

# Foot and Mouth Disease outbreak report

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2021-2023



agriculture, land reform  
& rural development

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

Report compiled by:  
Directorate: Animal Health

## 1. Introduction and summary

South Africa experienced three outbreak events<sup>1</sup> in the period from March 2022 to present.

- Outbreak event 1: SAT 2 serotype in KwaZulu-Natal and Free State
- Outbreak event 2: SAT 3 serotype in Limpopo and Gauteng
- Outbreak event 3: SAT 3 serotype in North West, Gauteng, Mpumalanga and Free State

Outbreak event 2 started in March 2022 and was resolved and closed with the World Organisation for Animal Health (WOAH) on 29 August 2023.

Outbreak event 1 started in May 2021 and mainly affects KwaZulu-Natal (KZN) Province, with limited spread to Free State Province.

Outbreak event 3 also started in March 2022 in the North West Province (linked to the outbreak event in Limpopo Province) with spread to Mpumalanga, Gauteng and Free State Provinces.

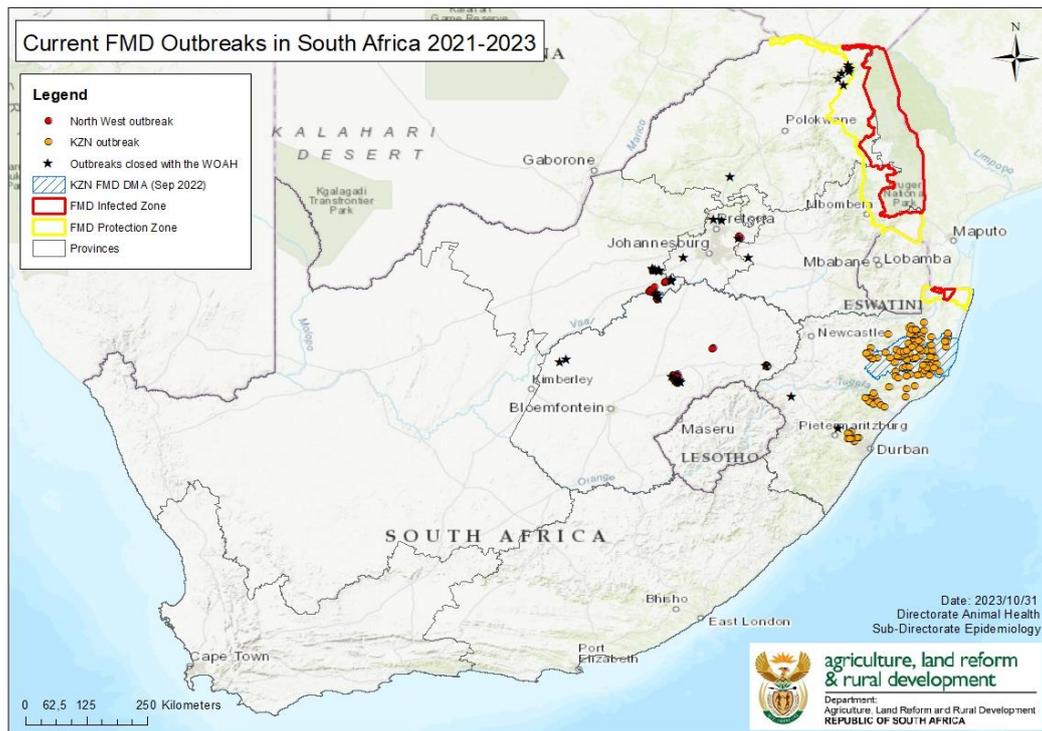
There are currently 172 open outbreaks reported to the WOAH, and 42 outbreaks were resolved and closed with the WOAH. The table hereunder provides a summary of the open and closed outbreaks per Province, as well as the date of the last reported outbreak.

