2021 VELD FIRE REPORT

Part of the 3 057 hay bales produced at Gwebi College through the EMA-Gwebi College Hay Baling Partnership Project.

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> "Average area burnt was affected by available biomass and the active participation of local communities."
>
> A. Chigona
> **Director General**

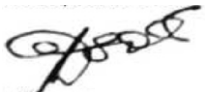
The 2021 fire season came at the backdrop of normal to above normal rains in 2020/2021 rainfall season leading to high fire risk of **65.2%** and extreme fire risk of **24.7%** of the country respectively. Studies done by the Agency revealed that provinces at extreme risk were Mashonaland West, Mashonaland East, Mashonaland Central and Manicaland, while Matabeleland North, Matabeleland South, Midlands and Masvingo were at high risk to veld fires. Fire monitoring revealed that **3 948** fire incidences were recorded burning **1 033 722.86 ha** of land during the fire season. The average area burnt from the **3 948** fire incidences in 2021 is **261.83 ha** while the NDS1 baseline average area burnt from **1 508** fire incidences was **768.09 ha**.

The Agency responded to this information by producing an all-inclusive fire management plan for the year, upscaling issuing of orders and increasing awareness campaigns. Strategic collaborations between the Ministry Of Lands, Agriculture, Fisheries, Water and Rural Resettlement and the Ministry of Environment, Climate Tourism and hospitality industry were established. The comprehensive and robust engagements done were aimed at protecting the agricultural produce (crops and animals) and agricultural equipment. The Agency in 2021 created closer collaboration with AGRITEX officers from national level to ward level in fire management and developed a clear communication and response strategy to fires.

A total of **3 948** fire incidences burning **1 033 722.86** hectares of land were recorded during the fire season compared to **1 178** fire incidences burning **806 457.84 ha** in 2020. The average area burnt from the **3 948** fire incidences in 2021 was **261.83 ha** while the NDS1 baseline average area burnt from **1 508** fire incidences was **768.09 ha.** Average area burnt was affected by available biomass and the active participation of local communities. The statistics show that while the burnt area and incidences were high the average burnt area was low because communities were on high alert and getting together to put out the veld fires that would have started in the various areas. Increased law enforcement is also attributed to the low average burnt area as **889** tickets were issues in 2021 compared to 56 in 2020 compared to 56 in 2020.

The Ministry of Environment, Climate, Tourism and Hospitality Industry is working on new legislation to govern the fire season in light of climate change and climate variabilities. Furthermore, in 2022 the Agency will upscale its partnership with all relevant stakeholders including the Ministry Of Lands, Agriculture, Fisheries, Water and Rural Resettlement and Traditional leaders so as to reduce the impacts of fires in the agricultural sector. Fire management is a costly exercise that requires funding to the tune of over **us$6 million** for effective capacitation of communities and fire fighting structures.

A. Chigona



Director General
ENVIRONMENTAL MANAGEMENT AGENCY

1.0 Introduction

This report highlights activities that were carried out in the 2021 fire season which has come when the country is facing the continued COVID 19 pandemic. The 2021 fire season came after a normal to above normal 2020/21 rainfall season. The report covers the pre fire season activities, fire season activities and post fire season activities. These activities included the fire risk prediction, fire awareness meetings, development of fire action plans, fire management projects, mobile awareness exercises, issuing fire prevention orders and burnt area mapping and daily alerts.

2.0 Fire Risk Modelling

The prediction indicated that the country was going to be generally in the high risk for **65.2%** of the country to extreme risk **24.7%** of the country to veld fire outbreaks. This was a result of the good rainfall in the 2020/2021 season. The Provinces at **extreme risk** were Mashonaland West, Mashonaland East, Mashonaland Central and Manicaland, while Matabeleland North, Matabeleland South, Midlands and Masvingo are at **high risk** to veld fires.

