Foot and Mouth Disease outbreak and surveillance update report

5 August 2022*

Report compiled by:
Directorate: Animal Health

* This report includes all information as available by close of business on the indicated date. All the updates contained in this report may not currently reflect on the OIE WAHIS system due to technical difficulties with the OIE reporting system. This report reflects changes since the previous update report of 29 July 2022.

1. Introduction and summary

South Africa currently has 110 open Foot and Mouth Disease (FMD) outbreaks in the previous FMD free zone, comprised of three outbreak events. The first event started in May 2021 and is affecting KwaZulu-Natal Province. The second outbreak event started in March 2022 in the previous free zone in Limpopo Province. The third outbreak event also started in March 2022 in North West Province, with spread to Free State, Gauteng and Mpumalanga Provinces.

Map 1: Reported outbreaks in the previous FMD free zone 2021 - 2022

Note: Dots on the maps that indicate locations in close proximity might appear as single dots.

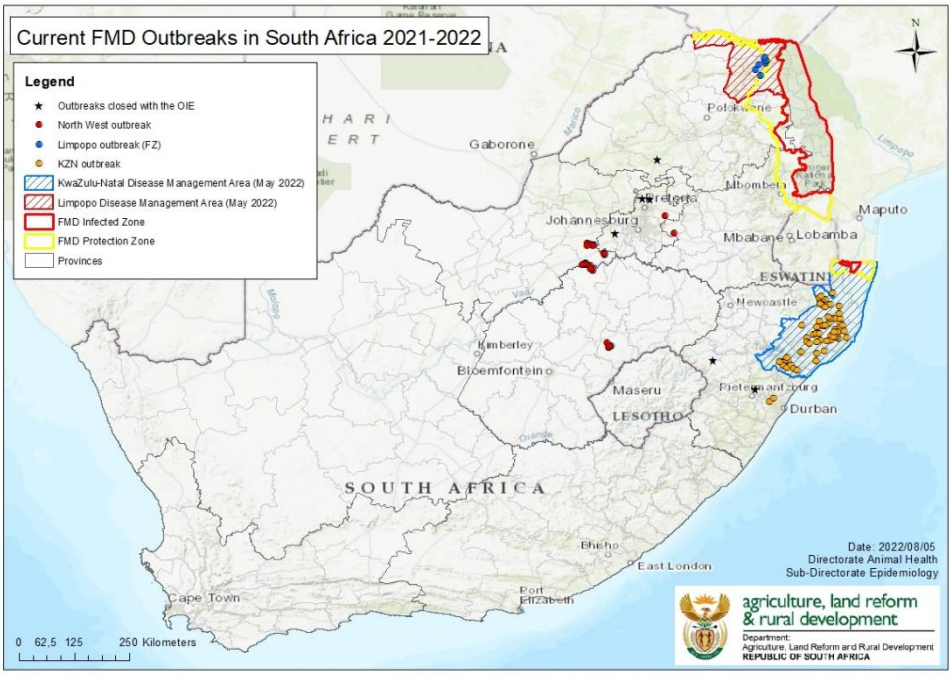


Table 1: Summary of active outbreaks per province:

Province	Number of open outbreaks	Number of resolved outbreaks	Total number of outbreaks	Last reported outbreak
KwaZulu-Natal	73	2	75	29 July 2022
Limpopo (previous free zone)	7	1	8	13 June 2022
North West	14	0	14	21 June 2022
Gauteng	1	3	4	5 August 2022
Free State	14	0	14	5 August 2022
Mpumalanga	1	0	1	5 August 2022
Total	**110**	**6**	**116**	

