



GOVERNMENT OF ZIMBABWE

FORESTRY COMMISSION



FIRE MANAGEMENT PLAN

NGAMO FOREST RESERVE

LUPANE DISTRICT

MATEBELELAND NORTH

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DESIGNATION: FORESTER

DATE: MARCH 2017

APPROVED BY: MR B CHIPARANGE

DESIGNATION: DISTRICT CONSERVATOR

DATE: MARCH 2017

Distribution list of Fire Management Plan (FMP).

- (i) Chief Conservator of Forests**
- (ii) District Conservator Lupane**
- (iii) Forester Sikumi**
- (iv) Camp Manager Intundla.**
- (v) Manager Bumani lodges**
- (vi) Nyala Safaris camp manager**
- (vii) Environmental Management Agency (EMA)**
- (viii) Gwayi Conservancy Chairperson**

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ACRONYMS

EMA	Environmental Management Agency
FAP	Fire Action Plan
FC	Forestry Commission
FPP	Fire Prevention Plan
HSBCP	Hwange Sanyati Biological Corridor Project
Nat Parks	National Parks of Zimbabwe
ZIMASSET	Zimbabwe Agenda for Sustainable Socio-Economic Transformation
ZRP	Zimbabwe Republic Police

CHAPTER 1.

1.1 Introduction

1.1.1 Scope of plan.

The forest reserve has a total area of 102 900ha. The plan is also going to cover its surrounding areas and neighbouring sections which are also in the same line of business, since the conservation and protection of our flora and fauna is of national interest rather than individual interest so it is our mandate to jealously secure and protect these forest from the devastating effects of wildfires. The fire management plan is going to cover Ngamo forest reserve which is situated in Lupane district, Matebeleland North, Zimbabwe.

Ngamo forest shares boundary with Sikumi forest land to the north western side, private plots (Chamankanu, Sotani, Volunteer farm 82 83, 95, 96 and 97) to the northern side up to the eastern side where Gwayi river marks the boundary with Lupane communal lands and Tsholotsho communal lands on its south to south eastern side.

1.1.2 Fire history and causes.

Statistics and annual fire reports show that the main causes of fires in the forest area are usually external fires from the Tsholotsho communal along Lobengula line (boundary), Lupane side and northern side where we are bounded by private plots (farms). Little fire management practices from the surroundings contribute significantly to occurrence of these wild fires. Hence there's need to encourage and strengthen the participation of local communities in fire pre-suppression and suppression activities

1.1.3 Causes

Major causes that have been identified are mainly poachers targeting game and usually land preparation by fires which results in uncontrolled fires finding its way into the forest area. Other factors include lightning but not frequent, exhaust from the trains, bee honey harvesters who use fire and leave it unextinguished.

1.1.4 Previous year fires

Year	Month	Block	hectares destroyed	Percentage	Cause
2012	October	B,C,E,G,H,F	51240ha	49.8%	poachers
2013	September	B	1800ha	1.8%	poachers
2014	October	A,D	4500ha	4.4%	Land preparation from neighbours.
2015	August ,September	A,B,C,D,E&J	49 850ha	48.5%	Suspected poachers, and fire break out from neighbouring farms
2016	November	A	4200ha	4.1%	Lightning.

Origins

The above mentioned fires originated from, mainly Sotani farms and Zikungwa area thus breaking into the forest area and we have classified these areas as fire high risk areas as statics shows a frequency in the occurrence from the same zone. Poachers are the main culprits as they try to drive game into their baits by scaring the animals using fire hence posing danger to the forest area.

1.2 INTENTION OF THE PLAN

The Fire Management Plan (FMP) intends to cover both the *pre-suppression* /**Fire Prevention Plan (FPP)** and the *suppression*/ **Fire Action Plan (FAP)**.

1.2.1 Fire Prevention Plan(FPP)-this is more of preparation activities ahead of a fire season, or preventive measures which include fireguards preparation mapping high risks and low risk area, widening of roads, mowing, and also road shoulder clearing(line clearing) .FPP also cover how and when it is going to be done.