Table 1: High to Extreme Risk in comparison

2020 Risk Prediction	2021 Risk Prediction	Increase in Risk Prediction (%)
34.3%	89.9%	162% increase

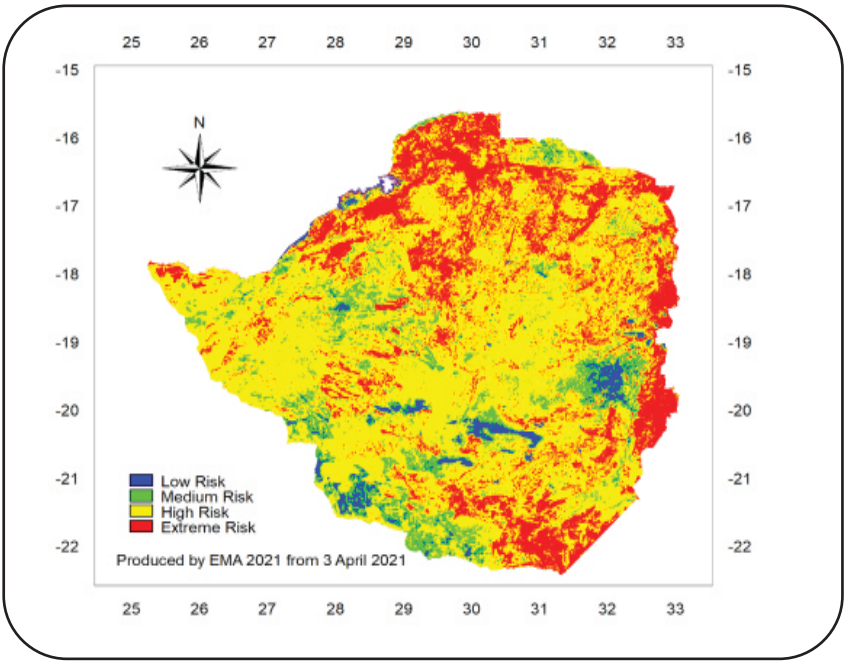


Figure 1:Fire Risk Map

3.0 Strategies for Veld Fire Management

The Agency having established the risk prediction of 89.9% of the country being in the high to extreme fire risk, a comprehensive list of strategies were developed and presented to the Ministry of Environment, Climate, Tourism and Hospitality Industry for onward submission to Cabinet.

3.1 Inter Ministerial Strategies

Collaborations between the Ministry Of Lands, Agriculture, Fisheries, Water and Rural Resettlement and the Ministry of Environment, Climate Tourism and hospitality industry was established. The comprehensive and robust engagement was aimed at protecting the agricultural produce (crops and animals) and agricultural equipment. The Agency trained Agritex officers from national level to ward level in fire management and developed a clear communication and response strategy to fires. Ministry Of Lands, Agriculture, Fisheries, Water and Rural Resettlement availed Agritex officers on the ground to fully participate in fire management activities. To ensure progress and sustainability a meeting chaired by the two ministers was held every fourth night.

plate 1: truck burnt by fire along Harare - Bindura road

Table 2: Inter Ministerial Strategies

Strategies 2020	Strategies 2021
1. Traditional Leadership engagement.	1. Ministry Of Lands, Agriculture, Fisheries, Water and Rural Resettlement availed Agritex officers on the ground to fully participate in fire management activities.
	2. One meeting chaired by the two ministers fortnightly.
	3. Trained Agritex officers from National level to ward level in fire management
	4. Developed a clear communication and response strategy to fires and shared it with all implementing partners

4.0 Fire Education and Awareness

A total of **1 297** meetings were held countrywide aimed at informing citizens of the impending fire season and sharing fire management skills. The meetings had an attendance of **28 257** strategic leadership countrywide. A total of **597** roadshows were also held nationwide in the 8 fire hotspots districts with an attendance of **78 353** people. The total number of meetings was greatly affected by the COVID 19 pandemic. As a mitigation strategy road shows and social media presence has been up scaled. Furthermore a total of **205** fire fighting teams with **805** participants were also trained to be team leaders in fire guard construction and fire fighting.

Table 1: Meetings and awareness raising

Province	Number of meetings	Attendance
Midlands	72	1974
Manicaland	195	2367
Mash West	570	18375
Matabeleland North	109	3152
Mat South	6	71
Mash Central	86	2318
Mash East	195	3 666
Masvingo	64	2 269
Total	**1 297**	**28257**

Box 1: How veld fires Can Affect Your Health

Smoke is made up of a complex mixture of gases and fine particles produced when wood and other organic materials burn.While not everyone has the same sensitivity to veldfire smoke, it's still a good idea to avoid breathing smoke if you can help it. And when smoke is heavy, such as can occur in close proximity to a veldfire, it's bad for everyone.

The biggest health threat from smoke is from fine particles. These microscopic particles can penetrate deep into your lungs. They can cause a range of health problems, from burning eyes and a runny nose to aggravated chronic heart and lung diseases. Exposure to particle pollution is even linked to premature death.Some people are more at risk

It's especially important to avoid veldfires if you are a person with heart or lung disease, such as heart failure, angina, ischemic heart disease, chronic obstructive pulmonary disease, emphysema or asthma.