**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	138	2	140	23 May 2023
	FS	2	2	4	26 Sep 2022
Outbreak event 2: Limpopo - Gauteng	LP	0	8	8	25 Apr 2022
	GP	0	2	2	30 Mar 2022
Outbreak event 3: North West – Gauteng – Mpumalanga – Free State	NW	7	11	18	22 Nov 2022
	GP	3	2	5	30 Aug 2022
	MP	0	1	1	2 Aug 2022
	FS	22	14	36	22 Sep 2022
<b>Total</b>		<b>172</b>	<b>42</b>	<b>214</b>	

<sup>1</sup>'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.

**Map 1: Reported outbreaks in the previous FMD free zone**



The Veterinary Services is currently investigating a suspicion of FMD in the North West Province. Positive test results were found during routine surveillance in the high surveillance zone adjacent to the Botswana border. There are atypical signs in some of the cattle on the index farm and neighbouring farm. The North West Veterinary Services placed the farm under quarantine and took further samples of the cattle on the index farm, as well as neighbouring farms.

## **2. Details of open outbreak events (as reported to the WOAH)**

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

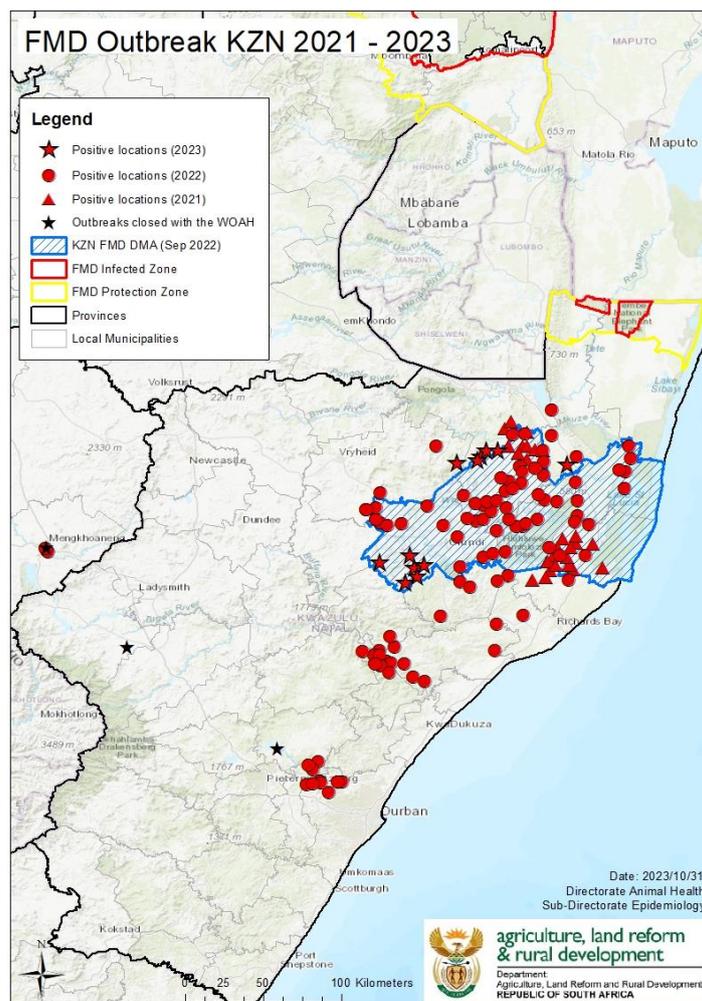
The last cases in this outbreak event were reported to the WOAH in May 2023 and no new outbreaks were reported in the last 5 months. This outbreak event involves 140 locations that are currently still open with the WOAH. The bulk of the open outbreaks, 134 locations in KZN, are communal dip tanks and a few small-scale farms.

There are also 4 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 only 2 remaining open outbreaks on small scale farms in the Free State. These farms are still under quarantine. No further spread was detected in the Free State in the past 13 months.