Different operations will be carried out in order to minimize and control the fuel load, these operations will be based on previous experiences of fire occurrence, where we are most vulnerable, where major risks and threats are, where there is fire fuel load and also depending on the prevailing climate since seasons differ from the previous ones, and from time to time giving dynamic fuel conditions and risks every year. It is interesting to note that this year we experienced an El Niña type of weather which is said to be opposite of last year's weather pattern, heavy rainfall have been received across the country resulting in floods in some areas, the heavy rainfall being experienced this year have given rise to fuel load in the forest areas with some vleis having tall grass of more than 3metres in height, this entails that a lot of internal fireguards are supposed to be constructed this year to prevent internal fire jumps, and they have to be of considerable width depending on the fire risk those areas will be posing.

1.2.2 Fire Action Plan (FAP)-this will be the detailed plan of what is to be done when the fire occurs. The FAP also covers the procedures in case of fire outbreaks, fire standby's, communication network within and with neighbours and also meeting/assembly points.

CHAPTER 2.

2.0 AIMS AND OBJECTIVES

2.1.1 Aim

The main aim of the FMP is to effectively and efficiently reduce the occurrence of forest fires in Ngamo forest and its surrounding areas. The plan is designed to produce a highly organised network framework to fight the fire when it does occur. The plan also complements the efforts of WWF (World Wide Fund for Nature) through its donor partners World Bank in supporting fire protection in collaboration with community fire brigades through its project the Hwange Sanyati Biological Corridor (HSBC)

2.1.2 Objectives

- ❖ To reduce the occurrence and spread of forest fires.
- ❖ To come up with a highly coordinated and networked firefighting system with neighbours (collaboration).
- ❖ Impart knowledge and firefighting skills to the local community.(Strengthen the participation of local communities in fire prevention and fire fighting)
- ❖ To raise awareness on forest fires and its effects to the environment.

2.2 Forestry Commission mission statement.

Our mission is to contribute to national socio-economic development through effective regulation, conservation and capacity enhancement in the management and sustainable utilization of forests resources. We provide services to maintain and expand Zimbabwe's forests and woodland to ensure productivity, sustainability and profitability of natural resource for the benefit of all Zimbabweans.

2.3 Derivatives from the Zimbabwe's national economic policies, FC annual plan, Strategic Plan.

The fire management plan will also address cluster key result areas of the ZIMASSET of environmental management, improved natural resource management and to formulate a comprehensive veld management fire management framework. Through fire pre-suppression and suppression activities in the fragile Kalahari sands there is need to protect the flora from continuous destruction by wild fires which in the end removes vegetation cover thus exposing the soil to erosion agents and endangering fauna diversity.

The forestry commission strategic goal is to increase knowledge/skills and awareness on forest resources by 30% by 2018(FORESTRY COMMISSION STRATEGIC PLAN 2013-2018). Through fire awareness campaigns and fire drills.

CHAPTER 3

3.0 Pre-suppression activities.

activity	budget	comment
Fire guard burning 100km		Removal of flammable material in a stretch manner that prevents fires to spread to adjacent blocks of other properties
Food ration for camping with 18people for 7days	\$300.00	
Fuel for fireguard burning 200l @ \$1.30	\$260.00	
Supervision and fuel collection from Lupane 100l	\$130.00	
Overnight allowances for 18people for 7days @ \$10	\$1260.00	
total	\$1950.00	
Line clearing by hand (manual line clearing)		2m width clearing of the road shoulders meant to improve visibility and remove fuel that may possibly jump fires from standing trees, also ensures fireguard widening during grading
Fuel required for line clearing 400l @ \$1.30	\$520.00	
Food required for camping 15days with 18people	\$935.00	
Supervision fuel collection at Lupane 200l @ \$1.30	\$260.00	
Petrol for chainsaws 10l @ \$1.45	\$14.50	
Overnight allowances @ \$10 for 18people for 15days	\$2700	
total	4429.50	
Grading of fire lines and tracks 320km in 16days		Acts as fireguards and also done to maintain the roads
Fuel required 1200 @ \$1.30	1560.00	
Supervision fuel 200l @ \$1.30	260.00	
Food ration for 16days for 3people	100.00	
Overnight allowances for 3people for 16days @ \$10per night	480.00	
Tractor service at forest hill (200working hours)	300.00	
Fuel to and from forest hill for service and back to Ngamo 80l @ \$1.30	104.00	
total	2804.00	
Early block burning of 15000ha		Done to reduce fuel load which helps in reducing fire intensity and speed when the fires occur
Fuel required 300l @ 1.30	\$390.00	
Fuel for supervision and fuel collection 100l @ \$1.30	\$130.00	
Food ration	\$936.00	
Overnight allowances for 15people for 15days	2250,00	
Total	3706.00	
Grand total	12 889.00	