- An older adult, which makes you more likely to have heart or lung disease than younger people.
- caring for children, including teenagers, because their respiratory systems are still developing, they breathe more air (and air pollution) per pound of body weight than adults, they're more likely to be active outdoors, and they're more likely to have asthma.
- a person with diabetes, because you are more likely to have underlying cardiovascular disease.
- a pregnant woman, because there could be potential health effects for both you and the developing fetus.

How to tell if veld fires smoke is affecting you

- High concentrations of smoke can trigger a range of symptoms.
- Anyone may experience burning eyes, a runny nose, cough, phlegm, wheezing and difficulty breathing.
- If you have heart or lung disease, smoke may make your symptoms worse.
- People with heart disease might experience chest pain, palpitations, shortness of breath, or fatigue.
- People with lung disease may not be able to breathe as deeply or as vigorously as usual, and may experience symptoms such as coughing, phlegm, chest discomfort, wheezing and shortness of breath.

Protect yourself!

- It's important to limit your exposure to smoke - especially if you are at increased risk for particle-related effects. Here are some steps you can take to protect your health:
- If you have heart, vascular or lung disease, including asthma, talk with your health care provider. Prepare for fire season if you live in a fire-prone area.
- If you have heart, vascular or lung disease, including asthma, talk with your health care provider before fire season to make plans. Discuss when to leave the area, how much medicine to have on hand, and your asthma action plan if you have asthma.
- Have a supply of N-95 or P-100 masks on hand, and learn how to use them correctly.
- If you have heart, vascular or lung disease, including asthma, talk with your health care provider.
- If you are advised to stay indoors, take steps to keep indoor air as clean as possible. Keep your windows and doors closed - unless it's extremely hot outside. Run your air conditioner, if you have one. Keep the filter clean to prevent bringing additional smoke inside. Open windows to air out the house when air quality improves. Note: If you don't have an air conditioner, staying inside with the windows closed may be dangerous in extremely hot weather. In these cases, seek alternative shelter, such as with relatives or a cleaner air shelter.
- Help keep particle levels inside lower. When smoke is heavy for a prolonged period of time, fine particles can build up indoors even though you may not be able to see them. Try to avoid using anything that burns, such as wood fireplaces, gas logs, gas stoves - and even candles. Don't vacuum. That stirs up particles already inside your home. And don't smoke. That puts even more pollution in your lungs, and in the lungs of people around you.
- If you have asthma or another lung disease, make sure you follow your healthcare provider's directions about taking your medicines and following your asthma action plan. Have at least a five-day supply of medication on hand. Call your healthcare provider if your symptoms worsen.

Credit: Adapted from EPA 2022

5.0 Fire management projects

5.1 Hay Baling

The Agency and other stakeholder has employed several interventions aimed at reducing the impacts of fires such as hay baling, grass combing, road servitude clearing and apiculture projects. Hay baling reduces fuel load and empowers communities with alternative sources of income. This programme was aimed at reducing the biomass while creating income and protecting the national herd by providing feed. A total of **672 149** bales were done protecting a total of **208239.3** hectares.

Table 2: Hay Bales production

Province	District	Total number of bales	Area Cleared ha
Midlands	Gweru	89882	7280
	Chirumhanzu	1730	335
	Kwekwe	6000	1300
	Shurugwi	12500	1500
	Gokwe south	6000	250
Mash east	Chikomba	1974	127
	Goromonzi	150	80
	Hwedza	233500	31496
	Marondera	42287	15011
	Murehwa	19000	260
	Seke	26300	899
Mash Central	Muzarabani	1250	20
	Mazowe	1000	20
	Mazowe	200	10
	Guruve	44	35
Mash west	Chegutu	8100	7000
	Hurungwe	6039	5000
	Makonde	200	150
	Mhondoro-Ngezi	2500	1700
	Sanyati	5000	3500
	Zvimba	62375	30100
Mat north		11320	1811
Manicaland	Chipinge	218	170
	Makoni	1080	900
	Nyanga	1210	2000
Mat South	Insiza	36392	39250
	Mangwe	25500	22900
	Matobo	30100	24150

Province	District	Total number of bales	Area Cleared ha
	Beitbridge	4000	1100
	Bulilima	8694	2150
	Umzingwane	23692	7506
Masvingo	Masvingo	3912	229.3
Total		**672149**	**208239.3**

5.2 Fire guard construction

Fireguard demonstrations projects were done by various property owners across the country. Fireguards measuring a total of **20 324.09 km** were constructed nationwide protecting **1 127 351.86** hectares. Furthermore, thatch grass harvesting was done in areas with high biomass as a veld management strategy while generating income. A total of **650 255** grass bundles were harvested protecting a total of **49 494.5** hectares. Mashonaland West, Manicaland and Matabeleland South harvested the most thatch grass.

