SA EQUINE
HEALTH & PROTOCOLS
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African horse sickness control

Movement report 2020

JD Grewar & CT Weyer
2020

Introduction

This is the third detailed report on equid 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[1]: it provides a more detailed explanation of the various movement types. In 2019[2] the reporting period was set to the calendar year and, for the report below, the period evaluated is the 2020 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 AHS controlled area

This section deals with any equid moving from the AHS infected part of South Africa 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 equids

A total of 1323 movement events consisting of 2692 domestic equids, all horses except for 2 donkeys, occurred in 2020, with an average of 2 equids moving per movement application. The most horses moved were Thoroughbred's, with 53.8% 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 (7.5%), SA Warmbloods (6.8%), Hackney's (5.3%) and Arabians (4.5%). Compared to 2019, Thoroughbreds were slightly more represented moving to just over half the equids moved in total. Of the other breeds that moved the Arabians dropped the most (relatively) to less than 5% of the total.

[1] http://jdata.co.za/myhorse/documents/infographics/Reports/2017%202018%20Movements%20Report.pdf
[2] 10.5281/zenodo.4316374

Table 1: Domestic equids moved, by breed, in 2020 into South Africa's AHS controlled area from the AHS infected zone

Breed	Total moved	% of total
Thoroughbred	1450	53.%
American Saddlebred	203	7.5%
SA Warmblood	184	6.8%
Hackney	143	5.3%
Arabian	122	4.5%
Welsh pony	88	3.2%
Other/Cross breed	364	18.6%
Total	**2692**	

Figure 1 shows the time series analysis of domestic equids moved. The impact of the national COVID-19 associated lockdown are clear with a standstill on movement for the entire April with any semblance of recovery to 2019 levels only later in the year (November). Most equids moved between September-December 2020 although the February peak of over 400 animals was the highest monthly total for the year. The AHS surveillance zone remained the most common destination (63.3%) for equids moved (Table 2). Year-on-year there was a 34% and 39% decrease in the number of movement applications and total domestic equids moved, respectively.

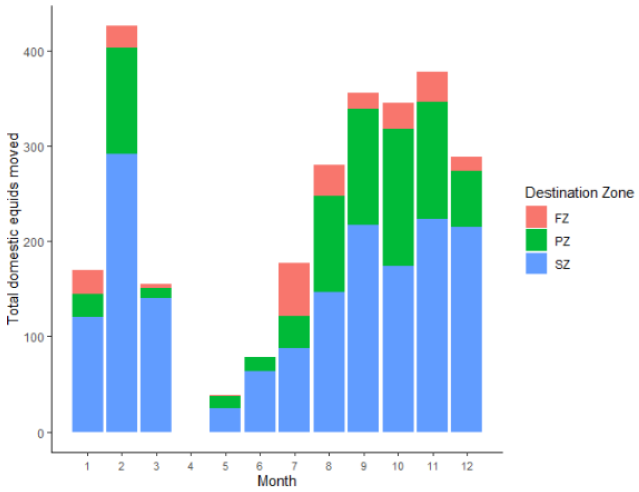

Figure 1: Time series plot of total domestic equids moved and their destination within the AHS controlled area during 2020

Destination	Total moved	% of total
Free zone	230	8.5%
Protection zone	757	28.1%
Surveillance zone	1705	63.3%
Total	2692	

Table 2: The destination zone of domestic equids moving from the infected area into the AHS controlled area of South Africa in 2020

Figure 2 gives an indication of the primary origin of equids 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 100 or more equids moved from that region during the year. The main province of origin was the Western Cape Province, with the George, Beaufort West, and Swellendam State Veterinary areas most represented. These three areas of origin accounted for 44% of all equids moved from the infected area during the year. The racing/training jurisdictions in the Free State (Kimberley), Kwa-Zulu Natal (Umgungundlovu and Ethekwini), Gauteng (Germiston) and Eastern Cape (Port Elizabeth) were most represented outside of the Western Cape. The eight labelled areas in Figure 2 accounted for a total of 81% of all domestic equids moved during the year. Like the temporal trend, the spatial point of origin of equids entering the controlled area did not differ much from previous analysis, although the numbers originating in each area were substantially lower.

