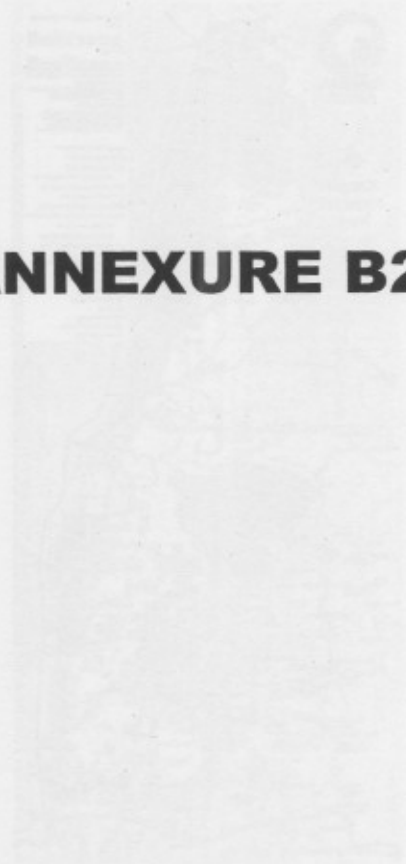


CONFIDENTIAL



INVESTIGATION TO FACILITATE THE APPLICATION  
FOR THE RE-INSTATEMENT OF THE FOOD AND MOUTH  
DISEASE (FMD) FREE STATUS IN THE RSA.

## ANNEXURE B2



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**INVESTIGATION TO FASILITATE THE APPLICATION  
FOR THE RE-INSTATEMENT OF THE FOOD AND MOUTH  
DISEASE (FMB) FREE STATES IN THE RSA.**



**COMPILED BY: HM HESLINGA  
SENIOR MANAGER FORENSIC INVESTIGATIONS**

### Instructions

To conduct an investigation to facilitate the application for the re-instatement of the foot and mouth disease (FMD) free status, the OIE requires that Veterinary Services:

- Effectively prevents the introduction of FMD into the FMD free zone, taking into account the physical and geographical barriers;
- Conducts surveillance as an essential tool to facilitate the control of disease and infection to be able to support claims of freedom from disease or infection.

### Terms of reference

- Investigate the condition and maintenance of the fence along the Limpopo/Kruger National Park and Mpumalanga/Kruger National Park borders.
- Investigate livestock movement control.
- Investigate surveillance activities implemented and supervised.
- Investigate surveillance data, recordkeeping and livestock identification.
- Obtain any written guidelines or contingency plans available for suspected or confirmed outbreaks of FMD.



## Introduction

South Africa has identified three zones within its territory that have a distinct health status with respect to FMD. These zones, which are separated by geographical and physical barriers and by the application of control and biosecurity measures, are defined as follows:

1. The **Kruger National Park (KNP)** is a national game reserve that is fenced off with a 2,4 meter high, 15-strand electrified fence. FMD is endemic in this zone due to the presence of FMD carrier African buffalo (*Syncerus caffer*).
2. A **buffer zone** is established along the western and eastern borders of the KNP to prevent the spread of FMD. The buffer zone consist of two regions that are defined by the vaccination status of its animals:
  - a. **Buffer zone with vaccination:** This zone is 350 kilometres long and 10 to 20 kilometres wide, and borders the western and southern boundaries of the KNP, where FMD vaccination is conducted.
  - b. **Buffer zone without vaccination:** This zone comprises an area approximately 10 kilometres wide along the national borders of South Africa with Swaziland, Botswana, Zimbabwe and Mozambique, and also along the boundaries of the buffer zone with vaccination. FMD vaccination is not allowed in this area.
3. The **export zone** is the region of South Africa that excludes the FMD buffer zone and the KNP.

## Control measures in the FMD zone with vaccination

The buffer zone is separated from the KNP by a fence that encloses the national game reserve. Regulation 20A of the Animal Disease Regulations enforced the erection, patrol and maintenance of fences to prevent the spread of FMD.

Cattle in the buffer zone with vaccination must be inspected every seventh (7<sup>th</sup>) day and small stock every 28 days. These inspections must be carried out under the supervision of a state veterinarian.

All cattle, irrespective of age, must be vaccinated against FMD every six (6) months. Vaccination dates, herd identities and the number of cattle vaccinated must be recorded. A permanent 'F' brand must be applied on the right side of the neck of each animal on the day that it is vaccinated for the first time.

Strict permit control must be enforced in and outside of the zone. Animals that are not 'F' branded may not be moved out of the zone.

Movement of livestock from this zone to slaughter is only allowed with a red cross permit, and then only to a designated abattoir in the buffer zone or the KNP.

## Map of Kruger National Park and adjacent areas



### Legislation

FMD is a controlled animal disease as defined in Section 1 of the Animal Disease Act 35 of 1984, in that control measures have been prescribed in terms of Section 9 of the Act. Therefore, all statutory requirements applicable to controlled diseases are applicable to FMD.

OIE – World Organisation for Animal Health guidelines and terminology are followed in the protocol in order to meet the requirements of qualifying for a country having an FMD free zone without vaccination.

The control of FMD in South Africa is regulated by Act 35 of 1984, the Animal Disease Act, which makes provision for the application of the FMD Control/Prevention Protocol 2005. The aim of this protocol is to provide for the prevention of the spread of FMD in South Africa and it makes provision for inspections, vaccinations and movement control, for the early detection of the disease, enhancing immunity against FMD and minimising the spread of FMD through movement of animals and animal products.

Definitions in the Act and Regulations, as well as in the OIE Terrestrial Animal Health Code are also applicable in this protocol.

The protocol serves as a procure manual for all who are involved with FMD control and must be read, interpreted and applied as a whole, and describes the following:

**1.12 Veterinary fence control**, including that of international boundary fences, the KNP veterinary fence and fences of land registered for the keeping of buffalo in the controlled areas, should be performed to prevent the spread of FMD from infected buffalo populations or from neighbouring countries to South Africa or the rest of South Africa, including erection, patrol and maintenance.

This aspect is also endorsed by Section 18, Fences, in the Animal Disease Act 35 of 1984.

**1.13 FMD control** is a HIGHLY IMPORTANT PRIORITY and carelessness and negligence will not be tolerated.

**2.6 Quarantine**, is the isolation of suspectable animals in a quarantine camp that has been approved by a state veterinarian (SV) or an experienced official authorised by the SV.

In short, quarantine camps must be marked in such a way that they can easily be identified and must consist of a double fence that is five (5) to 25 metres apart, must have its own water supply and must be kept debused at all times.

**2.15 Animal inspection** entails the regular, audible and visual examination of all herds, preferably at rest, as well as regular, individual examinations of all animals by an authorised veterinarian at the described frequency, date, time and venue.

Mouthing and thorough foot washing and examination of all suspicious animals, counting and reconciliation of the previous counting are required.

#### **5.1 Infected zone**

OIE definition: **Infected zone** means a zone in which the absence of the disease under consideration has not been demonstrated by the requirements specified in this Terrestrial Code as being met.

The **infected zone** is a clearly defined geographical area within South Africa in which FMD is endemic due to the presence of FMD carrier buffalo.

- Routine FMD vaccination of cattle is practiced.
- Strict movement control of live animals and products is applicable.
- Intensive FMD surveillance is conducted.

#### **5.2 Buffer zone**

OIE definition: **Buffer zone** means a zone established to protect the health status of animals in a free country or free zone from those in a country or zone of a different animal health status, using measures based on the epidemiology of the disease under consideration to prevent an intensified degree of disease and spread of the causative pathogenic agent into a free country or free zone. These measures may include, but are not limited to, vaccination, movement control and an intensified degree of disease surveillance between the infected and free zones.

The buffer zone is a clearly defined geographical area between the infected and free zones and is subdivided into two subzones:

##### **5.2.1 Buffer zone with vaccination**

The buffer zone with vaccination is a clearly defined geographical area adjacent to the infected zone.

- Routine FMD vaccination of cattle is practiced.

- No buffalo are allowed to be kept.
- Strict movement control of live animals and products is applicable.
- Intensive FMD surveillance is conducted.

### 1.2.3 Movement

- Disease control fences with the purpose of prevention of contact between and movement of infected susceptible animals must be maintained according to the Act and Regulations, and must be inspected regularly by veterinary officials.
- Any lack of efficacy must be reported without delay to the responsible person and SV (Section 18 of the Act).

### 2.2.1 Buffer zone with vaccination control protocol

- Inspection of cattle every seven (7) days and small stock every 28 days.
- No movement of livestock is allowed.

### 2.2.2 Vaccination

- All cattle, irrespective of age, must be vaccinated against FMD every six (6) months.
- Vaccination dates, herd identities and the number of cattle vaccinated must be recorded.
- Movement of cattle is only allowed inside the zone.
- A permanent 'F' brand must be branded on the right side of the neck on the day when vaccinated.

### 2.2.3 Movement

- Disease control fences with the purpose of prevention of contact between infected and susceptible animals must be maintained according to the Act and Regulations, and must be inspected regularly by veterinary officials.
- Any lack of efficacy must be reported without delay to the responsible person and SV.

### Act 35/1984 Animal Disease Act

25. **Secrecy.** (2) No person shall, except with the written consent of the minister, give access to any person other than the director, an officer or any other person entitled thereto in terms of any law, to any records or registers kept in terms of this Act.

This article prevents the acquisition of any documentation regarding vaccinations, inspections and/or the removal of animals under the Act.