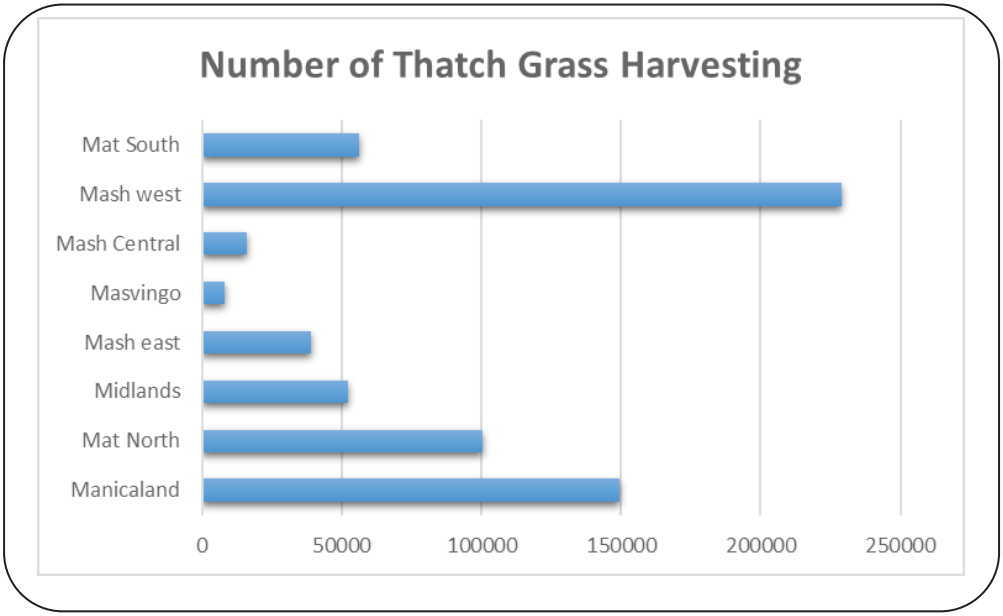


Figure 2: Thatch grass harvesting

Plate 2: Grass patch cut for hay baling by Imire conservancy of ward 3. 16.06.2021

Plate 3: Hay bales stacked at Imire conservancy of ward 3. 16.06.2021

5.3 Apiculture projects

Apiculture projects were implemented across the country. Apiculture is a strategic livelihood option that helps to protect the environment. The veld is protected as the people protect their bee hives resulting in reduced veld fire incidences. Communities were supported with **3 158** bee hives to start income generating projects and these projects protected over 5 000 hectares of land from veld fires. The apiculture programme creates a sense of veld ownership in communities. When communities protect their beehives in forests from veld fires the hectarage and fire incidences aslo reduce in the country. Manicaland (2020) and Mashonaland Central (468) province have been in the forefront of the programme implementation.