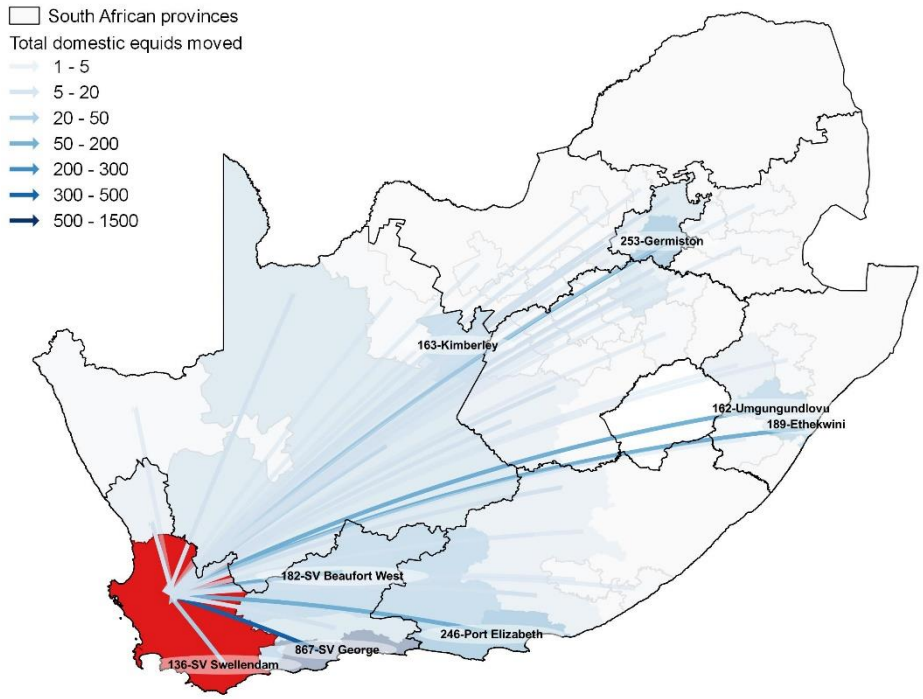

Figure 2: The total number of equids per State veterinary (SV) area of origin that moved into the AHS controlled area in 2020. Areas are labelled if 100 or more equids moved from the region during the year. Note the Swellendam SV area intersects the AHS controlled area – movements in this case are only from the AHS infected area of that SV area.

Stop-over quarantine (SOQ) movements

The introduction and description of stop-over movements has been detailed in previous reports (see introduction on page 1). A total of 8 SOQ facilities (Figure 3) were used during 2020, 2 of which are in the AHS controlled area itself. These two, along with the Gauteng facilities, are vector protected facilities. 110 horses moved under this protocol, compared to 319 for 2019, a 65% decrease. Seven (6.3% compared to 11% in 2019) horses travelled through the two facilities that were in the controlled area. All stop-over facilities used in 2020 were within the Western Cape boundaries except for the Gauteng vector proof facilities.

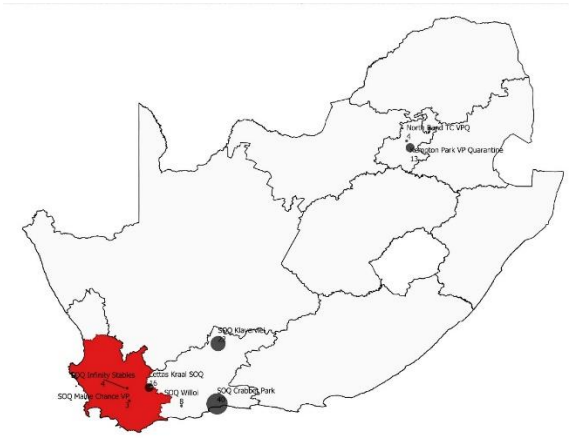

Figure 3: Facilities used for stop-over quarantine movements during 2020 with proportional circles representing the total number of equids that used these facilities. Note that Infinity Stables and Maine Chance are the two that are within the AHS controlled area.

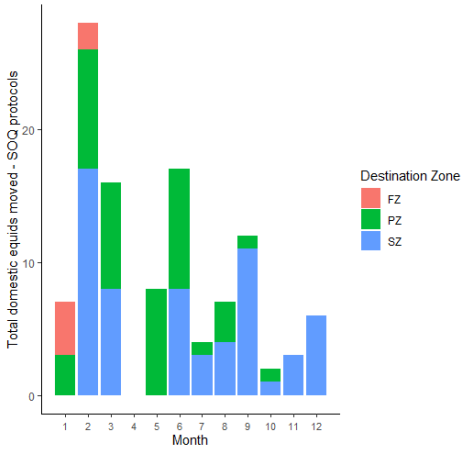

Figure 4: Equids moving under the stop-over quarantine protocol during 2020 with their month of movement and destination shown.

Figure 4 shows the temporal trend of the horses that moved in this fashion. With such a substantial difference in movement totals between 2019 and 2020 its difficult to compare temporal trends of this type of movement. 2019 had peak movements during May, June, and July – in 2020 it was a more sporadic pattern with peaks in Feb, March, June, and September. The destination of these movements is also shown with the surveillance zone being the primary destination, which mirrors the general movement trend (see Figure 1)

Wild equids

A total of 34 wild equids (all zebra) were moved within or from the AHS controlled area during 2020 (Figure 5 - compared to 26 in 2019). All were Burchell's zebra (aka Plain's zebra - *Equus burchelli*). All movements were either in the same AHS controlled zone or into a zone of less control. No animals moved from the infected zone into the AHS controlled area.

TO \ FROM	Infected	Protection	Surveillance	Free
Infected	NA	9	4	0
Protection	0	14	7	0
Surveillance	0	0	0	0
Free	0	0	0	0

Figure 5: Number of zebras moved during 2020 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 2020 that were associated with the AHS controlled area. Numbers on each line represent the total moved for each of the movements (n=9) that occurred. The arrow represents the origin and destination of each movement in relation to the AHS control zones underlying the movement.

