

# **African horse sickness control**

## **Movement report 2019**

In partnership with



**Western Cape  
Government**

## Introduction

This is the second detailed report on equine movements in South Africa with respect to controls implemented to mitigate the risk of African horse sickness virus (AHSV) entering the AHS controlled area of the country. The initial report encompassed the 2017/2018 AHS season and is available online<sup>1</sup>: it provides a more detailed explanation of the various movement types.

The report below describes various movement patterns of horses and wild equids whose travel is regulated as a result of AHS. The period evaluated is the 2019 calendar year. We differentiate between movements from the infected part of South Africa and those that occur within the AHS controlled area, the latter only where movements occur to a zone of higher control. Wild equid movements are also evaluated as well as more detail on those stepwise movements that required a stopover quarantine period prior to entry into the AHS controlled area.

## Permit based movements – infected zone to controlled area

This section deals with any equid moving from the AHS infected part of South Africa (or from South Africa's neighbouring countries) directly into the AHS controlled area in the Western Cape Province. Movements from the infected zone require an AHS risk status classification which is reported by the State veterinarian (SV) of origin in the form of an area status declaration (ASD).

## Domestic equines

A total of 2014 movement events consisting of 4418 domestic equines, all horses, occurred in 2019, with an average of 2 equines moving per movement application.

The most horses moved were by far Thoroughbred's, with 48.9% of the total representing this breed (Table 1)

The remaining movements were evenly spread across breeds with the only other pure breeds moving relatively frequently being the American Saddlebred (8.4%), Arabians (6.7%) and SA Warmbloods (5.8%).

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<sup>1</sup> <http://jdata.co.za/myhorse/documents/infographics/Reports/2017%202018%20Movements%20Report.pdf>

Table 1: Domestic equines moved, by breed, in 2019 into South Africa's AHS controlled area

Breed	Total moved	% of total
Thoroughbred	2164	48.9%
American Saddlebred	374	8.4%
Arabian	299	6.7%
SA Warmblood	257	5.8%
Hackney	225	5%
Welsh pony	133	3%
Other/Crossbreed	966	21.8%
<b>Total</b>	<b>4418</b>	

Figure 1 shows the time series analysis of domestic horses moved. Most horses moved between August - October 2019. The AHS surveillance zone was by far the most common destination (62%) for horses moved (Table 2).