### Limpopo Province

***The redline fence from Popalin Ranch and Esmefour 29 in the Musina region to the R525 and Masisi, and from there to the redline control gate at Ximixonl against the R524 in Vandaland***

The western fence of the redline fence begins at the Limpopo River and is part of the boundary fences between the Popalin Ranch and Esmefour 29 farms up to the R525, where it then turns east up to the Malale residential area.



At the farms' most southerly boundary fences, the now non-existent redline fence begins, which should have stretched to the R525, the national tar road to the KNP's Punda Maria gate. Clear evidence has been found of the fact that this fence has been cut and removed, which allows cattle free reign to leave the redline area. There is no control gate where the Malala Drift road comes out of the redline area and no control is exercised here. The last 80 meters of the redline fence to where it joins the R525 still exists.

From here, the fence stretches across a distance of 43 kilometres to the Masisi control gate. The fence consists of five (5) strands of barbed wire with iron droppers (poles) and corner posts and is not electrified.

Up to Masisi there are four (4) control gates in the redline fence, which are manned by personnel of the provincial department of agriculture's directorate of animal health. Registers in which the movement of vehicles from the redline area is recorded are kept at the control gates, but most of the gate personnel are illiterate and allow the drivers of these vehicles to complete the register themselves. No searches of vehicles and/or persons leaving the redline area are conducted for any possible infected products.

From here, the redline fence turns south and there are a further eight (8) redline gates up to where it ends against the R524. This section of the redline fence, as well as the control and maintenance thereof, fall under the auspices of the local government of Limpopo.

The area from Malale to Masisi is renowned for the theft and smuggling of livestock, both locally and from Zimbabwe, and a lot of evidence of this was found along the redline fence, where it was cut or pushed flat and where hoof prints showed that cattle had been chased across the fence line.

An interview was conducted with the head state veterinarian of the KNP and according to her, her office investigated the FMD outbreak in Gravelotte in August 2010 and found that the virus stem found there is of the same stem origin as that of buffalo in the KNP, and that the infected animals came from the Masisi area.

The area from Masisi to Ximixoni, a distance of 59 kilometres, is very mountainous and parts of the redline fence run across inhabitable areas, which also means that some of the control gates are situated in remote areas. The inhabitants of the area are still very traditional and communication is limited to Venda. There are eight (8) control gates in the redline fence, and in places where the fence could be approached and inspected, it is still in a reasonable to good condition. However, it was found that where the fence is overgrown, regular patrols of the fence are not being done.

From Malale to the Botsoleni redline control gate, no place where cattle could cross of their own accord was found along the fence. Between Botsoleni and Ximixoni up to where it ends against the R524 and the control gate, the fence no longer exists – it has been completely destroyed and/or stolen. Cattle can move freely across the borders of the redline area here and the control gate that was against the R524 has also been removed and is therefore no longer manned.

The dipping corral at the Malale redline fence gate:

Photo 13



Photo 14



The Malale redline gate at the entrance of the Malale tribal area:

Photo 15



Photo 16

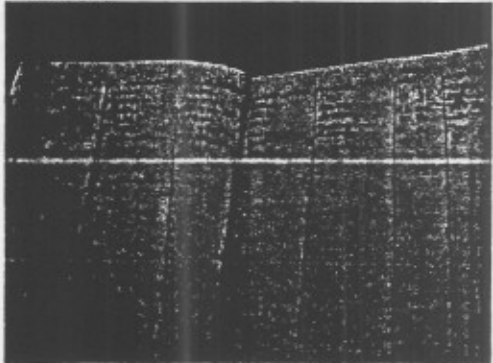


A vehicle exiting the redline area is not searched as it passes through the redline area gate, but is recorded in the register. The official on duty from the department of agriculture's animal health directorate cannot read or write and can therefore not verify the details recorded in the register.

Photo 17



Photo 18



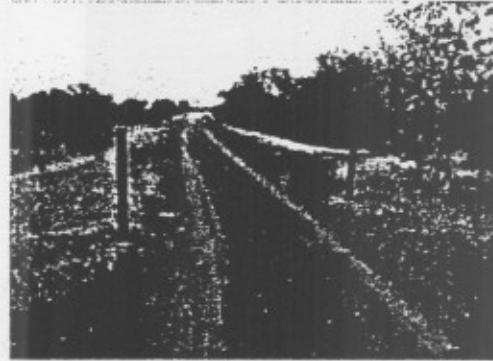
**From the Malale redline gate along the fence up to the Sigonde redline gate**

The fence runs west to east, directly north of the R525. At the Bale residential area, the fence turns north for approximately 1,2 kilometres up to where a double fence runs in an easterly direction behind the residential area to the Segonde redline gate.

Photo 19



Photo 20



This section of the fence is not visible from the R525 and is very dilapidated, with various marks indicating that the fence had been cut. There are also many sections where the fence was flattened and where very clear cattle tracks can be seen crossing the fence line.

Photo 21

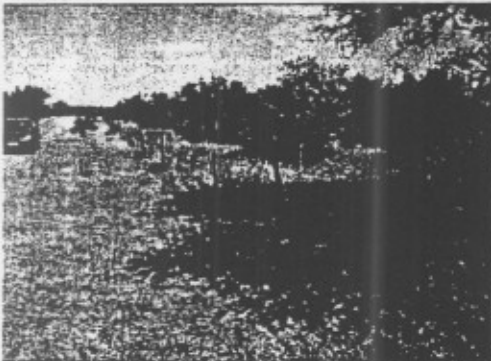


Photo 22



Cattle tracks where the fence has been flattened:

Photo 23

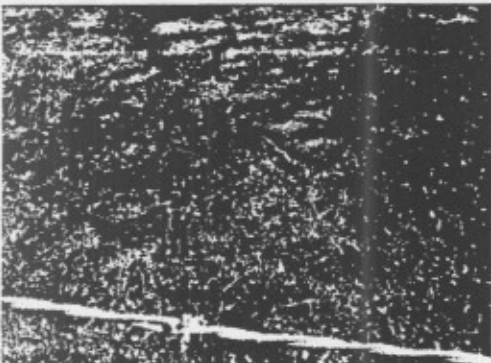


Photo 24



Evidence of cutting of the fence wire:

Photo 25

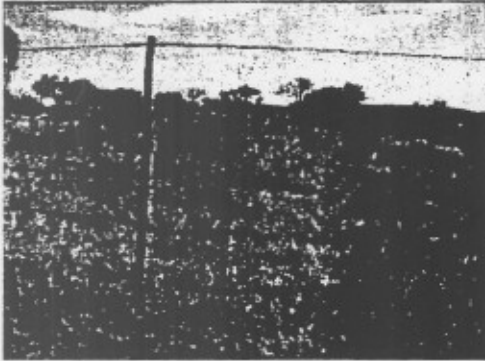
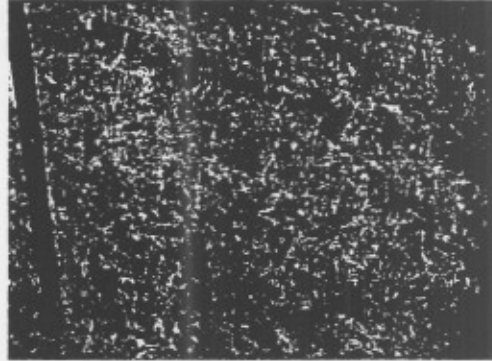


Photo 26



The northern corner of the fence, where it turns in an easterly direction and runs past the back of the Bale residential area lies in a very remote region and clear evidence was found here to indicate that livestock is being driven across the fence from the redline area.

Photo 27



Photo 28



The double fence is dilapidated and there are clear indications that the fence has been flattened, and of cattle and vehicle tracks crossing the fence line:

Photo 29

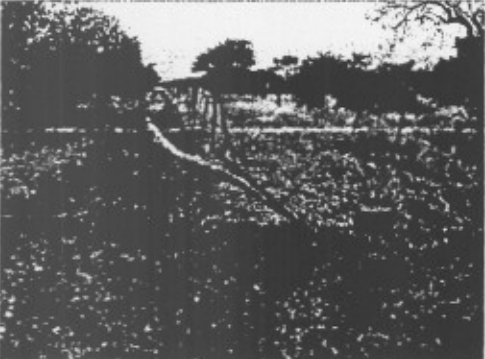
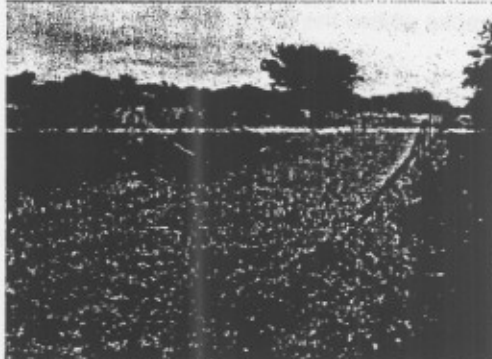


Photo 30

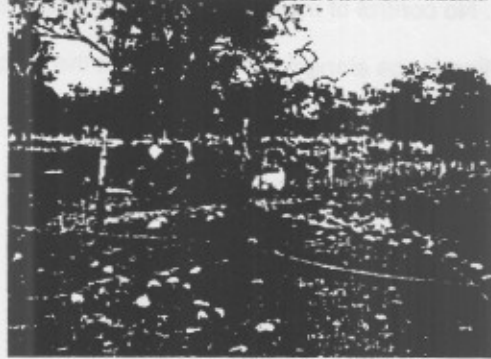


The back fence of the camp is only a single fence, which is also contrary to the regulations:

Photo 41



Photo 42



Cattle in the redline area: no 'F' brands could be found on the right sides of their necks and there are no other identification marks to indicate that the cattle have been inoculated against FMD. According to the official on duty, he is not aware that the cattle should be branded and/or vaccinated.