Four outbreaks in this event have been resolved and closed with the WOA. Three feedlots were depopulated through controlled slaughter, which includes two feedlots in KZN and one in the Free State. 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**

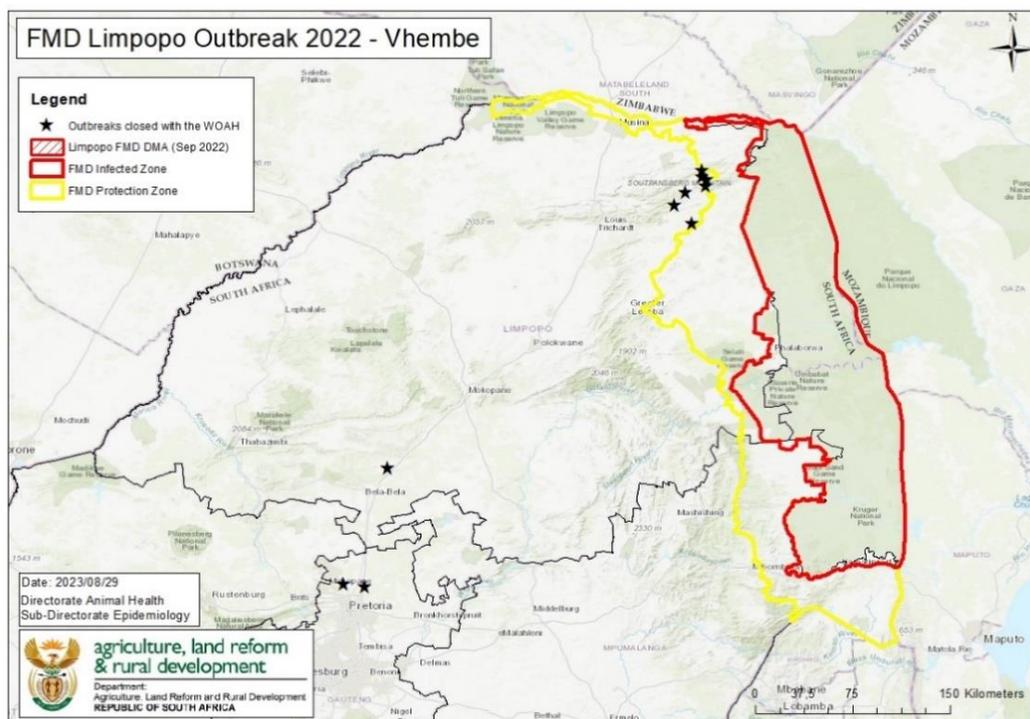


## **2.2 Outbreak event 2: Limpopo – Gauteng Province**

The outbreak event was resolved and closed with the WOAH on 29 August 2023. The outbreak event started in April 2022 and affected 7 diptanks in a communal grazing area. More than 18 months have passed with no new outbreaks, as confirmed through ongoing clinical and serological surveillance to confirm the absence of FMD infection.

The three outbreaks that were reported in Gauteng Province as part of this outbreak event were already resolved and closed with the WOAH more than a year ago, in May and July 2022. These outbreaks were caused by serologically positive FMD vaccinated animals that were found at two premises in Gauteng Province and one in Limpopo Province. There was no infection detected, and the animals tested serologically positive due to vaccination. 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, whereafter the outbreaks were closed with the WOAH.

**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, with no new outbreaks detected since November 2022. There are currently 32 open outbreaks in this event, involving 3 provinces, while 28 outbreaks have been resolved and closed with the WOAAH.

In the initial period shortly after clinical end point was reached on the affected farms, some farms and feedlots were depopulated through controlled slaughter. (See more details in the next section of this report). Eighteen (18) of the affected premises (NW (2), FS (14) and Gauteng (2)) were depopulated, quarantine lifted, and the outbreaks resolved and closed with the WOAAH.