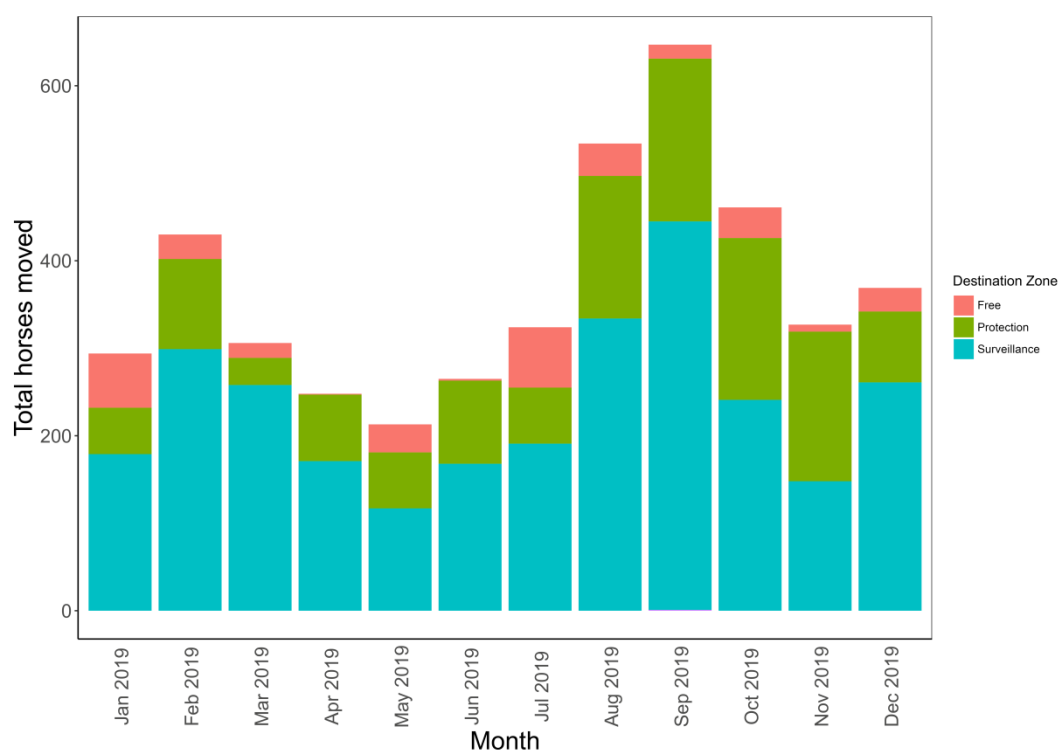


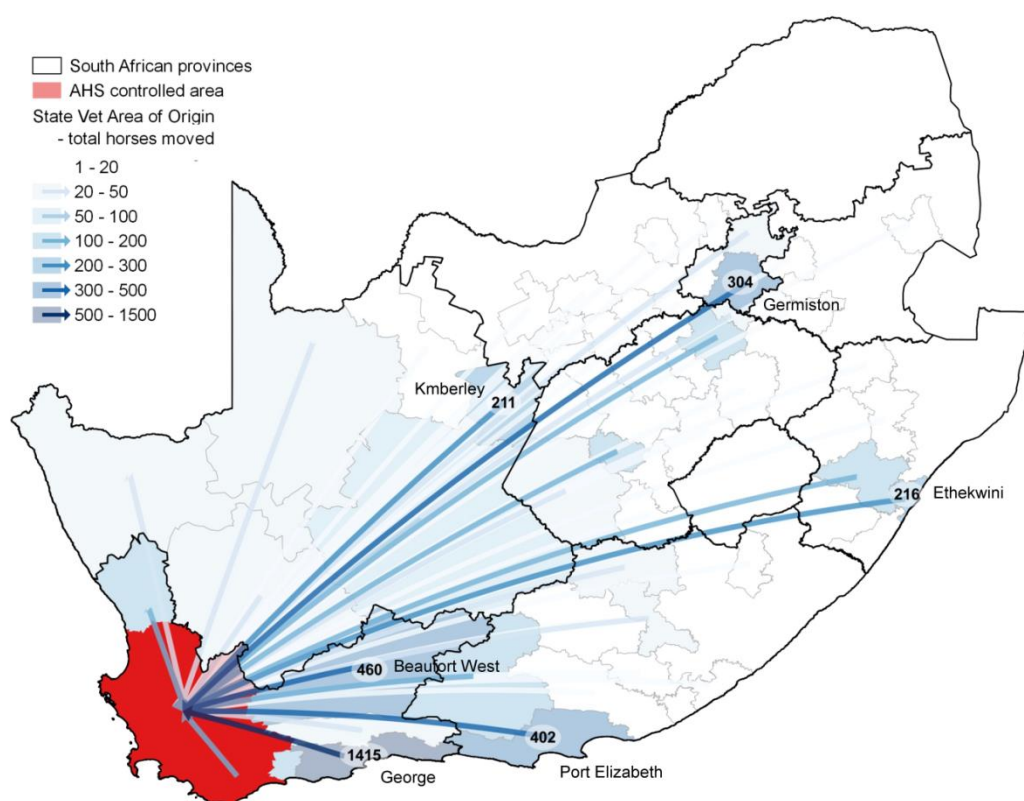
Figure 1: Time series plot of total domestic equines moved and their destination within the AHS controlled area during 2019

**Table 2: The destination zone of domestic equines moving from the infected area into the AHS controlled area of South Africa in 2019**

Destination	Total moved	% of total
Free zone	334	7.56%
Protection zone	1273	28.84%
Surveillance zone	2811	63.6%
<b>Total</b>	<b>4418</b>	

Figure 2 gives an indication of the primary sources of horses moving into the AHS controlled area. In this case we have categorised the movement by the State Veterinary area of origin. These areas are specifically labelled if 200 or more horses moved from that region during the year. The primary two regions of origin are both in the Western Cape Province, namely the George and Beaufort West State Veterinary areas. These two areas of origin accounted for 42% of all horses moved from the infected area during the year. The six labelled areas in Figure 2 accounted for a total of 68% of all horses moved during the year.

A single movement (of a single horse) occurred from outside South Africa into the controlled area where a horse from Namibia moved into vector protected stop-over quarantine in early September 2019 – this movement is not shown in Figure 2 since the origin was not a South African state vet area.