Photo 43

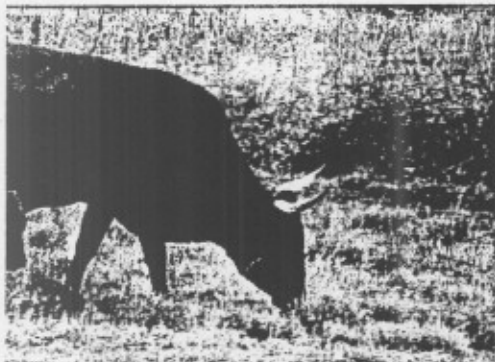
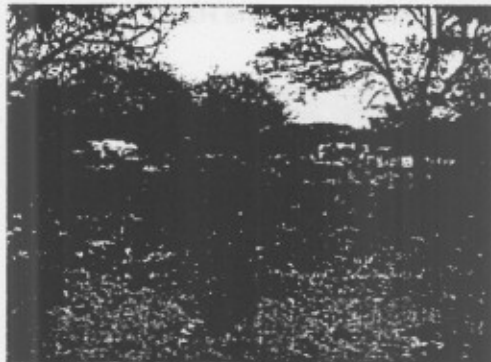


Photo 44



Upon our return from within the redline area, our vehicle was not searched at the gate, but we were requested to enter our details into the register.

Photo 45

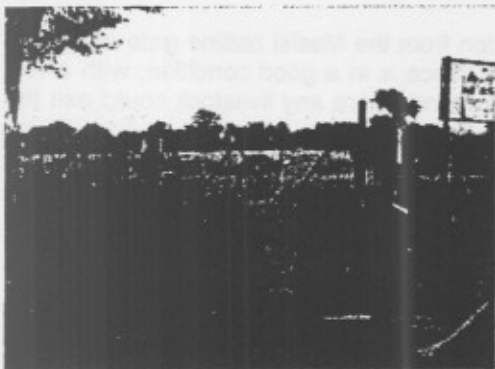


Photo 46



The Masisi control gate is very busy, but at the time of our visit, no vehicles moving through the control gate were inspected and no register was used to record details of vehicle movements. We also moved through the gate and upon our return the gate was merely opened so that we could drive through. No control of movement from the redline area is exercised here.

The redline fence alongside the R524 with the fence through the Masisi residential area:

Photo 57

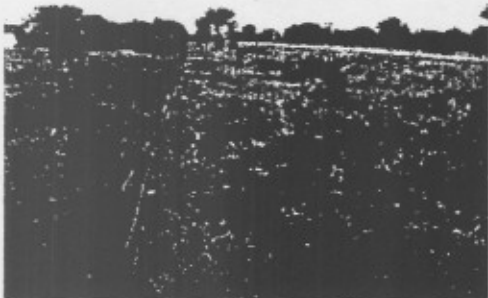


Photo 58



The Masisi control gate on the R524:  
Photo 59



Photo 60



#### *Between the Masisi and the Tsikondeni redline gates*

This section of the redline fence runs in a southerly direction from the Masisi redline gate along the Mutale residential area to the Tsikondeni redline gate. The fence is in a good condition, with a few gates that are permanently locked and no places could be found where any livestock could exit the redline area of their own accord.

The overgrown state of the redline fence is evidence of the fact that no patrols are taking place here.

Photo 97

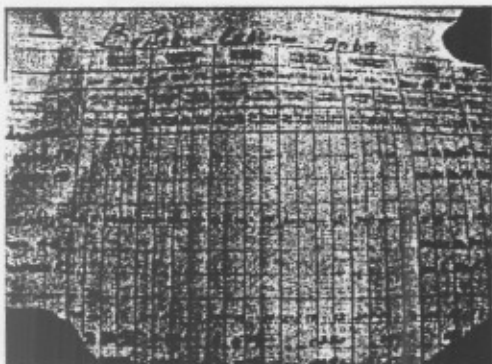
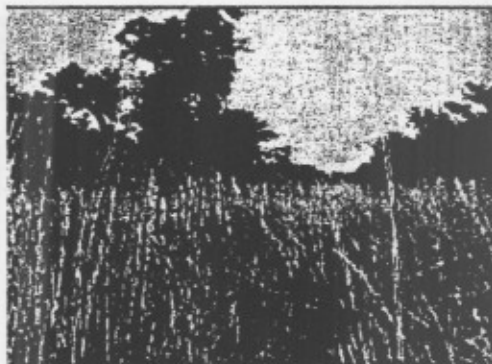


Photo 98



***From the Botsoleni redline gate to the Ximixoni redline gate adjacent to the R524***

It is clear that the fence from Botsoleni to the Ximixoni tribal area is no longer in existence. After a fair amount of effort and various enquiries in the area, the remnants of the fence could be found in the Ximixoni residential area.

The Ximixoni redline gate was supposed to be situated against the R524 tar road, but has not been manned or used in quite some time. The fence is no longer in existence and cattle from the entire Ximixoni residential area can move unhindered across the fence line.

There is no control over the movement of cattle in the area and infected livestock can move unhindered from the redline area to an uninfected area. There are also a lot of cattle in the area that graze particularly along the R524, where no fence is in existence any longer.

During 2006 there was an outbreak of FMD in this area.

Remnants of what used to be the redline fence:

Photo 99



Photo 100

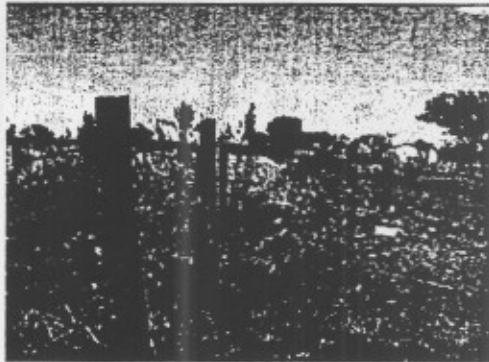


Evidence of the redline fence that is no longer in existence:

Photo 101



Photo 102



The destroyed redline fence through the Ximixoni residential area:

Photo 103

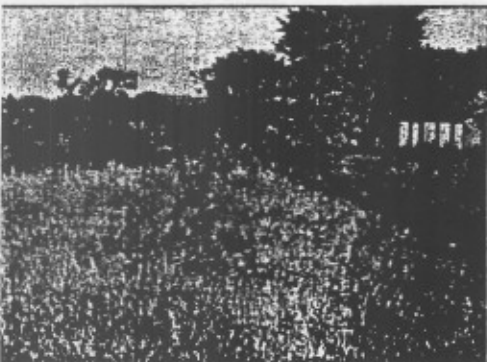


Photo 104



The local inhabitants pointed out and confirmed where the control gate for the exit route from the redline area at the Ximixoni residential area to the R524 used to be.

Remnants and evidence of the destroyed fence:

Photo 105

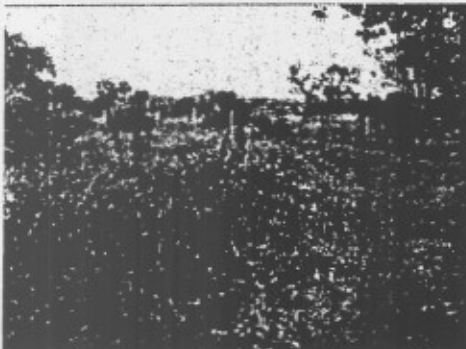


Photo 106





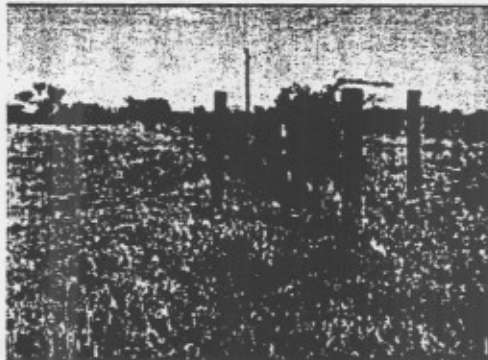
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The control gate and access gates for local residents in the destroyed fence that are no longer in use:

Photo 107



Photo 108



#### ***The Punda Maria gate of the KNP and the surrounding area***

The Punda Maria gate of the Kruger National Park (KNP) is a direct exit from an endemic FMD infected area. The fence of the KNP is very sturdy and elephant proof, and runs from the corridor fence against the Limpopo River past Punda Maria to the Shingwedzi River. The fence is patrolled daily by employees of the provincial department of agriculture's animal health directorate, and maintained and repaired in cooperation with the KNP.

From the Punda Maria gate west to the Saselomani residential area no redline fence is used or maintained any longer. Cattle in the Matiyani, Josepha and Mabilekwe areas that border directly on the KNP have been checked and numerous older animals have been found with an 'F' brand on the right side of their necks.

Approximately 20% of the cattle that were checked have the brand, which proves that the department of agriculture's animal health inspectorate views the area as a vaccination buffer zone. However, the required controls of the department's own Protocol 2005 are not in effect.

There is absolutely no control over any cattle roaming in the areas mentioned. According to the regulations, this area should be closed off and the movement of livestock should be strictly monitored.

Previously, there was a redline fence from the Punda Maria gate stretching westward on both sides of the R524, but most of the fence and gates have been removed or are left open and the remnants of the fence are still clearly visible.