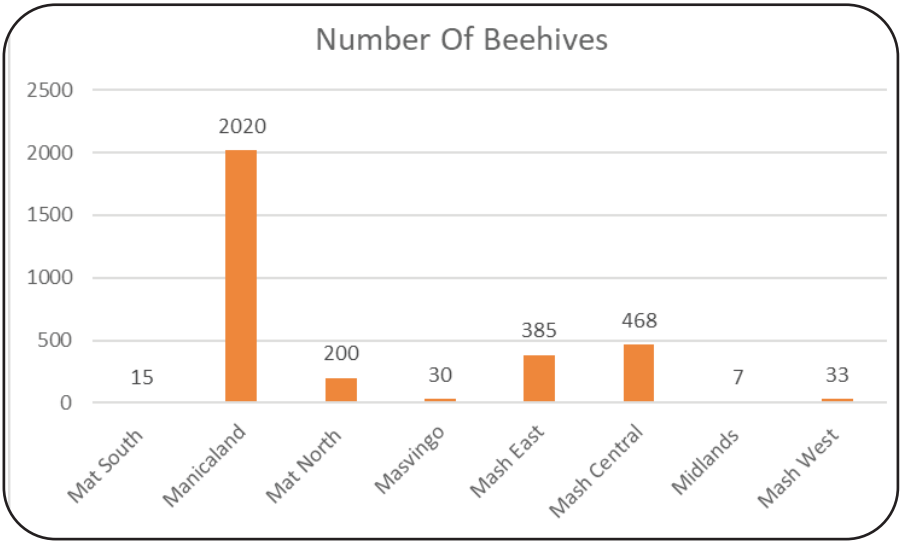


Figure 3: Number of beehives distributed

5.4 Early burning and Road servitudes clearing

Research done by the Agency on veld fire incidences indicate that most fires occur near roads. As such the responsible authorities have been encouraged to clear road servitudes to reduce runaway fires from the road. A total of 3159 km stretch of road servitudes were cleared in the process protecting 7219 hectares of land. Areas with high biomass were also engaged in early burning. A total of 7 567 hectares were cleared using the early burning method.

Plate 4 and 5 road servitude clearing and hay bailing in Matobo.

5.5 Impacts of Interventions

The various interventions done by the Agency and partners ranging from education and awareness, training and projects resulted in 19 districts having a decrease in area burnt while 40 districts had an increase in the area burnt. A wide range of intervention projects such as hay baling, bee keeping ,thatch grass harvesting and road servitudes clearing were implemented across the country.

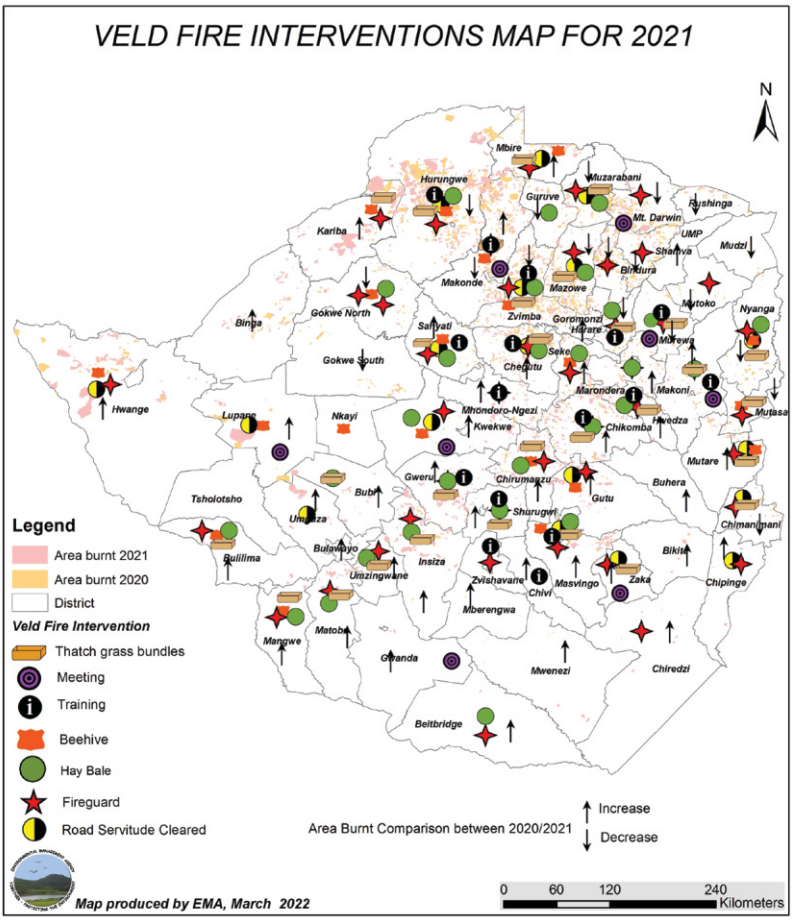


Figure 4: Impacts of interventions

6.0 Funding Gaps

Veld fire management is an extensive programme that requires substantial funding to the tune of over us$6 million. The funding is required in the communities to cater for hay baling programmes. For a successful hay baling programme across the country there is need for tractors equipped with rakers, balers and trailers. This programme will complement the agriculture programme of increasing the national herd. There is also a funding gap of fire suppression activities by knap sack spays, fire beaters and fire blowers. Equally important is the need for fire communication systems in the protected areas, in areas bordering protected areas and within communities.