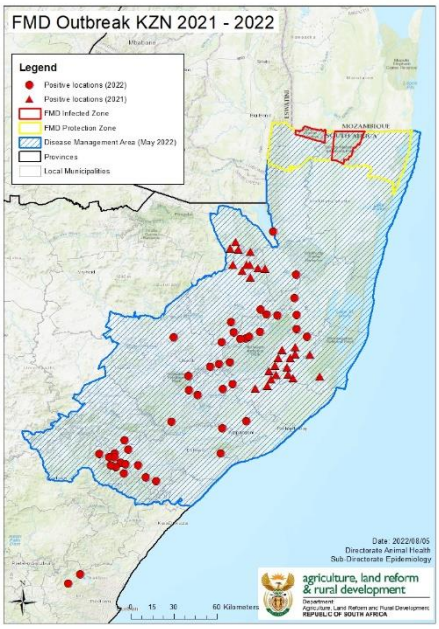
2. Details of open outbreaks

2.1 Outbreak event 1: KwaZulu-Natal Province

2.1.1 Affected locations

Since the update report of 29 July 2022, no additional cases have been identified.

Map 2: Outbreak event in KwaZulu-Natal Province



2.1.2 KZN Disease Management Area (KZN DMA):

The Minister of Agriculture, Land Reform and Rural Development declared an expansion of the KZN DMA in the Government Gazette No. 46350 on 10 May 2022.

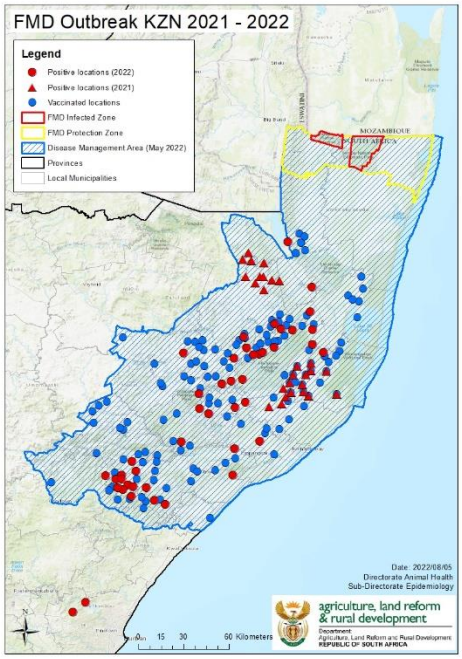
2.1.3 Movement control

There are still movement restrictions on cloven-hoofed animals, their products and genetic material out of, into, within or through the KZN DMA. The Movement Control Protocol was revised, and an updated version circulated on 25 May 2022. Visible Veterinary Patrols were redirected to cover high risk areas in the increased KZN DMA.

2.1.4 Vaccination

The vaccination campaign started on 15 March 2022 and is still ongoing in the areas of the KZN DMA where there appears to be active virus circulation. A risk-based approach is followed to determine which areas to vaccinate and over 233 00 cattle were vaccinated thus far.

Map 3: Vaccinated locations in KwaZulu-Natal Provinces outbreak event (most positive locations are also vaccinated, therefore vaccinated and positive points are superimposed)