NB: Line opening operation (this operation may continue throughout the fire season during forest patrols)

Legal requirements.

- ❖ Notice of Intention to Burn
- ❖ Forest Act
- ❖ Environmental Management Act

CHAPTER 4.

4.1 Fire Action Plan (FAP)

4.1.1 Manpower

Management and administration			Labour compliment		
	Designation	Role			Role
1	Forester	Logistics and planning/DRIVER	15	Fire fighters	Fighting/suppressing the fire
1	Clerk	Facilitates, food prep./driver			
1	Supervisor	Supervises firecrew, mobilises fire gang in case of emergencies.	2	tower man(Kalugu tower)	Detecting fires, and reporting, updates
3			17		total

4.1.2 Equipment.

VE	Location	Quantity	Use/assigned user	Status	Comment
Landcruiser(4x4)	Ngamo forest	1	Forester	experiencing a lot of mechanical faults, fuel pump& electrical problems	Requires proper service before fire season
Tractor(Massey Ferguson)	Ngamo forest	1	Tractor driver	Running(brand new, project equipment)	Donation from (WWF) HSBCP
Total		2			

4.1.3 Logistics/Rations Budget.

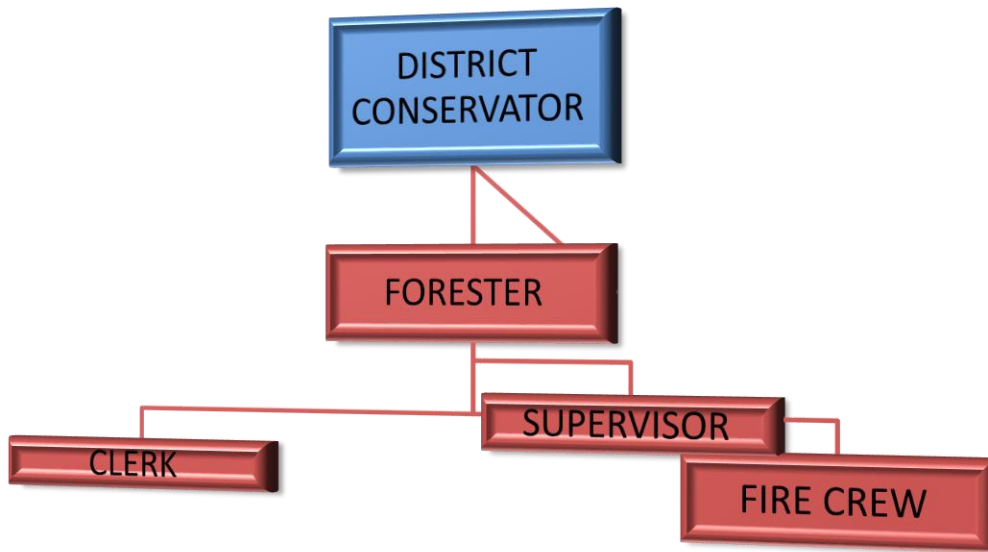
Required foodstuffs-Food rations are required to be readily available during fire season, since fires can take days and there's no time go back to the station and cook for themselves but rather the food is brought to the fire scene inorder to replenish their energy and allows the fire fighters to continue with their duties.

