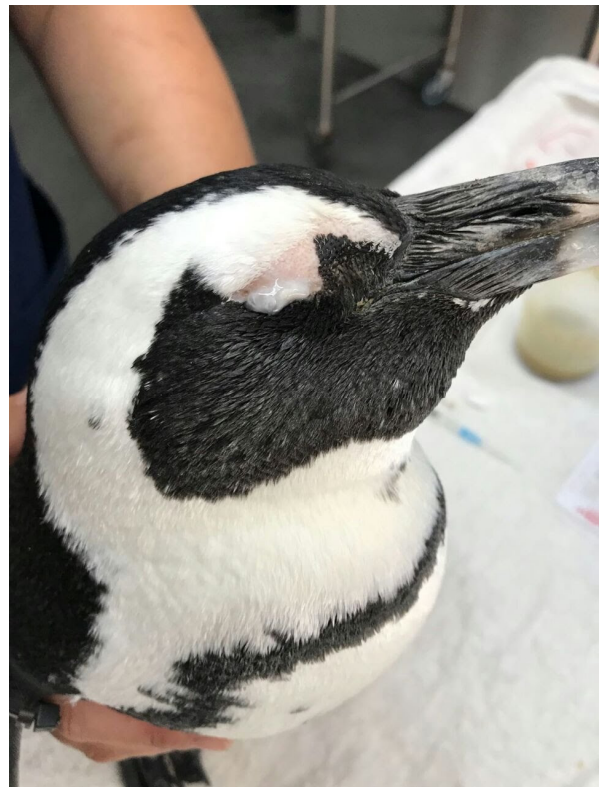
20 out of 25 **cattle** died of **black quarter** caused by clostridial infection near **Prince Albert**.

**Clostridium novyi** caused peracute death of **roan antelope** near **Prince Albert**.

An autogenous vaccine was prepared for Angora **kids** infected with **orf** (contagious pustular dermatitis) near **Beaufort West**.

**Sarcopic mange** was detected in small-holder **pigs** in **Atlantis**.

Angora **goats** that ate wilted devil's thorns (*Tribulus terrestris*) near **Beaufort West** suffered from "**geeldikkop**" (icterus and facial swelling caused by photosensitivity) as a result.



**Figure 6: An African penguin showing weakness and ocular discharge as a result of highly pathogenic avian influenza infection. African penguins are listed as Endangered on the IUCN Red List of Threatened Species (Photo: T Staal)**

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