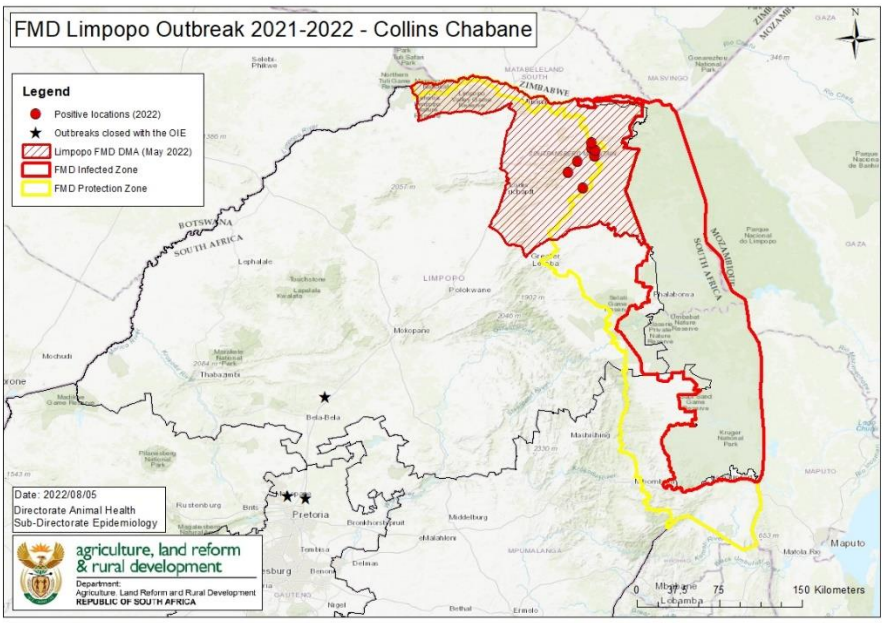


2.2 Outbreak event 2: Limpopo Province

2.2.1 Affected locations:

Since the update report of 29 July 2022, no additional cases have been identified in the previous free zone of Limpopo Province.

Map 4: Outbreak event in Limpopo Province



2.2.2 Limpopo Province Disease Management Area (LP DMA):

The Minister of Agriculture, Land Reform and Rural Development by way of Government Gazette No. 46350 on 10 May 2022 increased the size of the Disease Management Area that had been originally introduced 2019 in the Limpopo Province (LP DMA).

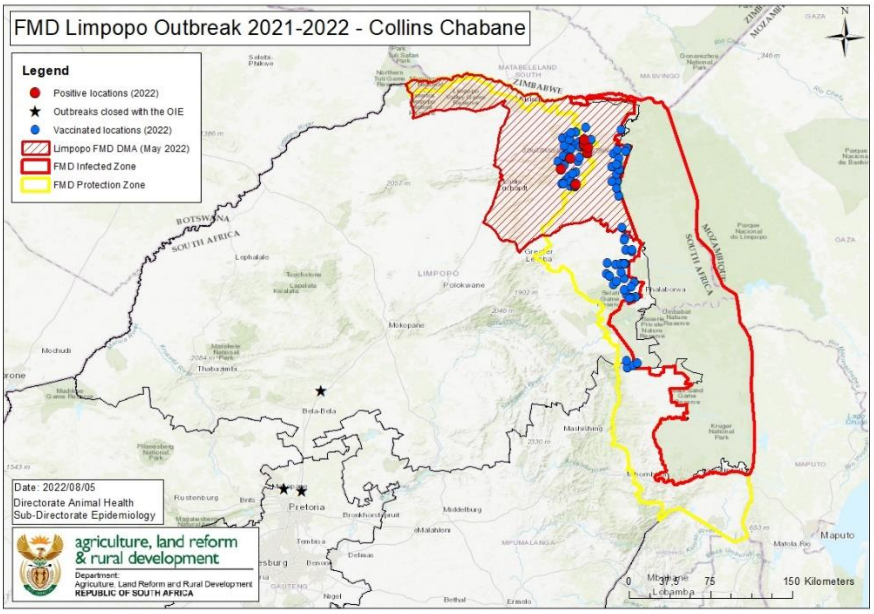
2.2.3 Movement control:

Movement control is being implemented in the expanded LP DMA, with restrictions on cloven-hoofed animals' movement, their products and genetic material out of, into, within or through the revised LP DMA in accordance with the updated Movement Control Protocol circulated on 25 May 2022. Roving roadblocks have now replaced the static roadblocks and are being directed according to information on possible movement of animals.

2.2.4 Vaccination:

In an effort to curtail the spread of the disease, cattle in the affected Thulamela area of Limpopo Province are being vaccinated to establish a band of resistant animals around the known positive dip tanks. Local dip tanks and crush pens have been revamped, enabling vaccination and surveillance teams to work more effectively. In addition to vaccinations within the previous Free Zone, the Protection Zone is also undergoing routine vaccinations. Eighty locations with a total of 44 373 cattle have been vaccinated thus far, and the vaccination campaign continues.