As in the previous analyses 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.

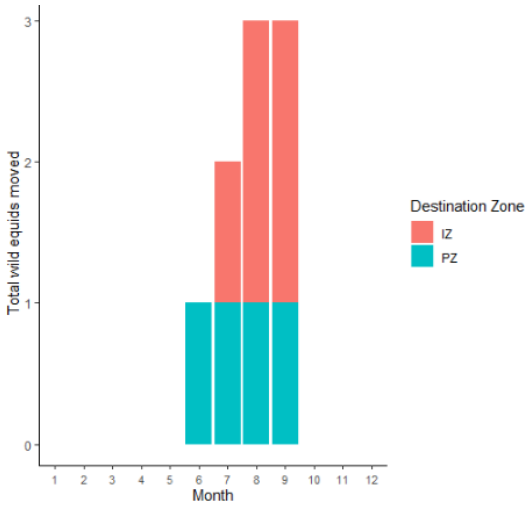

Figure 7: Zebra moved during 2020 with their month of movement and destination shown.

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 72 hours of movement. A total of 2860 equids moved in this fashion during the year, down from 3939 in 2019, an 27% decrease. Most equids that moved within the controlled area were Thoroughbreds (80.1%). Most (74% down from 77% in 2019) 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.

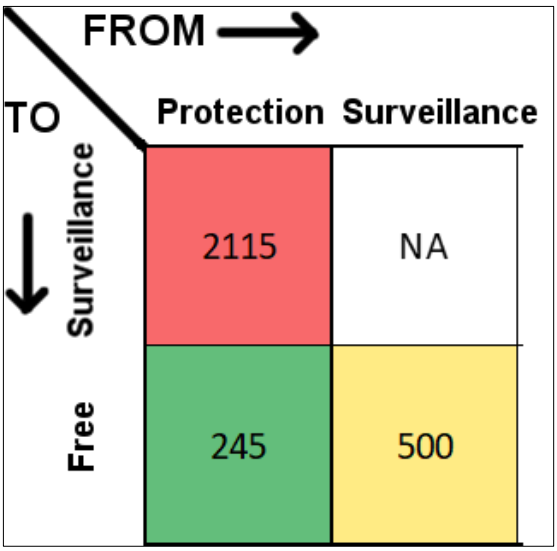

Figure 8: Movements of domestic equids within the AHS controlled area, where horses move to a zone of higher control, during 2020.

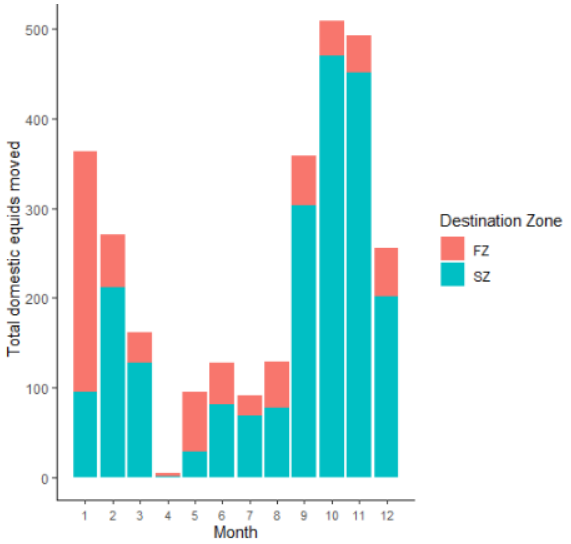

Figure 9: Time series lot of total domestic equids moved and their origin-destination for movements within the AHS controlled area during 2020

The movement pattern over time (Figure 9) is quite like that of infected area origin movements (see Figure 1). The movements from the protection zone into the free zone in January 2020 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 equids 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.

Discussion

A total of 5552 equids moved into a zone of higher control during the year which is a 33% decrease from 2019 – this almost certainly because of COVID restrictions implemented in early 2020. Once again it is clear that most movements into a zone of higher control consisted of domestic equids 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. Most movements are associated with Thoroughbred horses, and this breed drives the high areas of origin of the various racing centers in the country and the use of stop-over facilities in the Karoo.

Movement regulation requires close communication and interaction between various regulatory and State authorities. Movements originated from 47 of the 126 State vet areas in the country; although only 20 SV areas had more than 10 equids move from them during the year.

Stop-over quarantine movements have assisted in facilitating the movement of 110 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.

Acknowledgements

The South African Equine Health and Protocols NPC have been the authorized permit issuing body during 2020 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 equids, and in particular the State Veterinary Services in the Western Cape, namely Drs Gary Buhrmann, Sewellyn Davey, Michael Swart, Christi Kloppers, Edwin Dyason, Vivian Malan, Roelof Hugo, Chanel Lombard, 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.

During 2020 the central auditing of movements was continued by the Department of Agriculture, Forestry and Fisheries (now Department of Agriculture, Land Reform and Rural Development) 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 year and movement control has a large part to play in this.