**Figure 2: The total number of horses per State veterinary area of origin that moved into the AHS controlled area in 2019. Areas are labelled if more than 200 horses moved from the region during the year.**

Compared to the previous 12 month period reviewed (see introduction) the breed proportions that moved in 2019 were very similar, with a single digit percentage drop in the thoroughbreds that moved and a reciprocal increase in the percentage of Hackney ponies that moved. The temporal trend was also very similar with the difference being that the highest number of movements occurred in September 2019 compared to August of the previous review. Also, the lowest number of movements occurred in May 2019 compared to July 2018 for the previous review. Destinations of choice (in terms of specific AHS control area) did not differ substantially.

Similar to the temporal trend, the spatial point of origin of horses entering the controlled area did not differ much from previous analysis. The major centres in the Western Cape, Eastern Cape, Kwazulu Natal and Gauteng all contributed once again to the majority of movements. The only difference seen in 2019 was that the Kimberley area accounted for more than 200 horses during the year.

### **Stop-over quarantine (SOQ) movements**

The introduction and description of stop-over movements has been detailed in the previous report as discussed in the introduction on page 1. A total of 9 SOQ facilities (Figure 3) were used during 2019, 2 of which are in the AHS controlled area itself (and are hence vector protected stop-over quarantine facilities). 319 horses moved under this protocol, compared to 366 for the previous period reviewed. 36 (11%) horses travelled through the two facilities that were in the controlled area. All stop-over facilities used in 2019 were within the Western Cape boundaries except for the post-import vector-protected quarantine station in Kempton Park.

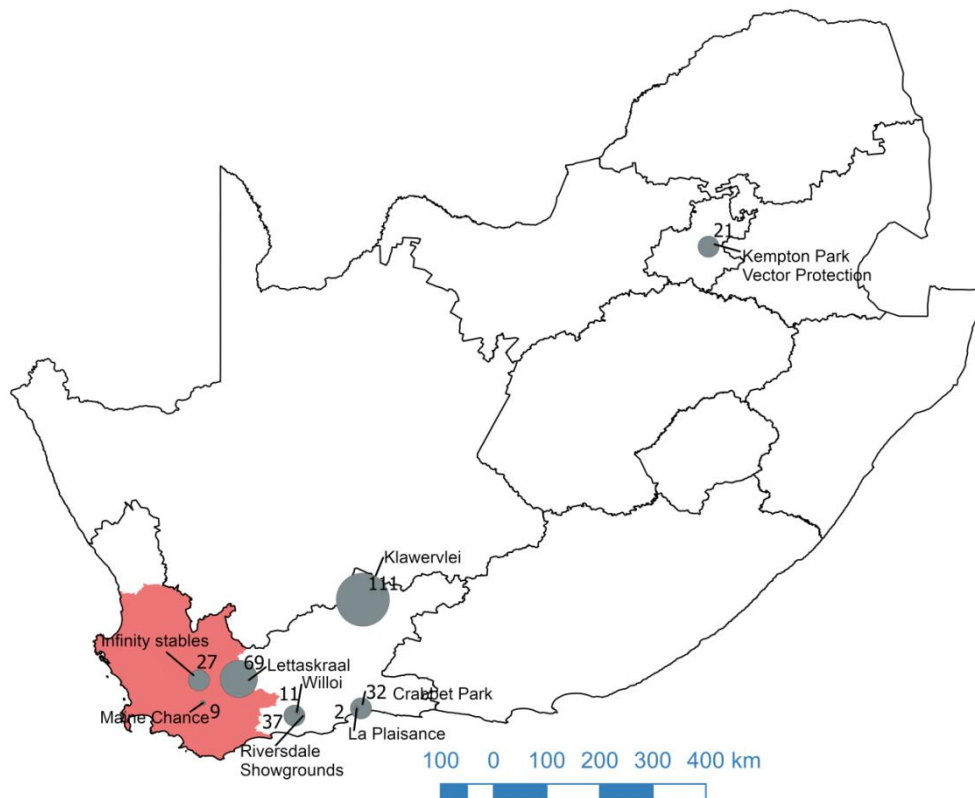


Figure 3: Facilities used for stop-over quarantine movements during 2019 with proportional circles representing the total number of horses that used these facilities. Note that Infinity Stables and Maine Chance are the two that are within the AHS controlled area.