Map 5: Vaccinated locations in Limpopo outbreak event (most positive locations are also vaccinated, therefore vaccinated and positive points are superimposed)



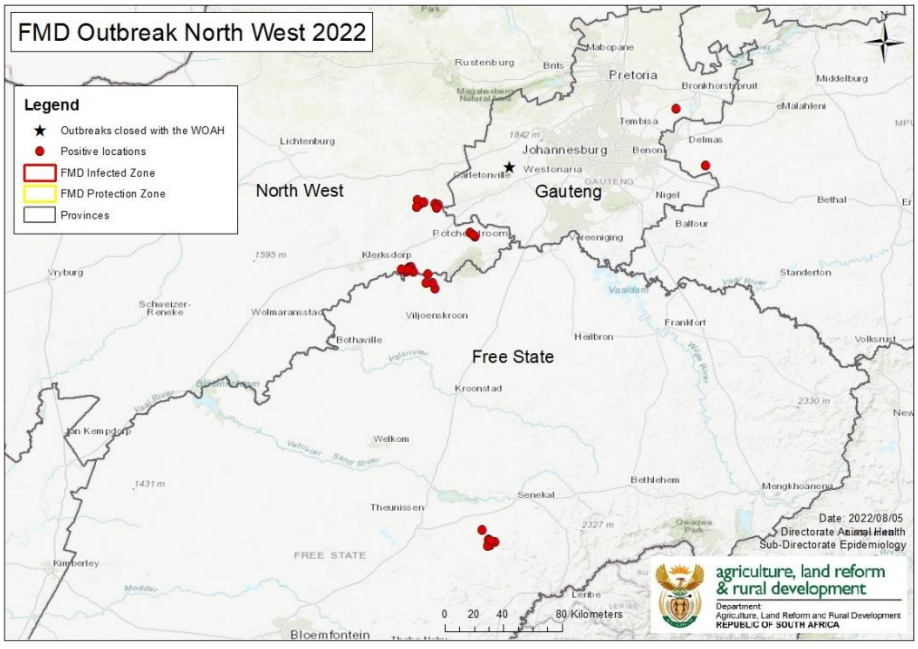
2.3 Outbreak event 3: North West - Free State – Gauteng - Mpumalanga Provinces

2.3.1 Affected locations:

Since the update report of 29 July 2022, 9 new positive locations were identified in this outbreak. Seven of the new locations were reported in the Free State province - one in Moqhaka municipality and six in Setsoto municipality. These were detected through serological surveillance within the radius surrounding previously identified infected locations.

One new positive location has been identified in Tshwane municipality of Gauteng Province through the identification of lesions and diligent report of the owner. One new case was identified in Victor Khanye of Mpumalanga Province. The source of the Gauteng and Mpumalanga infection is still being investigated. The premises are well fenced and have therefore been placed under quarantine.

Map 6: Outbreak event North West - Free State – Gauteng – Mpumalanga Provinces

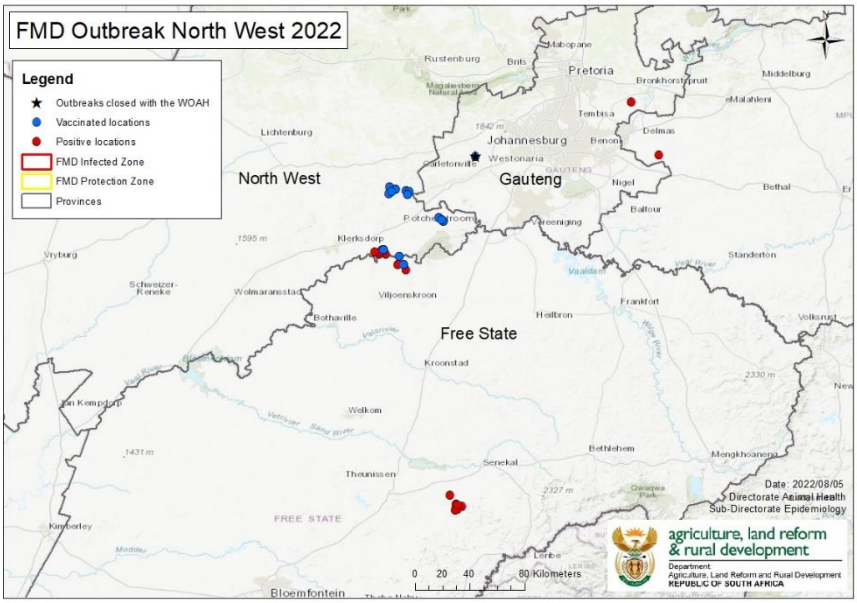


2.3.2 Movement control and Vaccination:

The affected farms are currently under quarantine with strict access control. The locations involved are well fenced and movement of animals from these farms can be effectively prevented. Vaccinations of affected premises in the North West Province began in early June

