

Foot and Mouth Disease outbreak report

2021-2023



agriculture, land reform
& rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

Report compiled by:
Directorate: Animal Health

1. Introduction and summary

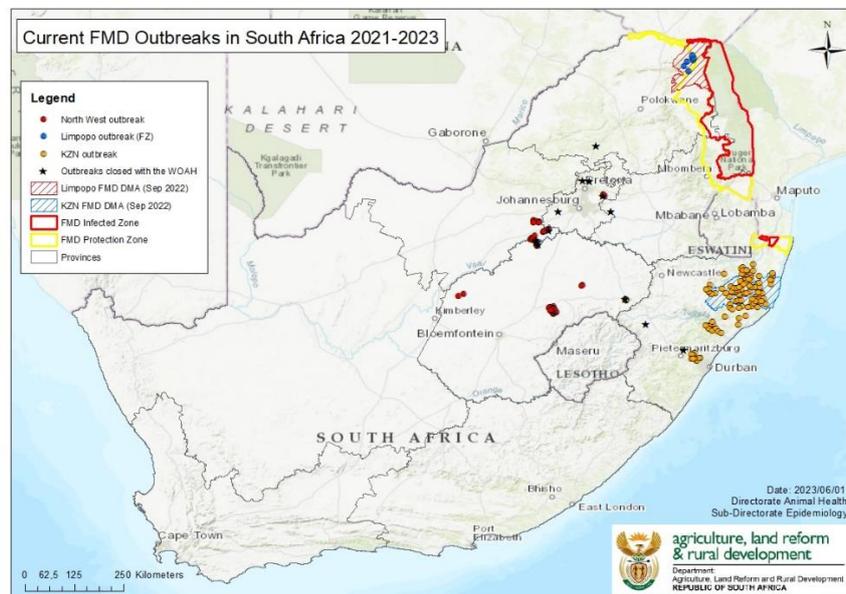
South Africa currently has three Foot and Mouth Disease (FMD) outbreak events in the previously FMD free zone without vaccination. These three outbreak events currently comprise 199 open outbreaks¹ reported to the World Organisation for Animal Health (WOAH founded as OIE). South Africa has so far resolved 14 infected premises in the three FMD outbreak events and closed them with the WOAH.

The first outbreak event started in May 2021 and mainly affects KwaZulu-Natal (KZN) Province, with limited spread to Free State Province. The second outbreak event started in March 2022 in the previous FMD free zone in Limpopo Province, with limited spread to Gauteng Province. The third outbreak event also started in March 2022 in the North West Province (linked to the second outbreak event in Limpopo Province) with spread to Mpumalanga, Gauteng and Free State Provinces.

There are two viruses responsible for the current three outbreak events:

- SAT 2 serotype in outbreak event 1 (KwaZulu-Natal – Free State)
- SAT 3 serotype in outbreak event 2 (Limpopo – Gauteng) and outbreak event 3 (North West – Gauteng – Mpumalanga – Free State)

Map 1: Reported outbreaks in the previous FMD free zone



¹'Outbreak' means the occurrence of one or more cases in an epidemiological unit. An 'event' means a single outbreak or a group of epidemiologically related outbreaks of a given disease.

Table 1: Summary of outbreaks per outbreak event and per Province:

Outbreak Event	Province	Number of open outbreaks	Number of resolved outbreaks	Total number of outbreaks	Start date of last reported outbreak
Outbreak event 1: KwaZulu-Natal – Free State	KZN	137	2	139	23 May 2023
	FS	3	1	4	26 Sep 2022
Outbreak event 2: Limpopo - Gauteng	LP	7	1	8	25 Apr 2022
	GP	0	2	2	30 Mar 2022
Outbreak event 3: North West – Gauteng – Mpumalanga – Free State	NW	16	2	18	22 Nov 2022
	GP	3	2	5	30 Aug 2022
	MP	0	1	1	2 Aug 2022
	FS	33	3	36	22 Sep 2022
Total		199	14	213	

2. Details of open outbreak events (as reported to the WOA)

2.1 Outbreak event 1: KwaZulu-Natal – Free State Provinces

The most recent cases in this outbreak event were reported to the WOA in May 2023 and the event is therefore ongoing. This outbreak event involves 140 locations in total that are currently still open with the WOA. The bulk of the open outbreaks, 134 locations in KZN, are communal dip tanks and a few small-scale farms.