Table 3.Funding Gaps

Item Required	Quantity	Estimate Cost US$
Hay balers	40 @20 000.00	800 000
Rackers	40 @2 000.00	800 000
Mower	40 @5 000.00	200 000
Tractors	80 @ 15 000.00	1 200 000
Fire beaters	100 000 @5.00	500 000
Knapsack sprays	20 000@ 50	1 000 000
Fire Cans	10 000@100	1 000 000
Blowers	10 000@100	1 000 000
Disaster communication systems	10@40 000	400 000
Total		**6 900 000**

7.0 Fire Related Prosecutions

Law and order was enforced to ensure a reduction of hectarage burnt by fires.Law enforcement was done by issuing of orders to farmers, land users, owners, occupiers, lessees, and designated Authorities to put in place standard fire management measures. A total of **2165** fire orders were issued in the eight rural provinces.

Table 4: showing orders issued

Province	Number of orders served
1. Midlands	413
2. Mashonaland Central	248
3. Manicaland	618
4. Mashonaland East	562
5. Mashonaland west	2 449
6. Matabeleland North	179
7. Matabeleland south	26
8. Masvingo	119
Total	**2165**

A follow up of the orders was done to check for compliance. Property owners that did not comply with the orders were ticketed. A total of 677 tickets were issued across the country.Mashonaland West (214),Mashonaland Central (146) and Mashonaland East (83) issued the highest number of tickets.

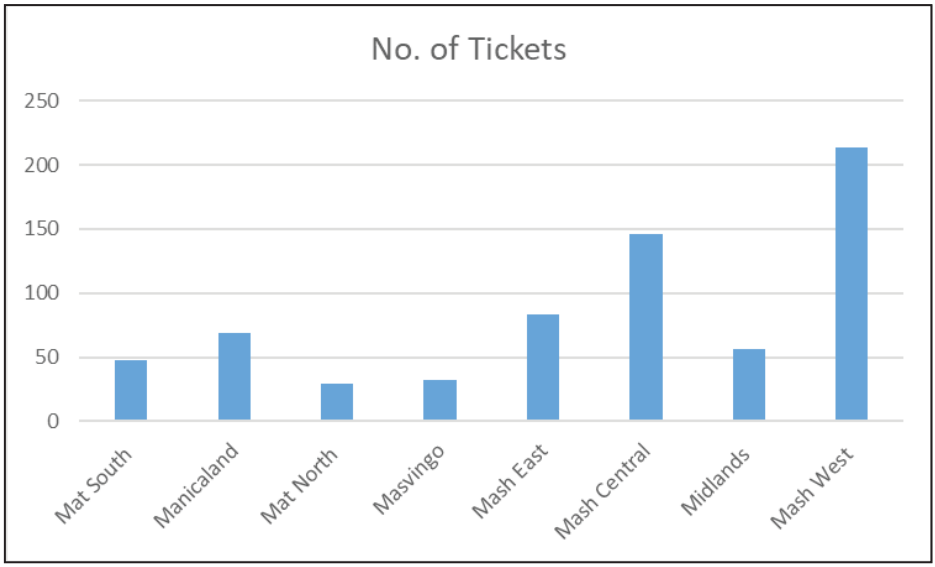


Figure 5. Number of tickets issued

The Agency also opened dockets across the country for some fire related offences.A total of 82 dockets were opened across the country.Mashonaland West (31), Matebeleland South (22) and Mashonaland East (17) had the highest number of dockets respectively.

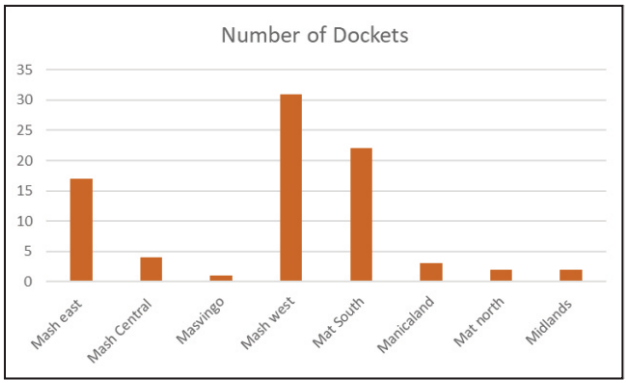


Figure 6. Number of dockets

8.0 Impacts of Veld Fires

Veld fires continued to negatively affect strategic infrastructure in the agriculture,tourism and communication sectors. Unfortunately these sectors are key economic enablers which are being guttered down by fire. In 2021 property worth US$370 837 was destroyed by veld fires country

wide. It is sad to note that veld fires are leading to loses in human lives especially of the vulnerable groups, that is the old and the young. A total of 8 lives were lost to veld fires as indicated below.