2022 and has started with the second round of vaccinations with 32 448 animals being vaccinated thus far. The Free State Province has begun vaccinating new affected premises and by the end of July, 25 759 cattle were vaccinated at five locations. The Free State vaccination is ongoing at infected premises. Below is the map according to the most recent vaccination statistics.

Map 7: Vaccinated locations in North West Province outbreak event (most positive locations are also vaccinated, therefore vaccinated and positive points are superimposed)



2.3.3 Depopulation of affected premises

The initial positive Free State farm was depopulated and remains under quarantine until 28 days after depopulation and disinfection. The outbreak on this premises will be officially closed once the disinfection process has concluded.

3. Diagnostic tests and epidemiology

The outbreak event in Vhembe district in Limpopo Province is caused by a SAT 3 virus, which is also responsible for the outbreaks in the North West, Free State, Mpumalanga and Gauteng Provinces. This virus appears to be highly contagious and spread continuously despite the implementation of quarantine and movement control. From preliminary epidemiological investigations, it appears that there are three main routes of virus transmission:

- Movement of clinically healthy animals that are in the incubation period
- Contamination of properties by vehicles, persons and due to inadequate biosecurity

- Nose to nose contact between cattle on neighbouring farms or by fomites.

In KwaZulu Natal Province, epidemiological investigations to date have not revealed a plausible source for the outbreak. However, the virus responsible for the outbreak is a SAT 2 serotype and is closely related to a SAT 2 virus responsible for an outbreak that occurred in the Protection Zone in northern Limpopo Province in 2019.

For all reported outbreaks, confirmation of disease was done using a combination of the following diagnostic tests at the ARC Onderstepoort Veterinary Research Transboundary Animal Diseases laboratory (OVR-TAD):

- Solid Phase Competition ELISA (SPCE)
- Non Structural Protein (NSP) ELISA
- Polymerase Chain Reaction (PCR)

4. Surveillance

The three outbreak event areas continue to be subjected to clinical and serological surveillance, with intensified inspections around newly identified infected farms and dip tanks and at epidemiologically linked locations identified through forward and backward tracing. Within the Limpopo Province DMA, separate teams are also performing clinical and serological surveillance from the outskirts of the DMA towards the known affected areas.

Passive surveillance leads to reporting of suspect outbreaks by veterinarians and farmers that are followed up by intensive clinical inspection and laboratory testing. Some outbreak locations were identified as a result of such reports of varied clinical signs seen in cattle, while most were identified during trace back and trace forward exercises, including links of movements through auctions, as well as surveillance of farms adjacent to positive locations. The varying clinical presentation of the disease in different locations necessitates surveillance based on both clinical inspections, including mouthing, as well as serology.

Table 2: Summary of Serological surveillance per province:

Province	Number negative locations	Number of open positive locations	Total number of locations
KwaZulu-Natal	323	73	396
Limpopo	166	7	137
North West	71	14	85
Gauteng	26	1	27
Free State	73	14	87
Mpumalanga	0	1	1
Total	**659**	**110**	**769**