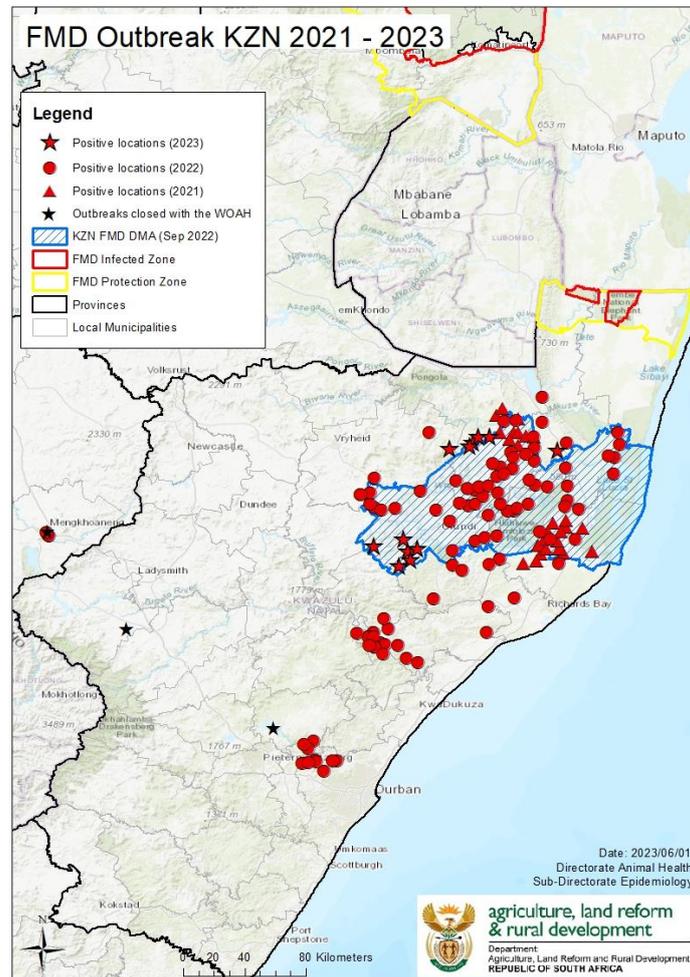
There are also 3 affected game reserves in KZN, all within close proximity of each other. Active surveillance is being done on surrounding game reserves with buffalo, to establish spread of disease for effective control measures to be applied.

Following spread of this outbreak to the adjacent Free State province in September 2022, there are 3 open outbreaks in the Free State, including one feedlot and two small scale farms. However, no further spread was detected in the Free State in the past 8 months. The remaining affected farms are still under quarantine.

Three outbreaks in this event have been resolved and closed with the WOA. This includes two feedlots in KZN, with both feedlots depopulated through controlled slaughter. In the Free

State, one outbreak occurred in a communal area adjacent to a feedlot. This outbreak was resolved by absorbing the animals into the affected feedlot.