Table 5: Fire related deaths

	Province	NAME	SURNAME	AGE
1	**Masvingo**	Prisca	Tagwirei	71
2		Shuvai	Mukungwa	63
3	**Mashonaland East**	Anesu	Wiridza	18
4		Kundai	Wiridza	11
5		Tadiwa	Wiridza	7
6		Julius T.	Gwapedza	77
7	**Mashonaland West**	Grace	Musiiwa	5
8		Polite	Musiiwa	6

Box 2: Impacts of veld fires on soil quality

Forest fires usually decrease the total nutrient pool on a site (the total amount of nutrients present) through some combination of oxidation, volatilization, ash transport, leaching, and erosion. Though fire can diminish nutrient pool sizes, nutrient availability often can at times increases after low intensity fires since fire chemically converts nutrients bound in dead plant tissues and the soil surface to more available forms or the fire indirectly increases mineralization rates through its impacts on soil microorganisms (Schoch and Binkley 1986).

Effects of Fire on Soil Physical Properties

Fire may alter several physical soil properties, such as soil structure, texture, porosity, wetability, infiltration rates, and water holding capacity. The extent of fire effects on these soil physical properties depends on fire intensity, fire severity, and fire frequency. Low intensity fires do not cause enough soil heating to produce significant changes to soil physical properties.

Intense burns may have detrimental effects on soil physical properties by consuming soil organic matter. Since soil organic matter holds sand, silt, and clay particles into aggregates, a loss of soil organic matter results in a loss of soil structure. By altering soil structure, severe fires can increase soil bulk density, and reduce soil porosity, mostly through the loss of macropores (>0.6 mm diameter).

Erosion

Erosion can rapidly become a significant problem after a wildfire. Normally, roots and organic matter hold soil in place and help retain moisture in the soil, and the removal of these materials can result in significant soil movement in response to wind, rainfall, and gravity. A burned-out arid grassland that is then subjected to high winds can create dust storms and scatter the soil over significant distances. Heavy rainfall after a wildfire can create deep gullies and landslides and end up transferring most of the soil into local creeks and ponds.

Soil Biome

The community of microorganisms in the soil significantly affects its chemical properties and the bioavailability of nutrients to vegetation. The extent of a wildfire's impact on the soil biome depends on how hot the fire burns; a quick burn that sweeps across taking out the surface vegetation won't result in significant heating of the soil, but many wildfires burn very intensely and can increase the temperature of the surface soil to 1500 degrees Celsius or even higher.

Unfortunately, the nitrogen-fixing bacteria seem to be extremely susceptible to heat and are often completely destroyed by a wildfire. In addition, endo- and ectomycorrhizae organisms, which form symbiotic relationships with plant roots and play significant roles in feeding plants, are also often completely destroyed by wildfires and their loss from forested areas can impair tree growth for significant periods of time after a fire.

Credit: Adapted from forestencyclopedia.net

9.0 Conclusion

The 2021 fire season that came at the backdrop of a normal to above normal rainfall season in the 2020/21 season. This meant there was more biomass and the country was generally therefore in the extreme fire risk. This was compounded by the Covid 19 restrictions the limited gatherings and movements. The veld fires have negatively affected the agricultural sector and they is need to ensure fire guards are in place and the farmers harvest their produce early. The Agency will upscale collaborations with line Ministries and traditional leaders, judiciary and the police to ensure the there is a reduction in fire incidences and impacts.

Annex 1: Veld fire related pictures

Plate 1&2: An estimated 800 bales at Mupeti farm in Ward 38, Makoni, Chipinge farm

Plate 3 & 4: A kraal and kitchen hut destroyed by fire at Plot 11 Dyfrin farm, ward 38, Makoni.