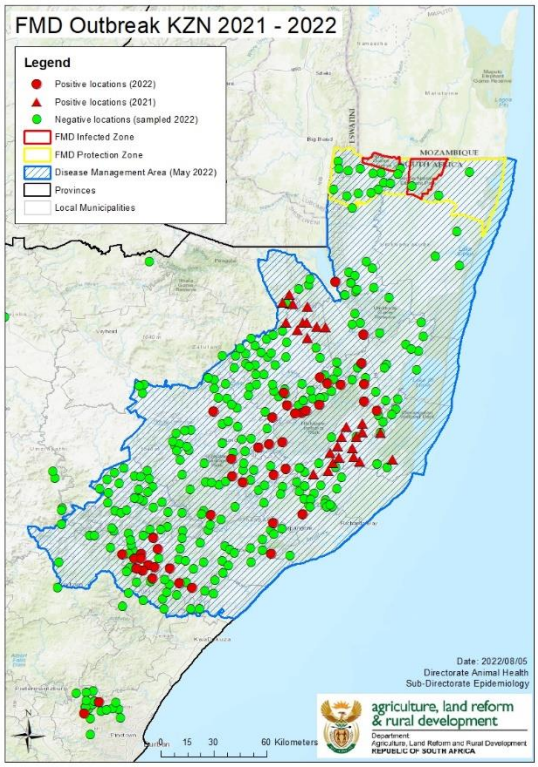
Once any animals are found to be positive at a location, the entire location with all in contact animals at the location, are regarded as positive. The table above therefore reflects the status of locations and not the individual animals at the locations.

Below are maps of each outbreak event, indicating all locations surveyed, with negative results indicated in green and positive locations in red.

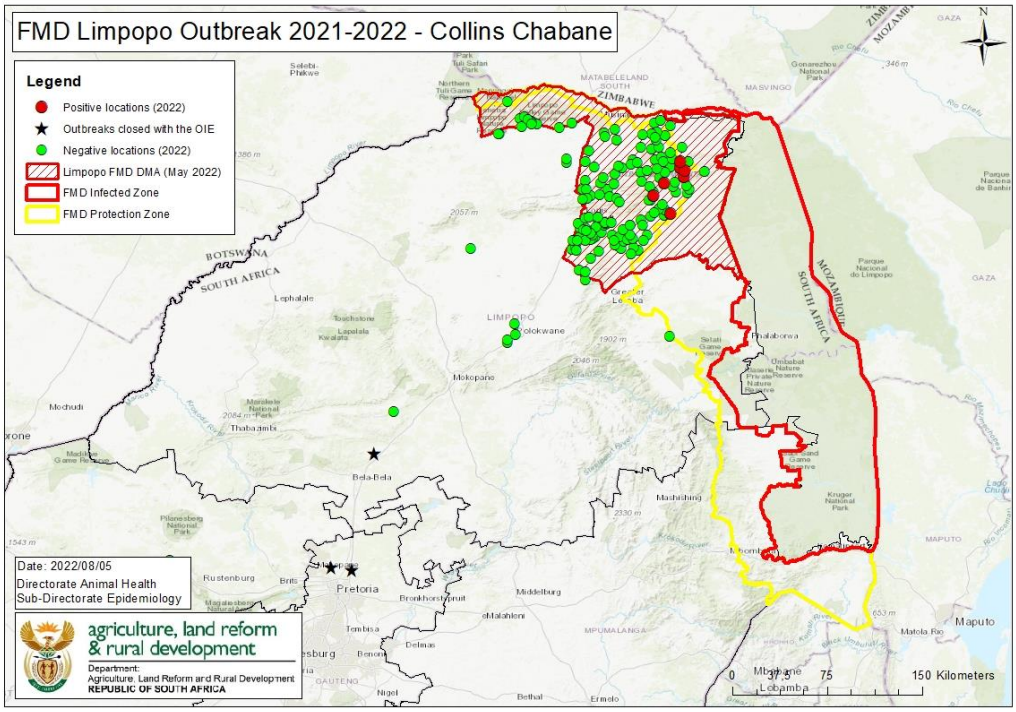
Note that the North West and Free State Provinces are undergoing the second round testing on previously identified linked locations and the numbers of the negative locations have thus not changed drastically for these provinces despite the number of locations tested having increased.

Note that in both the table above, as well as the maps below, the number of locations that tested negative only indicates the number of locations that tested negative during this year (2022) from when the disease was found to be spreading again. The number of positive locations also includes the locations that were identified as positive last year (2021).