ASINBUNAI

Photo 127

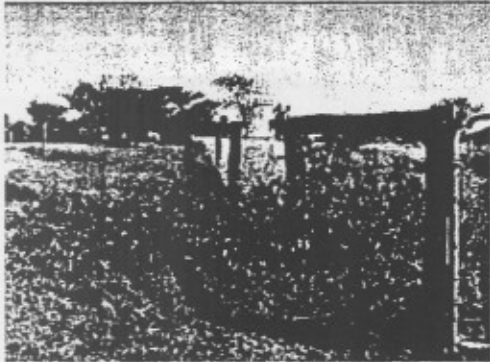
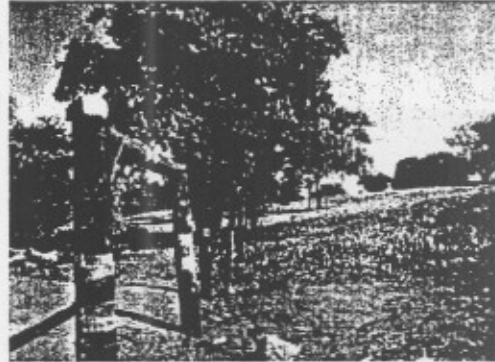


Photo 128



*From the Saselamani redline gate along the fence to the Nkavela redline gate*

The origin of this redline fence could not be traced, but it does stem from somewhere in the Josepha area to the Nghezimani gate. The fence is overgrown and clearly not being patrolled.

The Mphonggola River flows through this area and where it crosses the redline fence, the fence has been washed away and cattle can cross freely.

The area is dense, which makes access to the fence difficult. The fence is overgrown, which proves that no patrolling is done.

There is no control at the gate and also no register that is being maintained. The gravel road on which the gate is situated is fairly busy and vehicles are not searched or checked for any possible contaminated products.

Photo 129

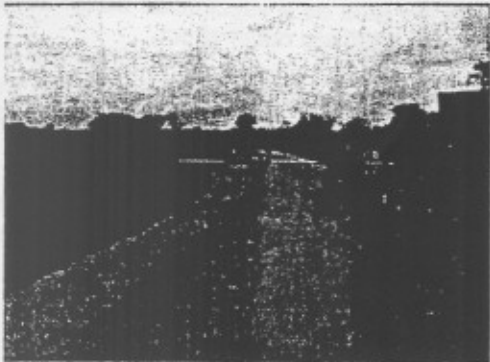
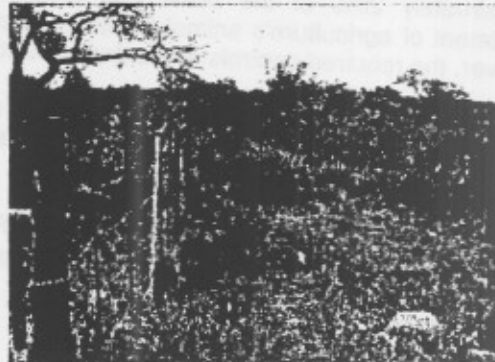


Photo 130



**CONFIDENTIAL**

Clear evidence of the overgrown fence with no service road for patrols and the Mphongola River through which there is no longer any redline fence:

Photo 131

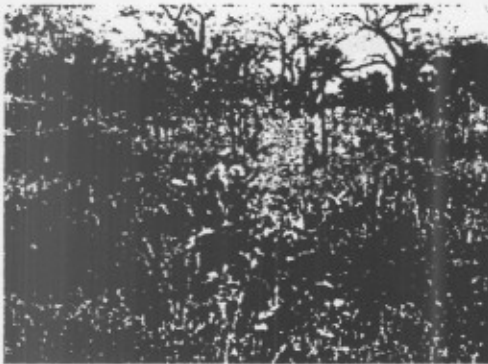
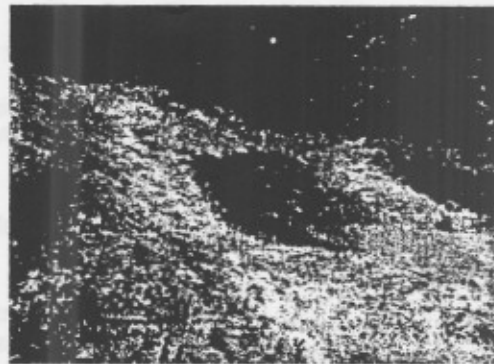


Photo 132



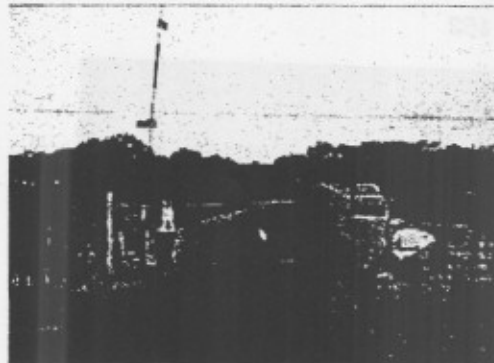
*From the Nkavela redline gate along the fence to the Gija Mhandeni redline gate*

In some places the fence is unstable and it is clear that no maintenance is done there. The overgrown fence is also evidence of the fact that no patrols are being done along the fence.

Photo 133



Photo 134



The overgrown fence is evidence of the fact that no patrols are being done there:

Photo 135

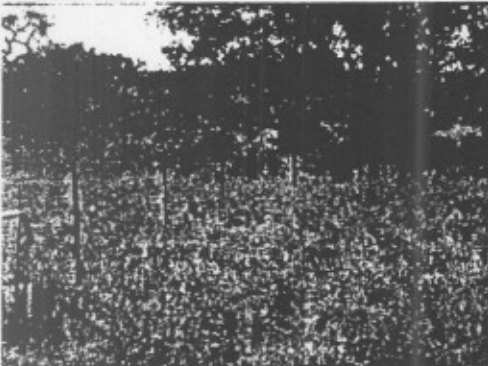
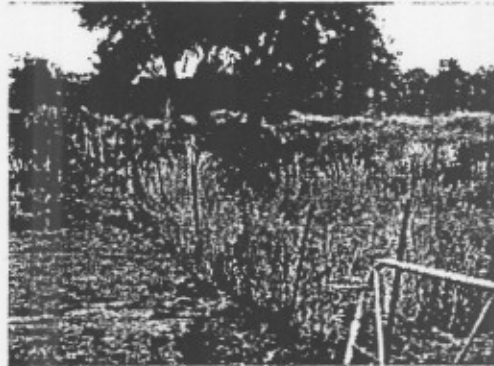


Photo 136



***From the Jllongo redline gate to the Shingwedzi River***

Due to the poor condition of the road and the fact that it had been flooded, the last redline gate at the Shingwedzi River was not visited.

***From the Mniginisi redline gate along the fence to the Muhexy Village redline gate***

This gate is situated on the Thomo tar road and is very busy, as various delivery vehicles, pick-up trucks and other vehicles pass through this gate. Although a register is being maintained, no vehicle inspections are being conducted.

The employee of the animal health directorate is also not aware of any cattle vaccinations or the fact that cattle should be branded.

At the gate, the fence turns south to follow the Mhalatini gravel road to the Muhexy Village gate. The fence is visible from the road and can easily be inspected. However, large sections of the gate are in a poor condition and it is clear that it is not being adequately maintained. Some sections of the fence are double, but there are also sections where it is clear that the fence is being flattened in order to drive cattle across the fence line. In such places cattle tracks were observed as proof of the fact that cattle are driven across the fence line.

According to the detective branch of the local police department in Giyani, livestock theft is a major problem in this area.

Photo 152



Photo 153



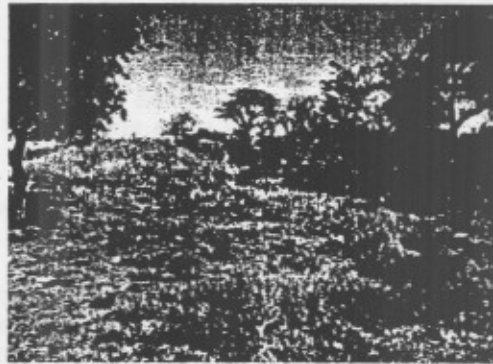
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The dilapidated fence that is not being maintained:

Photo 154



Photo 155



The double fence adjacent to the gravel road:

Photo 156



Photo 157



***From Muhexy Village along the fence to the Mahlali redline gate***

For the most part, the fence is in a poor condition and it is clear that it is not being patrolled or maintained by the department of agriculture's animal health directorate. A number of places were found where the fence has been flattened and cattle can move across the redline fence freely and of their own accord.

Buildings are being constructed for the employees and a vehicle gate grid are has been installed. A clear notice board with regard to FMD has been erected at the gate and there is a register to record vehicle movements. However, no inspections of vehicles leaving the redline area are being conducted for suspected infected goods.

***From the Makhuba redline gate along the fence to the Nsavulani redline gate***

This section of the redline fence surrounds the Makuba residential area and is in a very poor condition. The fence droppers (poles) are broken or have been eaten by termites and the wires are lying on the ground. There are numerous places in which the fence has been flattened and there are signs that cattle have been driven across the fence line.

A vehicle gate grid has been installed where the fence crosses the tar road, but the fence at the vehicle gate is dilapidated and there are sections of the fence that no longer exist and cattle can leave the redline area of their own accord.

It is very clear that the department of agriculture's animal health directorate does not patrol or maintain the fence here.

According to the local police detective branch at Giyani, which services this area, livestock theft occurs frequently and cattle is also removed from the redline area to be sold at auction in the neighbouring towns, such as Phalaborwa, Gravelotte, Hoedspruit, Letsitele and Tzaneen.

The area between the redline fence and the KNP border fence is renowned and popular amongst the local hunters for the hunting of buffalo that have broken out of the KNP. The meat is processed by some of the butcheries in the surrounding towns and because the control gate across the Great Letaba River is no longer in existence, this specific area is easy to access and the carcasses of hunted buffalo and cattle can easily be removed.