Figure 4 shows the temporal trend of the horses that moved in this fashion, with peak activity during May, June and July. This is later than the previous period where the activity was primarily in April and May, and this is as a result of the extended AHS season where cases prolonged the high risk period for parts of the country. The final destination of these movements is also shown with the surveillance zone being the primary final destination of movements, which mirrors the general movement trend (see Figure 1).

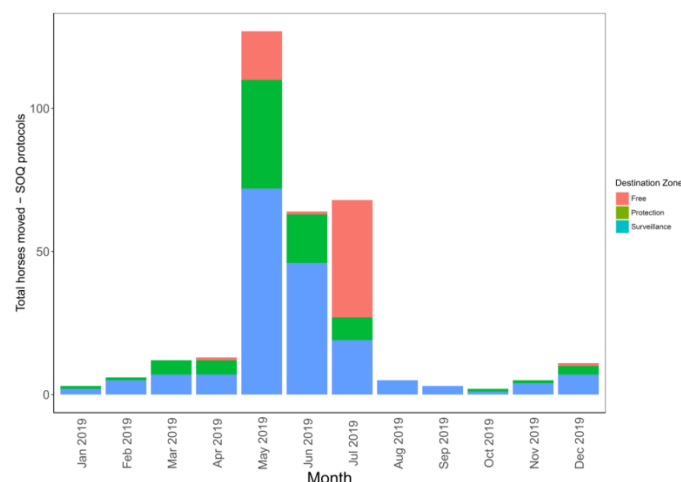


Figure 4: Horses moving under the stop-over quarantine protocol during 2019 with their month of movement and final destination after leaving quarantine shown.

## Wild equids

A total of 26 wild equids (all zebra) were moved into or from the AHS controlled area during 2019. The majority that moved were Burchell's zebra (aka Plains zebra - *Equus burchelli*) and include the zebra associated with the Quagga project in the Western Cape. One Cape Mountain Zebra (*Equus zebra zebra*) moved, and this was the single animal that moved from the infected zone into the AHS controlled area (Figure 5). The remaining 25 animals that moved were within or out of the controlled area, with the only other movement to a zone of higher control being 4 zebra that moved from the protection zone to the surveillance zone.

FROM →					
TO ↓		Infected	Protection	Surveillance	Free
	Infected	NA	0	6	0
Protection	Infected	1	6	0	0
Surveillance	Protection	0	4	9	0
Free	Surveillance	0	0	0	0
	Free	0	0	0	0

Figure 5: Number of zebra moved during 2019 and associated with the AHS controlled area. The zone of origin is shown horizontally and the zone of destination is shown vertically.

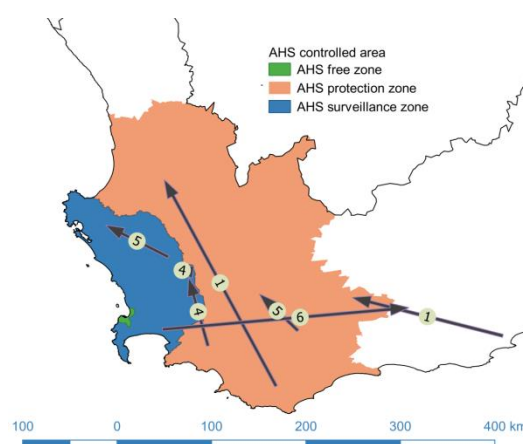


Figure 6: All zebra movements during 2019 that were associated with the AHS controlled area. Numbers on each line represent the total moved for each of the movements (n=7) that occurred. The arrow represents the origin and destination of each movement in relation to the AHS control zones underlying the movement.