Map 2: Outbreak event 1 in KwaZulu-Natal – Free State Provinces



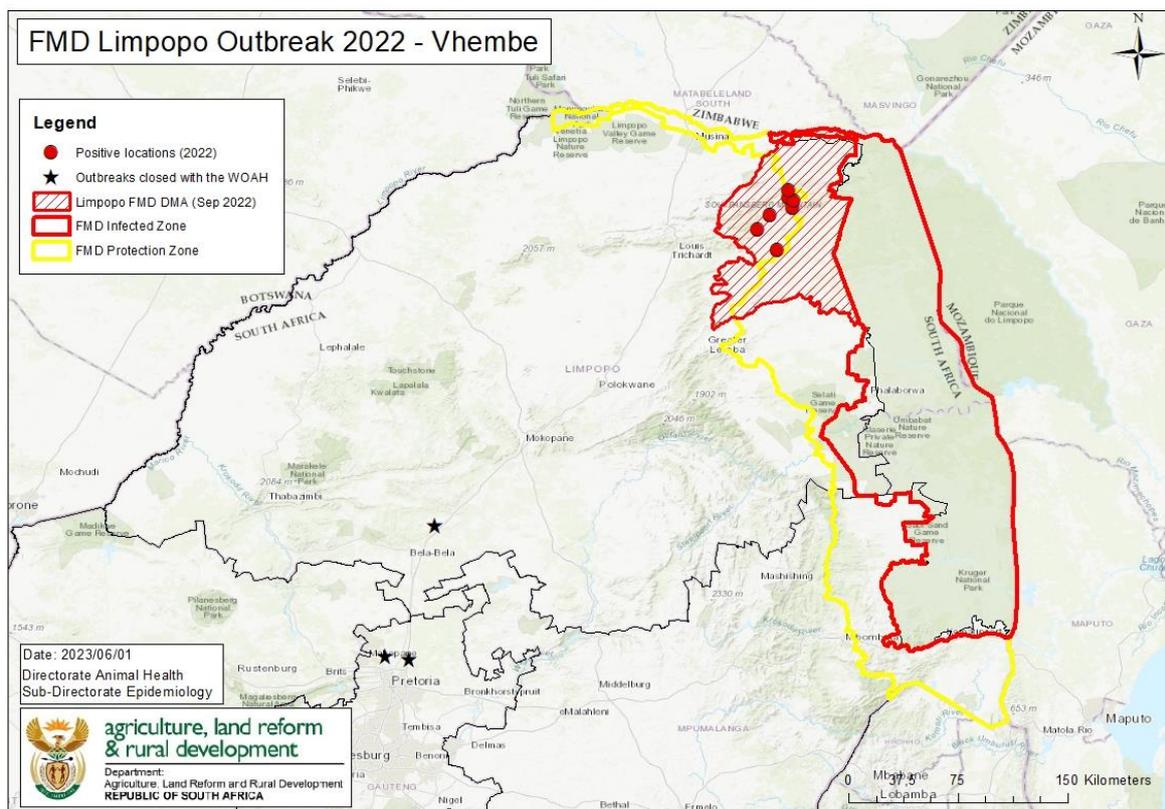
2.2 Outbreak event 2: Limpopo – Gauteng Province

The situation in Limpopo Province is stable. The start date of the last outbreak in the province was 25 April 2022, which means that more than 12 months have now passed without new outbreaks reported in this area.

7 outbreaks in communal diptanks are still open with the WOA. Clinical and serological surveillance is underway to confirm the absence of circulating virus, following which the outbreak event will be closed with the WOA.

In April 2022, which is now more than a year ago, serologically positive FMD vaccinated animals were found at two premises in Gauteng Province and one in Limpopo Province. Investigations identified that these animals had been illegally moved from the Protection Zone with vaccination in Limpopo Province. The animals were confiscated, and safely moved to a designated abattoir in Limpopo Province for controlled slaughter. These three outbreaks in this event were thus closed with WOA in May and July 2022.

Map 3: Outbreak event 2 in Limpopo - Gauteng Provinces



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

The situation in this outbreak event is stable. There are currently 52 open outbreaks in this event, involving 4 provinces, while 8 outbreaks have been resolved and closed with the WOA.

In the North West Province, the start date of the last outbreak was more than 6 months ago. Two affected farms – a feedlot and a commercial farm - have been depopulated through

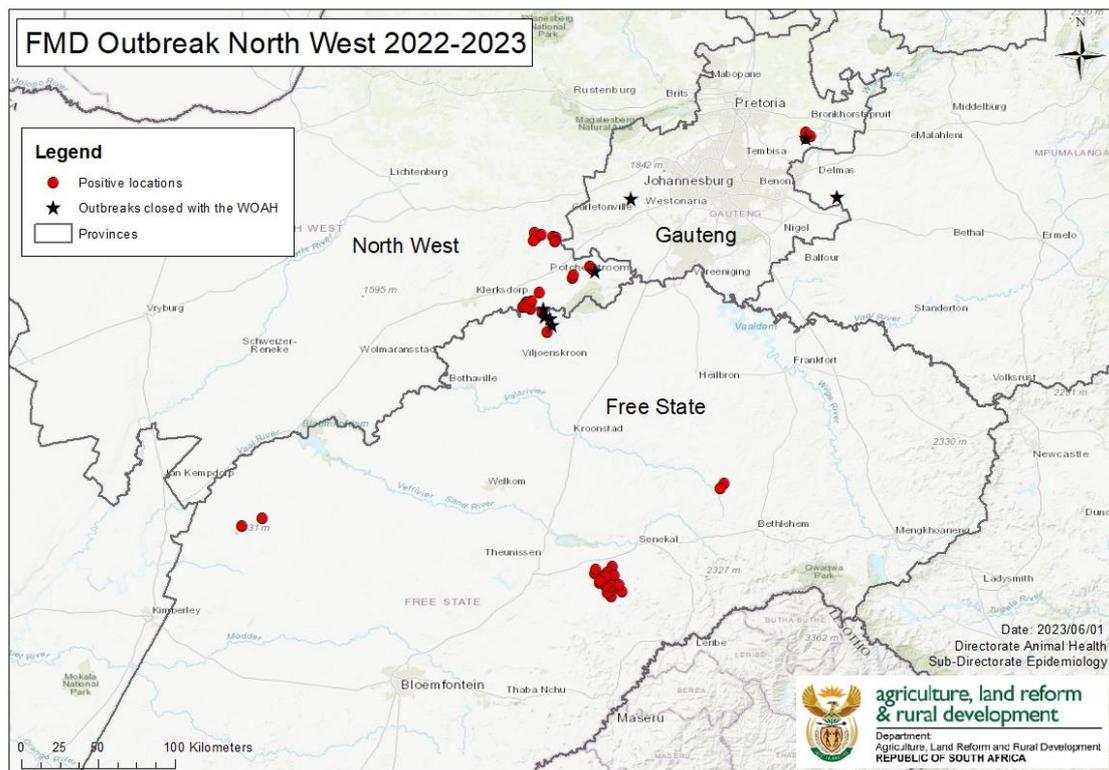
controlled slaughter and resolved with the WOA. Sixteen (16) farms, comprising commercial breeding herds and stud farms, remain under quarantine.