Food	quantity	Required quantity	Unit price	Total price
Mealie meal	50kg×2	100kg	\$33.11	\$66.22
Matemba	500g×20	10kg	\$4.80	\$96.00
Beans	500g×20	10kg	\$1.22	\$24.40
Cooking oil	2ltrs×6	12ltrs	\$3.70	\$22.20
Salt	2kg×2	4kg	\$0.96	\$1.92
Royco usavi mix	75g×12	1kg	\$0.46	\$5.52
Onions	1pkt	1pkt	\$22.23	\$22.23
tomatoes	1kt	1pkt	\$13.30	\$13.30
Mahewu	3×5	case	\$15.00	\$60.00
Total				\$311.79

CHAPTER 5.

5.0 Fire Action Plan

5.1.1 REPORTING STRUCTURE



5.1.2 Roles and responsibilities.

	Responsibility	Role
District Conservator	Section/district fire boss	Authorizes back up from other stations, coordinates suppression between stations
Forester	Fire boss (driver)	Instructs vital decisions, executes the fire plan, chief administrator at station, assesses the fire situation
Supervisor	Mobilizing &supervising	Deployment of fire standby team, ensuring they carry the right equipment, implementing the fire plan(actual suppression)
Clerk	General administration (driver)	Arrange drinking water, food suppliers and first aid kit. Communication and networking

5.1.3 Fire duty standby and duty roster.

GROUP A		GROUP B	
TBA	Crew leader	Jabulani Ncube	
TBA	TOWERMAN(KALUGU)	TBA	
W.Nduku	DRIVER	A.Chirwa	
TBA	Station tower(mchibi)	TBA	
GROUP MEMBERS		GROUP MEMBERS	
T.B.A T.B.A ×8 members		T.B.A T.B.A ×7 members	
		DATES	
6-7	20-21	AUGUST	13-14 27-28
3-4	17-18	SEPTEMBER	10-11 24-25
1-2	15-16	OCTOBER	8-9 22-23 29
5-6	12-13	NOVEMBER	19-20 26-27