The fence is clearly visible from the tar road and where it stretches further into the veld, there is a service road.

Clear evidence of the dilapidated redline fence:

Photo 170



Photo 171



Sections of the fence that have been flattened and where evidence was found that cattle have been driven across the fence line:

Photo 172

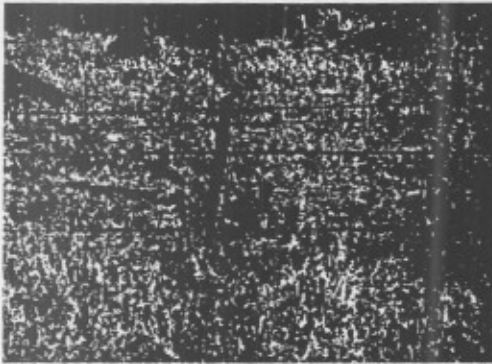
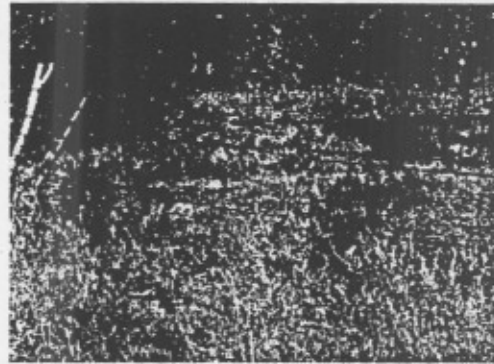


Photo 173



This section of the redline fence has been completely destroyed:

Photo 174

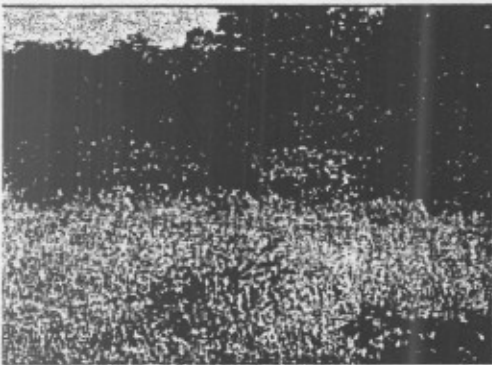
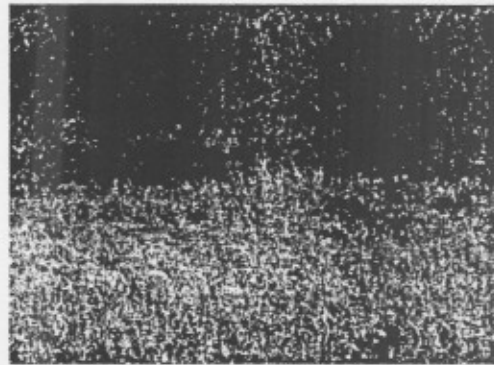


Photo 175



The vehicle gate grid across the tar road and the remnants of the destroyed redline fence:

Photo 176

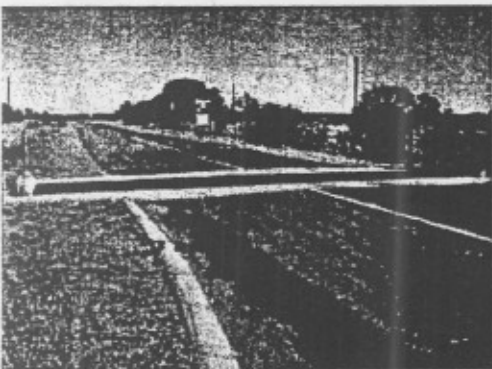
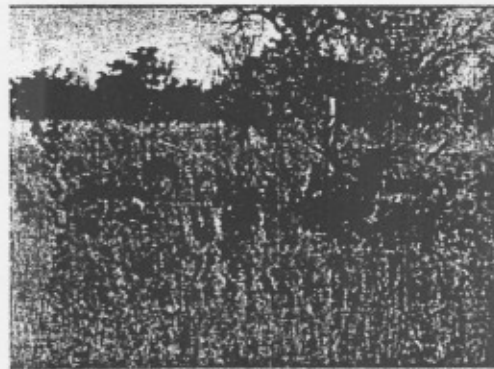


Photo 177



The fence at the vehicle gate grid that has been destroyed and/or flattened:

Photo 178

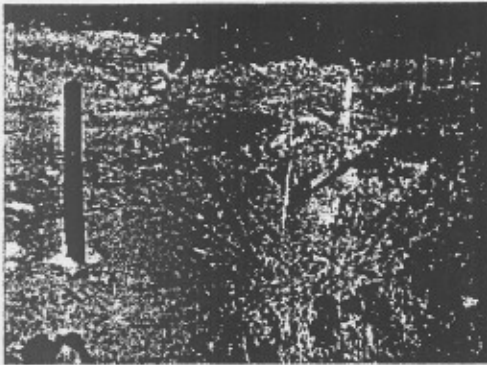


Photo 179



The overgrown fence is evidence of the fact that the employees of the directorate of animal health do not patrol and/or maintain the fence here:

Photo 180

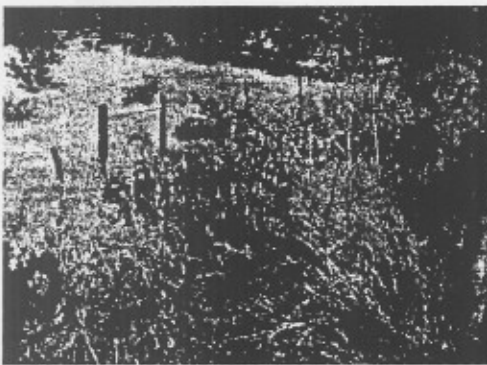
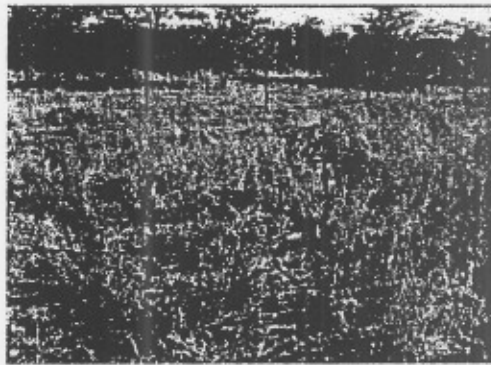


Photo 181



A section of the fence that has been flattened and broken:

Photo 182



Photo 183





The existing fence is clearly visible and accessible and can be easily inspected.

In August 2010 there was an outbreak of FMD at Gravelotte - from where the fence no longer exists it is approximately 30 kilometres as the crow flies.

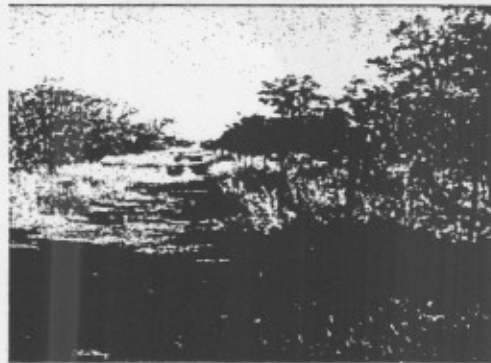
The Great Letaba River is not perennial and during the winter months cattle can cross it unhindered. South of this river there are game fences of private properties.

The service and inspection road adjacent to the redline fence:

Photo 192



Photo 193



The redline fence close to the northern bank of the Great Letaba River:

Photo 194

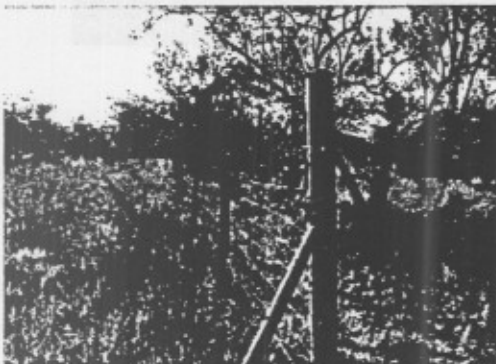
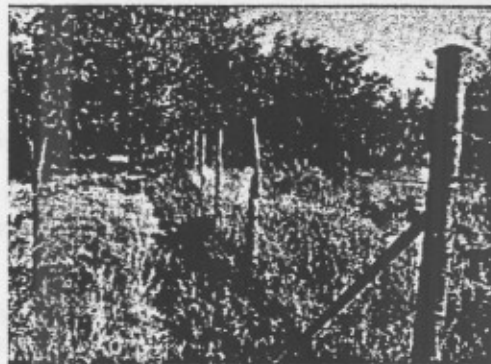


Photo 195



Unbranded cattle grazing in the area directly adjacent to the veterinary fence:

Photo 232



Photo 233

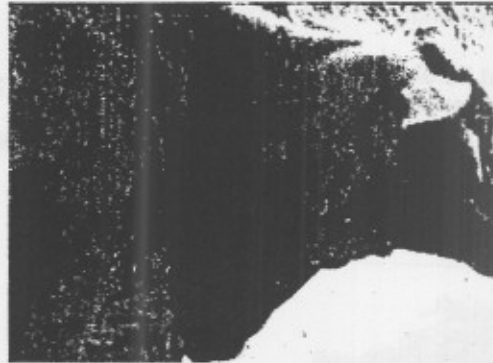


Photo 234

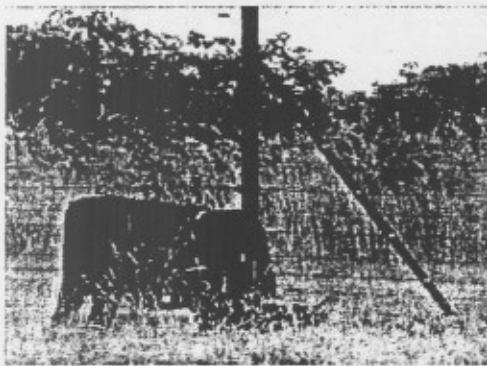


Photo 235



***The area between the Orpen gate and the Paul Kruger gate of the KNP***

This area is surrounded by private game and nature reserves that all have their own electrified security fences with game rangers that patrol the properties and fences. The fences are all in good condition and well maintained.