In the Free State province, 33 commercial farms remain under quarantine and no new outbreaks have been reported in the past 8 months. Three (3) farms have been resolved through controlled slaughter and closed with the WOA.

In Gauteng province, 3 properties remain under quarantine, with the start date of the last outbreak more than 9 months ago. One affected farm was depopulated through controlled slaughter and the outbreak closed with the WOA. Another affected feedlot has been depopulated through controlled slaughter and closed with the WOA.

In Mpumalanga, one feedlot was affected, and no new outbreaks were reported in the past 10 months. The feedlot was effectively depopulated through controlled slaughter and closed with the WOA.

Map 4: Outbreak event North West - Free State – Gauteng – Mpumalanga Provinces



3. Control Measures

3.1 Movement control

3.1.1 Quarantine of affected premises:

All affected farms and feedlots in North West, Free State, Gauteng and Mpumalanga Provinces were placed under quarantine with strict movement control. The locations involved are well fenced and movement of animals from these farms can be effectively prevented.

3.1.2 Declaration of Disease Management Areas:

Where the outbreaks occurred in communal grazing land in KZN Province and Limpopo Province, the Minister of Agriculture, Land Reform and Rural Development declared Disease Management Areas (DMA) in the Government Gazette to cover the wider epidemiologically high-risk areas. A DMA was also declared in the Free State Province to include all areas with positive locations or perceived to be at high risk of infection due to being epidemiologically linked.

With the three DMAs, cattle, sheep and goats were not allowed to be moved into, out of and through the area, as well as from one property to another for any reason, except for direct slaughter at a registered abattoir. Such movements required veterinary health certification and a movement permit. Cattle, sheep and goats were allowed to be slaughtered for own consumption or for cultural or religious purposes, but only in the same epidemiological area where they were kept prior to slaughter. Visible Veterinary Patrols and roving and stationary road blocks were directed to cover high risk areas according to information on possible movement of animals.

The Free State DMA has since been lifted, while the KZN and Limpopo DMAs were made smaller based on risk assessment and surveillance of the areas involved. The movement of cattle, sheep and goats for purposes other than direct slaughter will be considered from FMD negative properties in these areas, if deemed low risk and under specific risk mitigation conditions.

3.1.3 National movement ban:

During 2022, the outbreaks within the country were spreading despite the control measures implemented. A national movement ban on cattle was instituted from 16 August 2022 until 8 September 2022. During this period, cattle could not be moved from one property to another for any reason, except for direct slaughter at a registered abattoir. No cattle could be moved between farms, locations or premises for purposes of sale, shows, breeding, backgrounding, ritual purposes, lobola, or any other purpose. No cattle could be moved into feedlots, and movement out of feedlots were only allowed directly to registered abattoirs. No cattle could be moved for the purpose of import or export.

3.1.4 Movement control in unaffected locations:

Since the upliftment of the national movement ban, all livestock owners must provide a declaration of health and origin and must obtain the necessary Stock Theft documents for all cattle, sheep and goats to be moved from their property of origin onto other properties. Recipients of such animals must give written agreement to isolate new livestock for 28 days before introducing them into the main herds of the destination farm. The control measures for movement of cloven-hoofed animals and products out of the FMD protection zones have not changed.