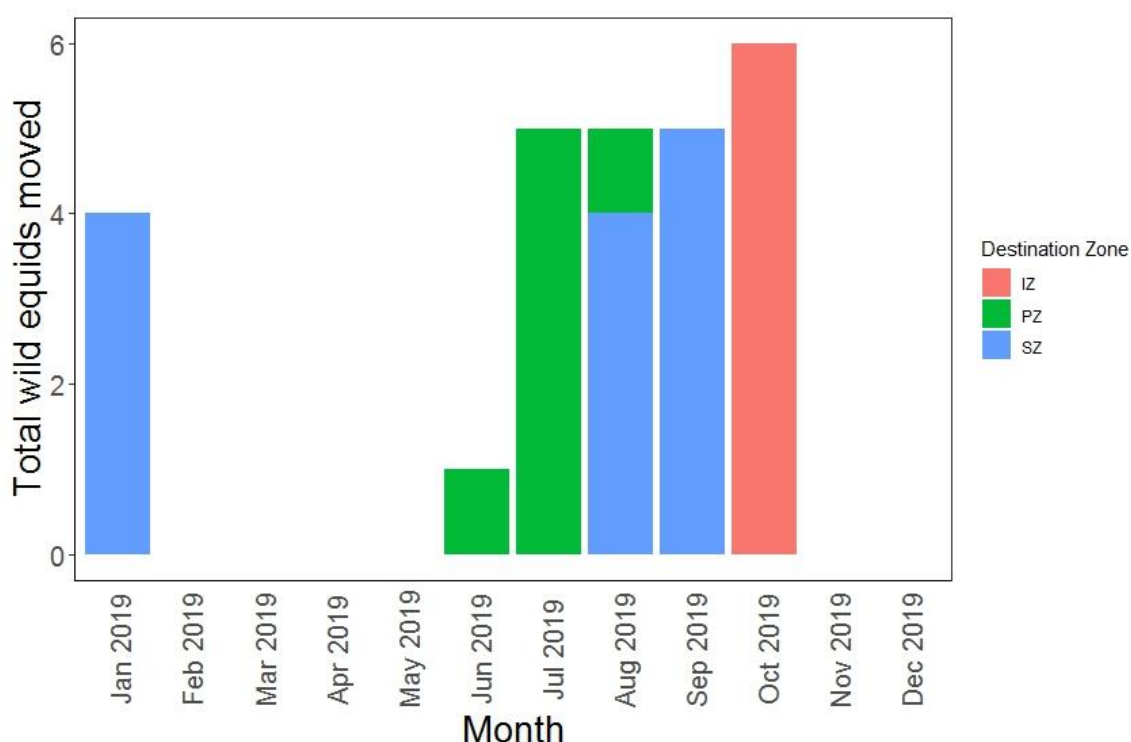


Figure 7: Zebra moved during 2019 with their month of movement and final destination shown.

As in the previous analysis zebra generally move during the colder winter months (Figure 7) even though the only official constraint for zebra movement temporally is when they originate in the AHS infected zone. In that case they may only move during the winter months of July, August and September.

Substantially less zebra moved in this 12-month period compared to that of the 2017/2018 AHS season which ran between 1 Sep 2017 to 31 Aug 2018. In that period 118 wild equids moved compared to the 26 moved in 2019. Interestingly, in the period between Sept – Dec 2018, 67 zebra moved, where movement was associated with the AHS controlled area. This would have brought the comparative total between the 2017/2018 and 2018/2019 AHS season closer together. What has changed was the final 4 months of 2019 where 11 zebra moved in total – this is a drop of 83% compared to the previous year.

### Pre-notification only based movements - within controlled area

Within AHS control area movements to a zone of higher control requires that notification of movement occurs within 48 hours of movement<sup>2</sup>. A total of 3939 horses moved in this fashion

<sup>2</sup> The newly published AHS Veterinary Procedural Notice (Dec 2019) has increased this period to 72 hours as of 12 December 2019.



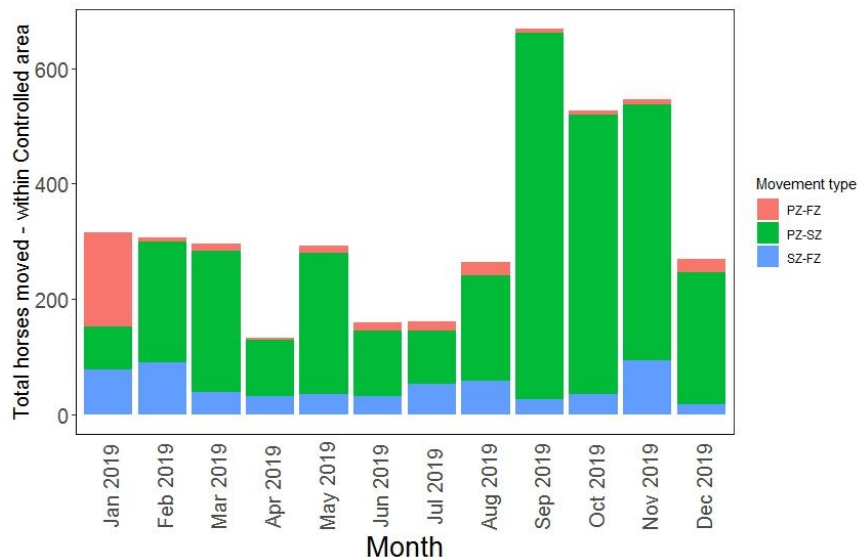
during the year. The majority (77%) moved from the AHS protection zone to the AHS surveillance zone (Figure 8).