Due to the fact that the game and nature reserves are incorporated into the KNP, these properties are also considered endemic FMD areas and their fences form part of the KNP's veterinary fence.

There is good access control to and from the properties and the odds of any FMD infection being transferred from these areas going unnoticed, are slim.

The control gate and dipping corral in the previously used redline fence across the tar road between Acornhoek and Manyeleti, which is no longer in use:

At the Numbi gate outside of the KNP, adjacent to the veterinary fence (which consists of 15 barbed wire strands, four (4) electrified strands, iron droppers and corner posts), there is a camp for employees of the department of agriculture's animal health directorate. Enquiries made with the employees here, indicated that they use bicycles to patrol the fence for maintenance purposes. During our two-day visit, no employees were observed at the fence.

This section of the fence is neglected, overgrown and so badly damaged in some places that buffalo from the KNP can cross the fence line of their own accord. In many places the electric wires that are supposed to provide power to the fence have been cut or are so badly damaged that there cannot possibly be any electricity supply.

The biggest damage to the fence has occurred through dongas and river beds. Various dongas were found where the fence has been damaged or has disappeared, which is clearly indicated in the photographs. In the various sections of the fence where the Nsikazi River swerves across the fence line, the wires have been washed away, damaged or cut, which offers game from the endemic contaminated area of the KNP free range across the fence line. There has clearly never been any form of construction in the river bed to limit flood damage.

The carcass of a slaughtered cow was found as evidence of livestock theft or smuggling of meat from the buffer zone.

It is difficult to comprehend how the veterinary fence in this area can be so neglected and dilapidated and that absolutely no maintenance or repair work is done here.

In summary, it can be proven that:

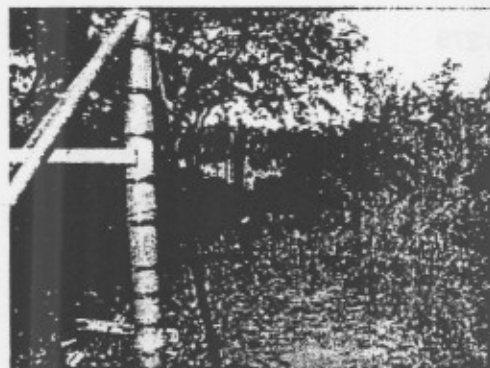
- The fence is not at all maintained or repaired;
- The protective electric wires have been cut or damaged to such an extent that there is no electricity supply to the fence;
- The fence is so overgrown in places that no electricity can flow through the protective strands;
- There are numerous places in which the fence has been damaged or destroyed to such an extent that buffalo and other cloven-hoofed game animals from the KNP can cross the fence line of their own accord.

The Numbi gate and the start of the veterinary fence:

Photo 272



Photo 273



The electrified fence at the Numbi gate and the department of agriculture's animal health directorate camp:

Photo 274



Photo 275



The veterinary fence at the camp and through a donga:

Photo 276

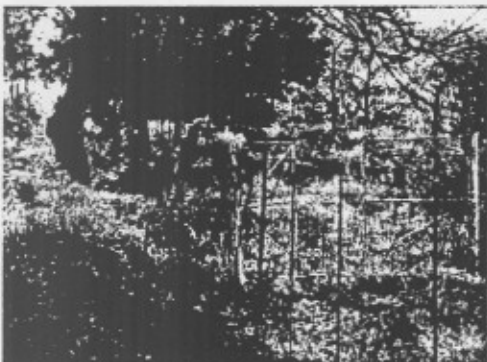
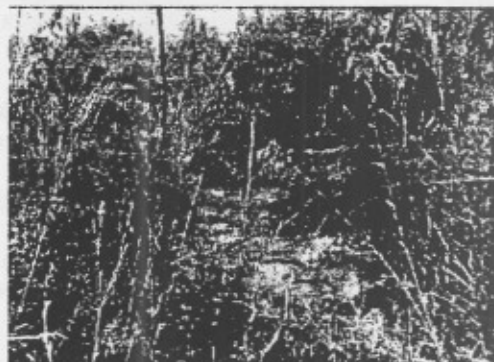


Photo 277



The damaged veterinary fence, which is starting to fall over, and cattle tracks that were found against the fence line:

Photo 278

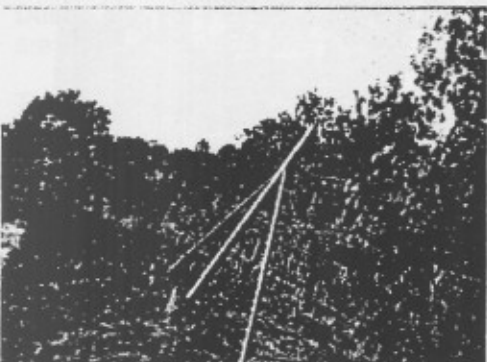
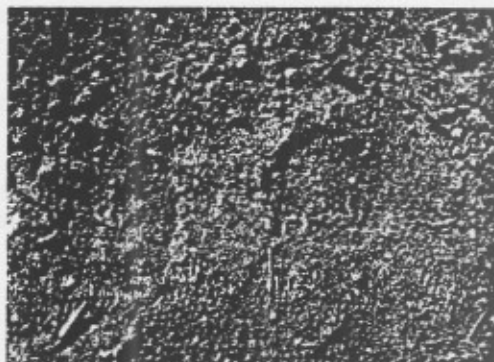


Photo 279



The fence where it is starting to fall over and with a hole where it passes through a donga:

Photo 292

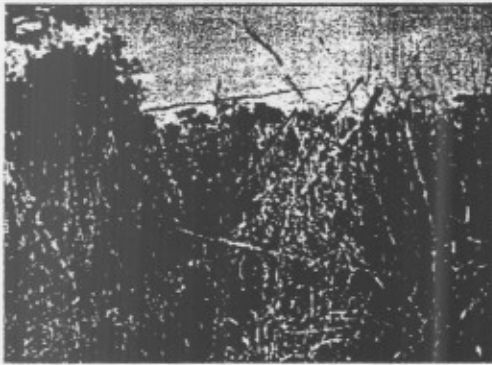
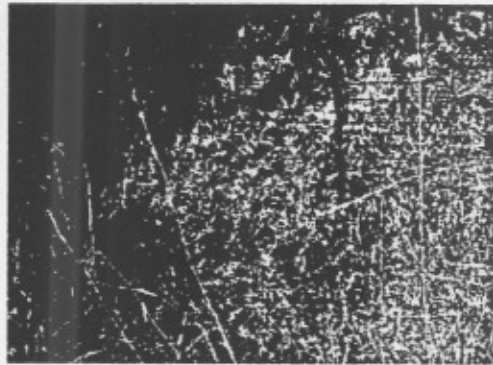


Photo 293



The damaged and overgrown fence across a donga:

Photo 294

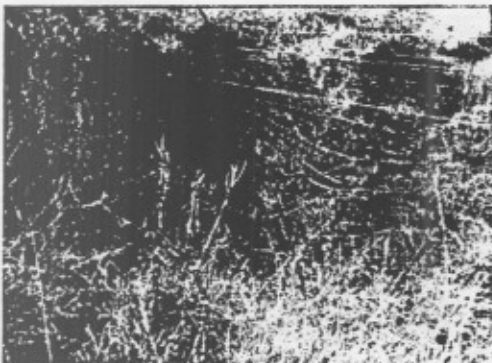
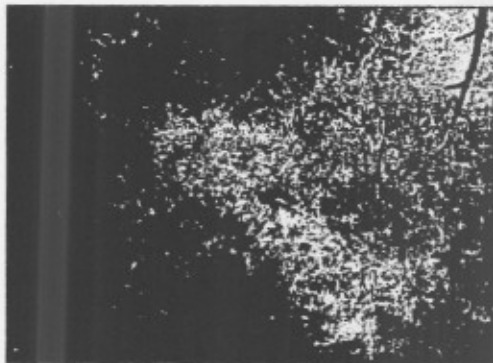


Photo 295



The fence is so overgrown that electricity supply to the protective wire strands is hampered:

Photo 296

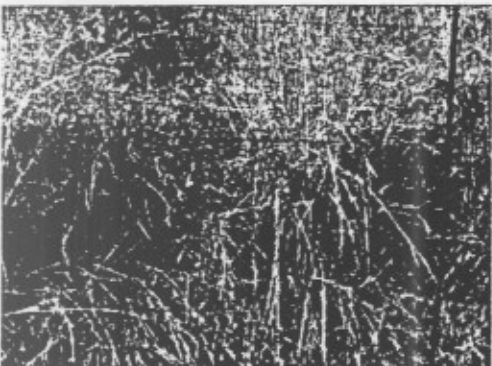


Photo 297



The damaged fence that has not been repaired in a water hole in a donga:

Photo 298

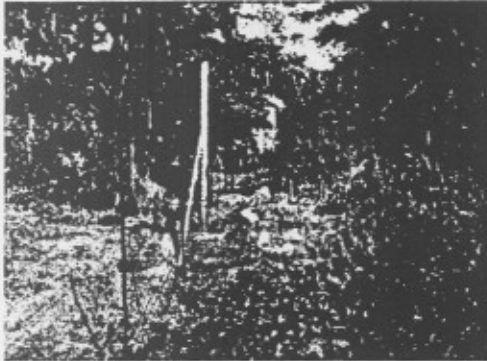
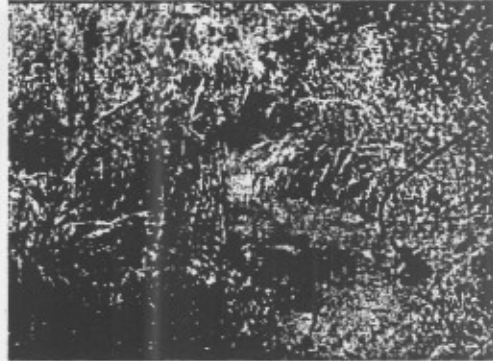


Photo 299

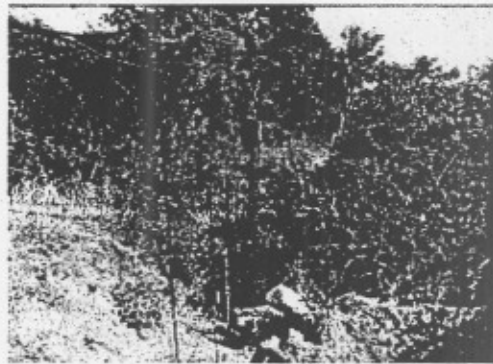


The damaged fence is starting to fall over and the electric wires have been damaged, as well as where the overgrown fence crosses a donga:

Photo 300



Photo 301



The veterinary fence with electrified protective wires that have been cut:

Photo 302

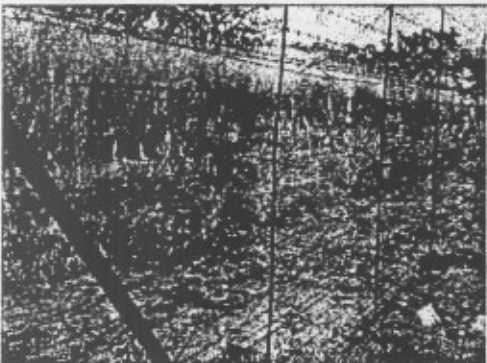


Photo 303



The electrified protective wires on the inside of the KNP's veterinary fence have been cut:

Photo 304

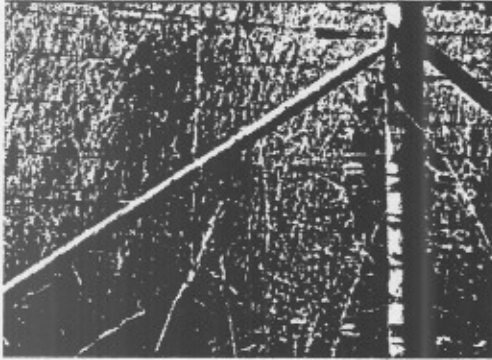
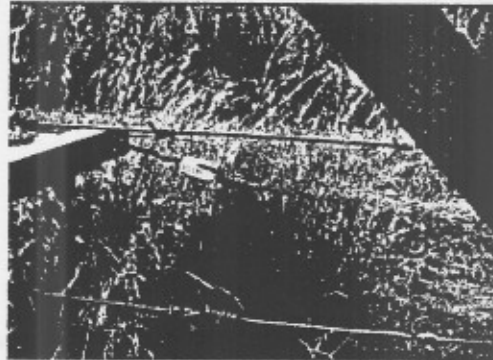


Photo 305



A buffalo can be seen on the KNP side of the fence at one of the holes in the veterinary fence through which it can move of its own accord. This section of the fence does not have any electrified protective wires.

Photo 306

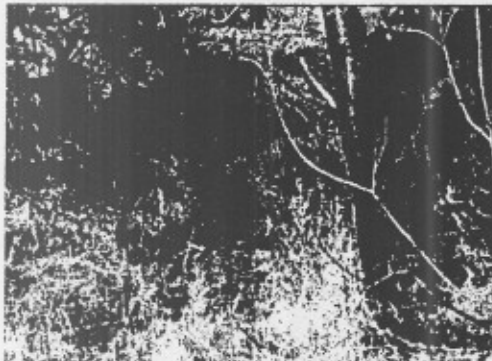
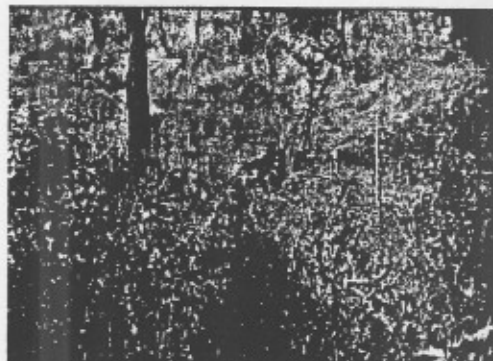


Photo 307



The wires of the overgrown fence have been cut where it crosses a donga, which does not offer any protection:

Photo 308



Photo 309



Photo 316

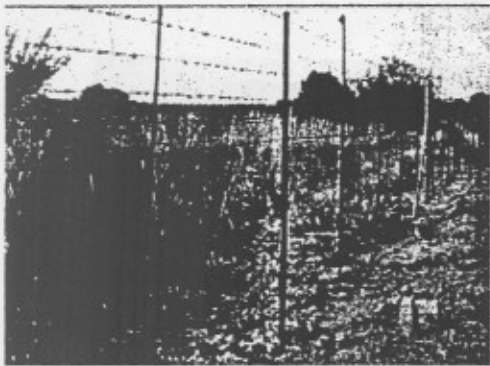
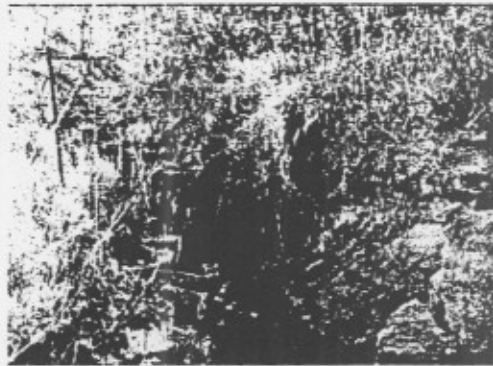


Photo 317



The following four (4) photographs clearly show where the wires of the electric cables that should supply power to the fence, as well as the protective wires, have been cut:

Photo 318



Photo 319

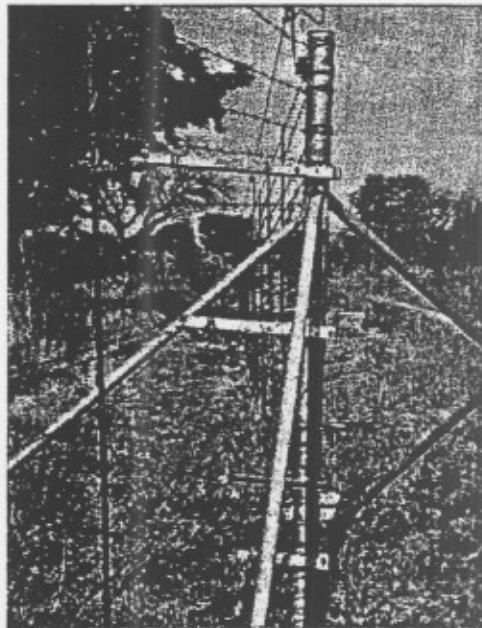




Photo 320

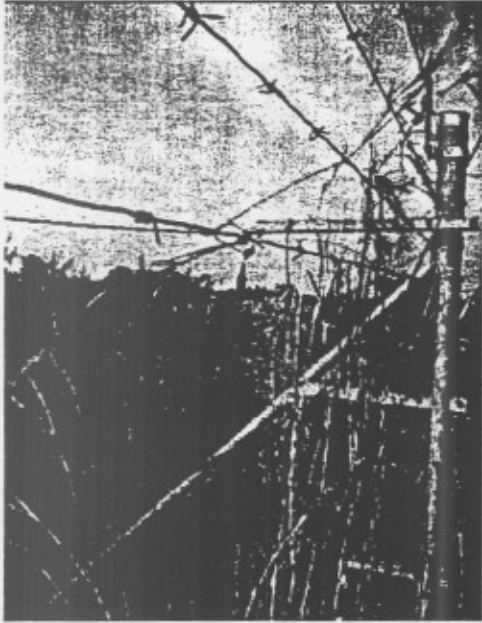


Photo 321



The fence where it has been repaired using tree branches and a section that was washed away in a donga:

Photo 322

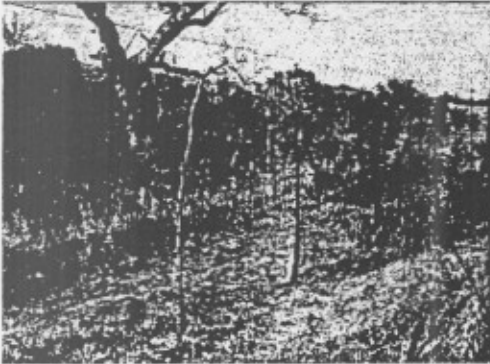
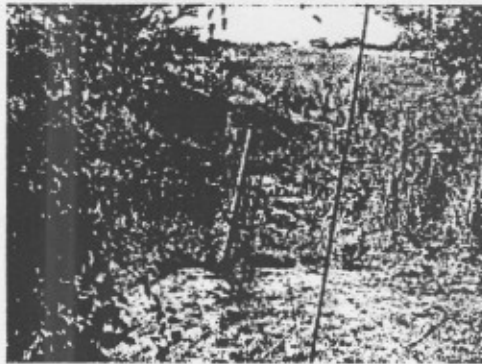