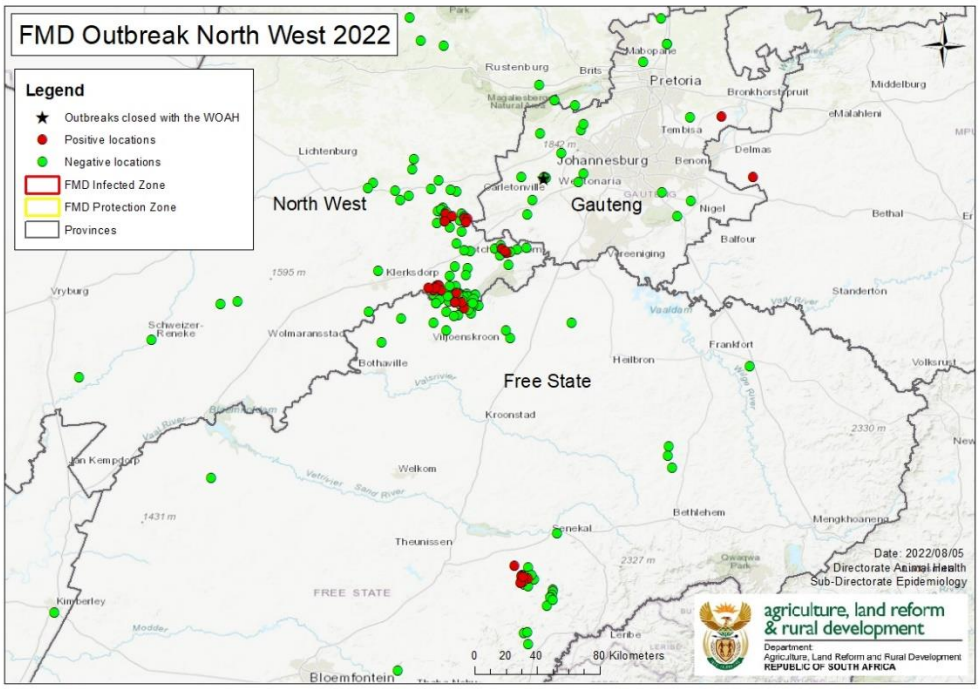
Map 7: Serological surveillance in KwaZulu-Natal Province outbreak event, showing 319 negative and 73 positive locations



\Map 8: Serological surveillance in Limpopo Provinces outbreak event, showing 130 negative and 7 positive locations



Map 9: Serological surveillance in North West - Free State Provinces outbreak event showing 69 negative and 14 positive locations (please note that some of the points are superimposed due to close proximity)



5. Awareness and clamp down on illegal movements

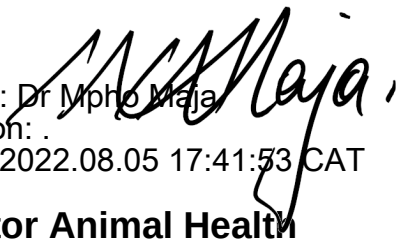
The movement of animals remains the greatest contributing factor to the spread of disease. All stakeholders, farmers and livestock owners were again requested to abide by the movement restrictions within all affected provinces and to not to move cloven hoofed animals without proper knowledge of the health status of the farms of origin. Feedlots were also advised to isolate animals before allowing entry into the main feedlot.

The illegal movement of animals from the FMD protection zone with vaccination to the FMD free zone played a significant role in all of the current outbreaks. The outbreaks in KZN and Limpopo Provinces were directly caused by such proven or suspected illegal movements. The industry is actively assisting in the clamp-down on illegal movements by cooperating with veterinary services and Stock Theft Units in reporting suspect movements of animals and by reporting animals of suspect origin being presented at auctions. Any illegally moved animals found are seized and destroyed and perpetrators are prosecuted for contravention of the Animal Diseases Act, 1984 (Act No 35 of 1985).

The animals that caused the outbreak in North West Province moved from an area in Limpopo that, at the time of moving, the area of origin in Limpopo was already infected, though yet

undetected at the time. This illustrates the real danger of animals moving during the incubation period of the disease.

Livestock owners are continuously reminded to exercise utmost caution when moving cloven-hoofed animals by ascertaining the history of the animals and their contacts and consulting veterinary advice prior to accepting any new stock.



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