An important consideration for these movements is that there are a considerable number of horses that move from the AHS surveillance zone into the AHS free zone on the multiple movement permit system, which is a same day return movement licensing system allowing horses to move in this fashion without pre-notification of movement. The information reported here refers to movements where horses would generally not be returning the same day to their origins.

		FROM →	
		Protection	Surveillance
TO ↓	Surveillance	3050	NA
	Free	294	595

Figure 8: Movements of domestic equines within the AHS controlled area, where horses move to a zone of higher control, during 2019.

The movement pattern over time (Figure 9) is quite similar to that of infected area origin movements (see Figure 1) with the exception of August where relatively few movements occur within the controlled area. The movements from the protection zone into the free zone in January 2019 were again primarily associated with a Thoroughbred sale which was held at the CTICC. Generally the movements between the surveillance and free zone throughout the year will either be horses moving to one of the two veterinary practices that have their premises within the free zone or thoroughbreds in training that move from feeder farms in the controlled area to the training yards in Milnerton.



**Figure 9: Time series lot of total domestic equines moved and their origin-destination for movements within the AHS controlled area**

The trends from the previous analysis have remained very much the same with the difference being the number of horses that have moved within the controlled area – in 2019 there was a 29% increase in movements of horses to zones of higher control when compared to 2017/2018.

## Discussion

A total of 8362 equids moved into a zone of higher control during the year which is a 17% increase from the last analysis that accounted for 12 months in 2017/2018. Once again it is clear that the vast majority of movements into a zone of higher control consisted of domestic equids (99.9%) and while it's important to understand wild equid movements, the risk mitigation of AHS spread into the AHS controlled area through domestic equid control remains crucial. The AHS surveillance zone remains the most common zone of destination, both for infected area origin and controlled area origin movements. The majority of movements are associated with Thoroughbred horses, and this breed drives the high areas of origin of Beaufort West and Port Elizabeth where racing and stop-over movements dominate.

Movement regulation requires close communication and interaction between various regulatory and State authorities. Movements originated from 50 of the 126 State vet areas in the country; although only 19 SV areas had more than 10 horses move from them during the year. This re-enforces the benefits of centralized movement control.

Stop-over quarantine movements have assisted in facilitating the movement of 319 horses that would otherwise not have moved or would have required a 40-day residency in an AHS low risk area prior to direct movement. While this system is expensive and intensive it promotes the movement of high value horses or critical movements (such as high-level competition) and allows control and an acceptable system for the public needing to move

horses. South Africa had a fairly high AHS prevalence during the 2018/2019 season and the extension of suspension periods for parts of the country resulted in higher than normal numbers of horses making use of this system in May – generally by May most areas in the country are considered low risk for AHS.

## Acknowledgements

The South African Equine Health and Protocols NPC have been the authorized permit issuing body during 2019 and provide this service on behalf of State Veterinary services in the Western Cape. Danielle Pienaar, Esthea Russouw, Gillese de Villiers, Marie van der Westhuizen and Johanne Jacobs are responsible for the day to day running of the various movement systems, all supervised by Dr Camilla Weyer.

We are grateful to our State Veterinary colleagues across the country for assisting in the controlled movement of horses, and in particular to State Veterinary Services in the Western Cape, namely Drs Gary Buhrmann, Sewellyn Davey, Christi Kloppers, Edwin Dyason, Roelof Hugo, Llewellyn Hon and Jaco Pienaar. Furthermore Mr Dawid Visser from Western Cape Veterinary Services Head Office, Mr Nico du Toit from the South African Police Services Stock Theft Unit and Drs Trudie Prinsloo and Aileen Pypers are members of the Western Cape AHS regulatory committee that deals with movement non-compliance. Dr Buhrmann kindly reviewed this report.

During 2019 the central auditing of movements was continued by the Department of Agriculture, Forestry and Fisheries and Dr Kerry Loxley has been auditing individual movements in this regard.

We are grateful to all private veterinarians and members of the public who comply with movement control. No cases of AHS occurred in the AHS controlled area during the season and movement control has a large part to play in this.