The remaining farms, comprising commercial breeding herds and stud farms, remained under quarantine. Once a period of 12 months after clinical end point has passed, each farm is sampled to confirm the absence of circulating virus. The sampling strategy includes sampling of adults as well as calves, and testing using the SPCE and NSP tests. These tests are now in progress for most farms remaining under quarantine in this outbreak event.

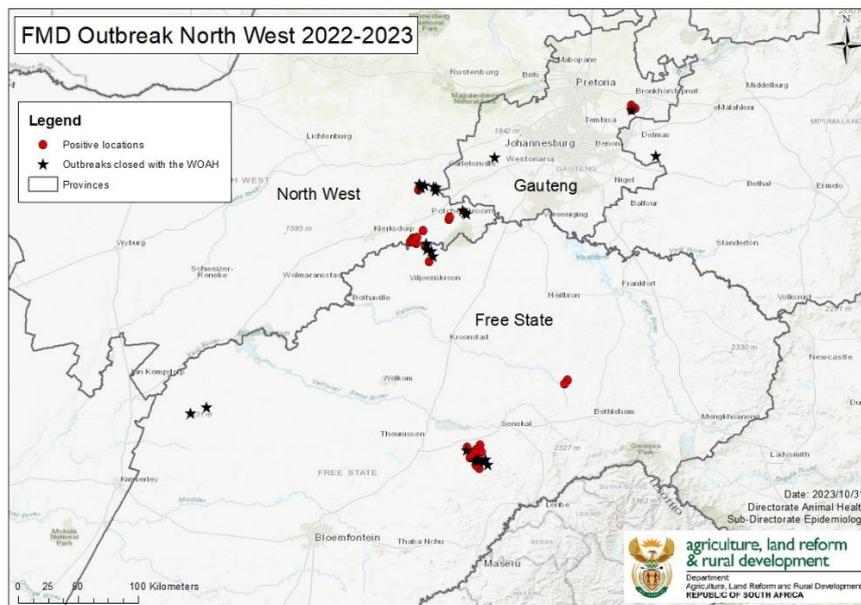
In the North West Province, the outbreaks on 11 of the 18 affected farms were resolved and closed with the WOAAH. Quarantine was lifted on nine (9) farms in the past month, following testing to confirm the absence of circulating virus. Two (2) affected farms were previously depopulated through controlled slaughter and resolved with the WOAAH. Seven (7) farms, comprising commercial breeding herds and stud farms, remain under quarantine, pending follow-up testing.

In the Free State Province, fourteen (14) farms in total have been resolved through depopulation and controlled slaughter and closed with the WOAAH, while 22 commercial farms remain under quarantine, pending follow-up testing.

In Gauteng Province, two properties (one farm and one feedlot) were depopulated through controlled slaughter and the outbreaks closed with the WOAAH. Three (3) commercial farms remain under quarantine pending further testing.

Mpumalanga Province has no open FMD outbreaks with the WOAAH. The one affected feedlot was effectively depopulated through controlled slaughter and the outbreak closed with the WOAAH.

**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 were 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 was resolved through slaughter out and the outbreak was closed with the WOA on 26 June 2023. 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 closed with the WOAHA on 29 August 2023. Limpopo Province also has a legislated FMD protection zone, where routine vaccination is done in diptanks close to the FMD infected zone. The rest of the Limpopo Province is now regarded as free from FMD, without vaccination.

Free State Province, Gauteng Province and North West Province still have open outbreaks with the WOAHA, but there are no clinical or serological signs of virus circulation in these provinces for the past 11 or more 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 are tested for FMD antibodies when a year has passed since the last vaccination. If the farms are seronegative, the outbreaks are regarded as resolved and closed with the WOAHA. Should any animals test positive on serology, further testing and investigation are performed to confirm the absence of circulating FMD virus. The seropositive animals will remain under movement restriction, while quarantine on the farm may be lifted if there is evidence that there is no virus circulation.

No new cases were reported in the outbreak event in KwaZulu Natal Province in the past 5 months. 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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**Director Animal Health**

Date: 31 October 2023