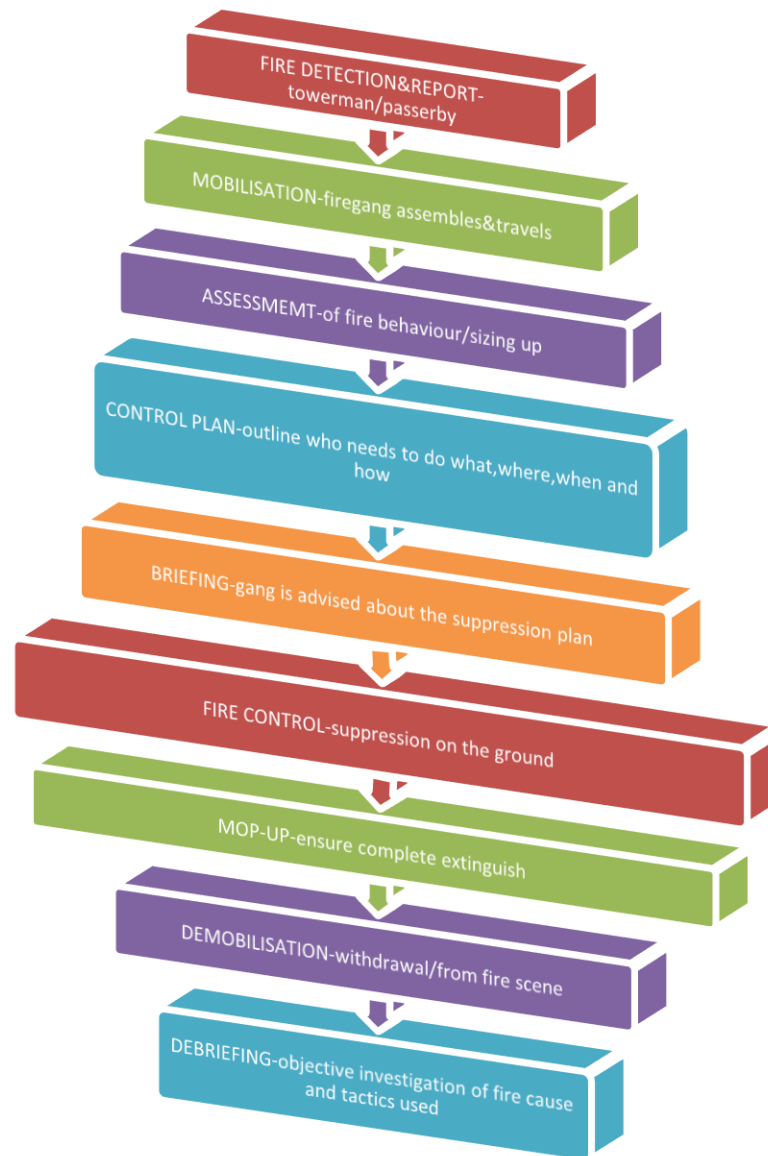
5.1.4 Fire danger rating

%(percentage)	Colour Code	Risk
0-35	Green	Safe
36-50	Yellow	Low risk
51-75	Orange	Moderate
76-100	Red	Extreme/high risk

5.1.5 Water points.

WATERHOLE	COMMENT
Chakwana	Diesel Engine pumped
Mabhanda	Diesel Engine pumped
Kakoma	Solar powered
Ingwe	Diesel Engine pumped
Intundla	Diesel Engine pumped
Bumani	Diesel Engine pumped(on leased area)
Chemhashu	Diesel Engine pumped
Kalobe	Natural

5.2 PROCEDURE IN CASE OF FIRE



5.3 Deployment and work instruction.

Special attention should be paid when issuing instructions under emergency conditions. Lack of detailed instruction can cause chaotic condition in the first stages of fires, hence instructions should be issued in a fixed form.

- **Situation**-a brief description of the locality/area, nature of fuel wind direction and speed. The first individual to reach the fire scene should provide these details or the towerman.
- **Instructions**-this is to detail who has the overall responsibility for controlling firefighters especially when we have various groups from different stations at the same fire scene.
- **Execution**-a combined plan of attack by the responsible officer (fireboss) in consultation with other personnel on the scene who may have the more detailed knowledge of the local conditions. Execution of the plan will detail the chosen method of dealing with the fire.
- **Administration**-this will include arrangement of water supplies, food feeding arrangements.
- **Command and communication**-usually when there's external assistance of personnel from other stations, upon arriving firefighters should have a picture of the ongoing activities, the responsible officer and where he/she can be conducted in time.

5.4 Stakeholder contacts

STAKEHOLDER	ROLE	CONTACTS
IMVELO SAFARI (Sibbs)	Photographic lodges(In Ngamo forest)	0778132296
NYALA(Mr. Sibanda)	Hunting camp(neighbor)	0712871245
SIMBA LODGES(Mr. Dhube)	neighbor	0772458855
NGAMO SAFARI(Mr. Matashu)	Hunting camp(in Ngamo forest)	0773064742
EMA	Environment agency	Lupane
ZRP	Police	Jotsholo/Lupane
Nat.Parks Area Manager	Wildlife management(neighbours)	Main Camp 0773240265

CHAPTER 6

6.1 Reports.

After every fire each station compiles a fire report (F.C.F 33) which will be filed at the station and head office as well. The report will include the following.

- ✓ **Time fire reported**
- ✓ **Weather during the occurrence**
- ✓ **Fire progress i.e. perimeter of fire(sketch drawing)**
- ✓ **Fire behavior**
- ✓ **Causes of the fire.**
- ✓ **Summary of action taken to suppress the fire.**
- ✓ **Tools used.**
- ✓ **Area burnt.**
- ✓ **Weather in general(during time of fire)**

Stakeholders or affected partners or neighbours will also be advised in form of a report e.g. extent of damage, causes and recommendations.

A detailed report will also be compiled for media giving situations experienced, estimated maximum potential loss, and which areas were most vulnerable at that time. The reports will be channeled to our Information and Communication office for further dissemination.

Chapter 7

7.0 Maps.

7.1 Annexed are maps showing the following -

- **Boundaries**
- **Roads/fire lines**
- **Treatments/pre-suppression activities**
- **Possible hot spots-high risk areas**
- **Infrastructure and assembly points**
- **Fire scar maps**