3.2 Vaccination

Approximately 634 000 animals have been vaccinated to control the FMD outbreaks. Vaccination was implemented in March 2022 to curtail the spread of the disease. Cattle in communal areas are vaccinated on a risk-based approach, to ensure that the areas at highest risk are vaccinated first. Cattle on affected farms and feedlots were also vaccinated to reduce the viral load and lower the risk of spreading of disease while the controlled slaughter processes are ongoing.

Routine vaccination in the protection zone is also continuing. The vaccine being used is procured from the Botswana Vaccine Institute and encompasses all three SAT types. Only government officials are allowed to vaccinate animals as per the outbreak control plans.

3.3 Controlled slaughter

Affected positive feedlots and certain commercial farms are depopulated through controlled slaughter at designated abattoirs. The risk materials are processed or disposed of and only known safe products are released into the local market. No meat from affected animals may enter the export market. The infected properties remain under quarantine until 28 days after depopulation and disinfection. The outbreaks on the properties are officially closed once the disinfection process has been concluded. Around 200 000 animals have been sent for controlled slaughter to date.

4. Confirmation of diagnosis

Confirmation of disease was done using a combination of the Solid Phase Competition ELISA (SPCE), Non Structural Protein (NSP) ELISA, and Polymerase Chain Reaction (PCR). All diagnostic tests are performed at the ARC Onderstepoort Veterinary Research Transboundary Animal Diseases laboratory (OVR-TAD).

5. Epidemiological investigation

The SAT 3 virus, responsible for outbreak events 2 and 3, originated in Limpopo Province. The source of introduction of this virus into Limpopo could not be determined, as the virus is not closely linked to any viruses recently identified in the infected or protection zones of South Africa.

This virus spread to North West Province, and subsequently to the Free State, Gauteng and Mpumalanga Provinces. The animals that caused the outbreak in North West Province moved from an area in Limpopo Province that was not under restriction at the time of the movement.

In KwaZulu Natal Province, epidemiological investigations to date have not revealed a 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. It is therefore most likely that illegal movement of animals from the Protection Zone in Limpopo to KZN Province, may be the cause of the outbreak in KZN.

6. Surveillance

Clinical and serological surveillance around the affected areas continue, with intensified inspections around identified infected dip tanks in communal areas, or epidemiologically linked locations identified through forward and backward tracing. The clinical presentation of the disease in different locations have varied, from the classical clinical picture in some locations, to absence of clinical signs in others. Surveillance is therefore based on both clinical inspections, including mouthing, as well as serology.

All cattle presented at auctions are inspected before being admitted to the auction pens. If any animal presents with clinical signs, the auction is suspended while investigations are conducted, including laboratory confirmation ruling out FMD.

7. Status summary and way forward

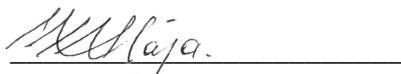
No cases of FMD have been reported in the Eastern Cape Province, Northern Cape Province and Western Cape Provinces. These three Provinces remain FMD free without vaccination.

The single outbreak in Mpumalanga Province has been resolved through slaughter out and the outbreak was closed with the WOA. Mpumalanga province has a legislated FMD protection zone, where routine vaccination is done in diptanks close to the FMD infected zone. The rest of the Mpumalanga Province is now regarded as free from FMD, without vaccination.

The outbreak event in Limpopo Province was resolved and the event will be closed with the WOA in the near future. Like Mpumalanga, Limpopo has a legislated FMD protection zone, where routine vaccination is done in diptanks close to the FMD infected zone.

Free State Province, Gauteng Province and North West Province still have open outbreaks with the WOA, but there are no clinical or serological signs of virus circulation in these provinces for over 6 months. The affected properties are well fenced, commercial breeding and stud farms, and the farms remain under quarantine. A representative number of animals on these farms will be tested for FMD antibodies when a year has passed since the last vaccination. If the farms are seronegative, the outbreaks will be regarded as resolved and closed with the WOA. Should any animals test positive on serology, further testing and investigation will be performed to confirm the absence of circulating FMD virus.

The outbreak event in KwaZulu Natal Province is still ongoing. Movement control is applied on affected diptanks and the control measures of the Disease Management Area are still in place. Clinical surveillance is ongoing in diptanks to ensure early detection of any disease. Vaccination is continuing in areas around infected game reserves and affected diptanks.



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