Photo 323



There is clear evidence here that the electrified protective wires and the power supply of the fence have been damaged:

Photo 330

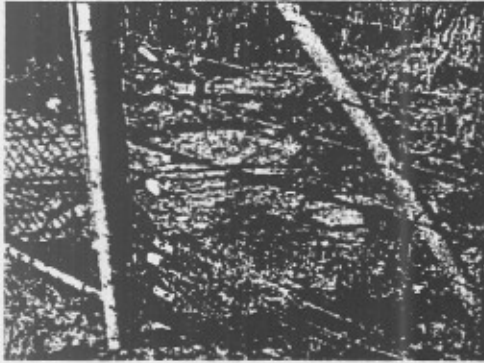
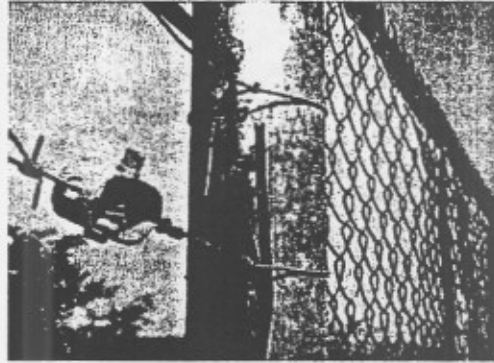


Photo 331



A gate in the veterinary fence and clear indications that there is a footpath in and out of the KNP, which is presumably used by the local inhabitants for game theft and the setting of traps:

Photo 332

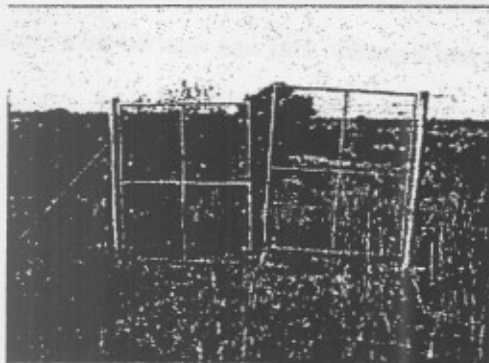
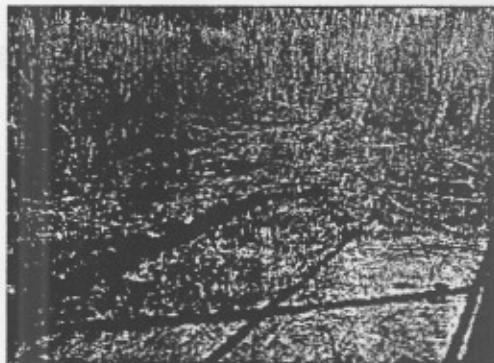


Photo 333



No fence could be found through the Nsikazi River:

Photo 334



Photo 335



Photo 388

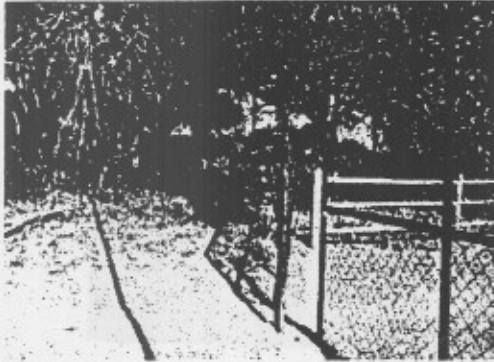
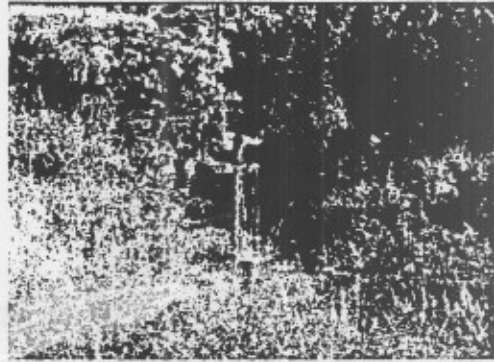


Photo 389



**Marlotpark's veterinary fence on the southern bank of the Mgwenya River**

This private nature reserve also forms part of the KNP's veterinary fence, but is well maintained and patrolled by the reserve's own game rangers and security.

Photo 390



Photo 391

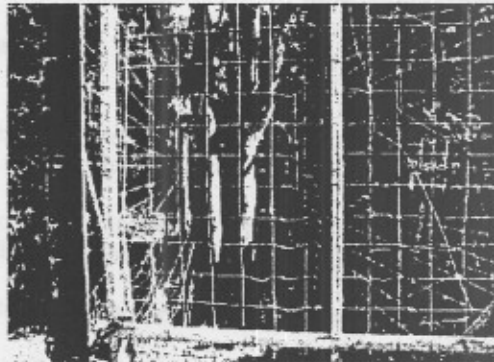


Photo 392

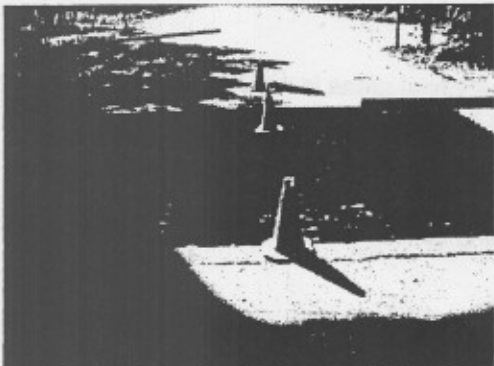


Photo 393



Photo 412

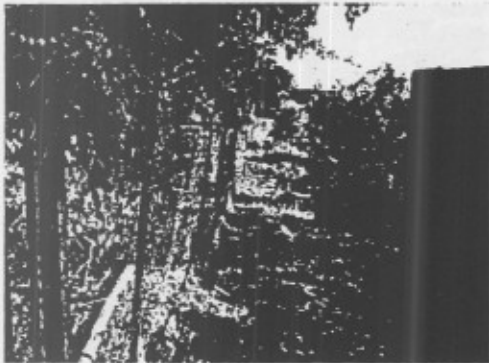


Photo 413



### Identified problem areas

It is noteworthy that the redline fence with control gates are only in use in the Limpopo Province. No redline fences or control gates are found in the province of Mpumalanga.

#### **The Masisi tribal area**

The area of Masisi in the north, which is a buffer zone with vaccinations, lends itself well to cattle smuggling.

A lot of evidence was found of places in which the wires of the redline fence had been cut or flattened and where cattle have been driven from the redline area across the fence line.

The owners of livestock herds are loathe to vaccinate and brand their stock within the buffer zone against FMD, as this then hampers free trade of these animals.

The area is also known for stock theft and the smuggling of livestock and meat from Zimbabwe.

Observation at the control gates has shown that there is not sufficient control over the movement of vehicles in and out of the redline area.

#### **The Botsoleni and Ximixoni residential areas**

The redline fence between the Botsoleni and Ximixoni residential areas is no longer in existence and therefore there is also no maintenance and/or repair work being conducted in this area.

The control gate at Ximixoni is also no longer operational and has been removed.

No control is exercised in the area and no patrols are being conducted, which also means that cattle can move freely in and out of the redline area.

#### **The Saselamani, Nkavela and Nghezimani control gates**

There is very poor control over vehicles moving into and out of the redline area, which is a concern.

The redline fence at some of the control gates is in poor condition and clear evidence of overgrown fences was found, which proves that no fence patrols are being conducted.

#### **The Mniginisi control gate to the Makhuva and the Great Letaba River in the Giyani district**

This area's redline fence is of the greatest concern, particularly as the biggest part thereof is either dilapidated or has been stolen or removed.

The control gate at the Great Letaba River bridge was removed during 2008, when the new bridge and road were built, and has not been re-erected since.

The control of vehicles moving in and out of the redline area is either very poor or is not exercised at all.

During 2004, 37 cases of FMD were reported in the area, which makes this a high risk area.

#### **Orpen gate to the Paul Kruger gate of the KNP**

The traditional tribal areas of Wela, Gottenburg, Thulani, Thomdale Ka-Tsakani, Phungwe and Utha border directly on the veterinary fences of the Manyeleti, Sabi Sands, Mala Mala and Sabi Sabi private game reserves, which form part of the KNP and are therefore automatically considered endemic FMD infected areas.

Cattle in these areas graze directly adjacent to the fences. Some of these animals have been identified as carrying the 'F' brand on the right side of their necks, which means that they have been vaccinated against FMD. This then automatically makes this area a buffer zone with vaccinations.

In this area, there is no redline fence in operation and livestock can move through the area freely. There are also no clear borders to indicate where the buffer zone with vaccinations is supposed to end.

The regulations and prescriptions regarding a buffer zone with vaccinations are not applied in this area, which makes it a high risk area.

#### **Phabeni gate up to Matsulu**

An interview conducted with the head state veterinarian in Skukuza, KNP, informed us that there has not been any redline fence in existence for some time now, but that the KNP's veterinary fence is considered as such.

Employees of the department of agriculture's animal health directorate of Mpumalanga are responsible for the patrol and maintenance of the fence.

What is notable is that this section of the fence is in an extremely poor condition and is not regularly patrolled or maintained.

**Conclusion**

- Fence control should be drastically improved, as the broken down redline fence and the failure to enforce fence control could result in a free flow of infected cattle from inside of the buffer zones.
- The existing redline fence should be repaired, properly monitored and maintained.
- Redline fences in the Mpumalanga province must be reinstalled and properly monitored.

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24 June 2011