Plate 4 & 5. Burnt woodlands in Insiza

Annex 2 : District Burnt Area

DISTRICT	HECTARES	DISTRICT	HECTARES
BIKITA	3500.51	MBIRE	24841.88
CHIREDZI	2018.18	CHEGUTU	34794.13
MASVINGO	17598.41	HURUNGWE	153208.93
ZAKA	12.97	KARIBA	83362.01
CHIVI	591.25	MAKONDE	57401.82
GUTU	20219.31	MHONDORO NGEZI	12682.45
MWENEZI	2619.65	SANYATI	3656.21
CHIRUMHANZU	34810.33	ZVIMBA	52150.71
GOKWE NORTH	4402.06	BUHERA	407.35
GOKWE SOUTH	1634.72	CHIMANIMANI	2946.44
KWEKWE	12293.76	MUTASA	1755.39
MBERENGWA	556.10	NYANGA	4525.90
GWERU	31736.00	CHIPINGE	1668.92
SHURUGWI	4536.68	MAKONI	8093.99
ZVISHAVANE	102.00	MUTARE	4115.27
BULILIMA	2382.56	CHIKOMBA	46960.61
GWANDA	1076.91	GOROMONZI	11309.48
INSIZA	43717.39	HWEDZA	11712.49
UMZINGWANE	6978.85	MARONDERA	13409.51
MATOBO	12606.93	MUDZI	274.22
MANGWE	1174.64	MUTOKO	351.04
BEITBRIDGE	477.15	MUREHWA	3217.80
SHAMVA	10328.26	UMP	58.25
RUSHINGA	3549.27	SEKE	17389.81
MUZARABANI	12224.77	HARARE	1258.23
MT DARWIN	31497.37	BULAWAYO	473.15
BINDURA	12981.54	BINGA	21928.61
GURUVE	7690.38	BUBI	9005.50
MAZOWE	26265.91	HWANGE	88307.66
UMGUZA	17900.21	LUPANE	35073.03
TSHOLOTSHO	110.00	NKAYI	210.00

Annex 3 : Fireguard demonstration projects

Province	District	Community / ward	Length of fireguard (KM)	Area protected (hectares)
Midlands	Gweru	Border becon farm, Ripple mead farm	1241.9	13650
	Chirumnzu	Central Estate	453.7	23070
	Kwekwe	Sherwood farm	60	590
	Shurugwi	Karangamite	106	7400
	Gokwe South	Chemagora	7	90
	Gokwe North	Copper queen ward 24	480	2910
	Zvisvane	Vungwe ward 15	1.2	40
Masvingo	Chiredzi	Gonarezhou	30	150
		Malilangwe	25	100
		Chegwite Ranch ward 24	15	4.5
		Malilangwe Trust ward 22	3	15
	Masvingo	Bonn Accord, Ward 8	2.5	35
		Born Accord Ward 8	14	506
		Ancient City Farm, ward 7	7	5
		Townlands Farm ward 7	2	11
		Rushwaya Farm ward 6	6	4.6
		Standard Farm ward 7	3	75
		Shylock Farm ward 8	3.5	100
		Vredensburg Farm ward 8	4.3	100
		Nemanwa ward 12	1.2	4
		Fauna Ranch ward 16	1	12.5
		Aidhmor farm, Ward 6	3	75
		Nyuni Farm, Ward 8	3.5	100
		Acksden farm, ward 8	4.3	100
		Chipare farm, ward 3	1.2	4
		Gt Zimbabwe Monuments	12	1200
		Gokomere Farm	15	1500
		Ward 32	8	284
		Mutimurefu Farm ward 32	5	194
		Simplywild ward 32	10	300
		Lymngton Farm ward 8	7	200
		Dzimbadzamabwe cultural village	0.6	2
	Mwenezi	Subdivision 4 Fauna Ranch, Ward 16	20	1611
		Fauna ranch ward 16	19.7	1532.66
		Fauna ranch Subdivision 2	24	1631
		Fauna ranch Subdivision 3	20	1556
		Fauna ranch Subdivision 6	20	1556
		Fauna ranch Subdivision 7	24	1631
		Fauna ranch Subdivision 8	20	1556

Province	District	Community / ward	Length of fireguard (KM)	Area protected (hectares)
	Zaka	Ward 1	5	5
Mash east	Chikomba	Nyagwikwi	81.5	4209
	Goromonzi	Mushongavende	0.8	12
	Hwedza	Karai	258.94	37536
	Marondera	Karunga CM Safaris Camp	454.3	14366
	Murehwa	Mupedzapasi CM Safaris Camp	906.5	34938.1
	Mutoko	Mukombachoto	4	5000
	Seke	Curuka village	108.3	3600
		Gunyungu		
Mash Central	Mbire	Vheremu	10	50
		Money Box mine	16	50
		Fredda Rebecca Gold mine	0.5	5
		Mavhuradon wilderness	20	50
		Mbada farm, plot 20	7	20
		Mbada farm	0.3	10
		Silverstroom farm	0.05	5
		SAA gum plantation	0.08	2
		Ward 14 Kilkran farm	0.13	4
	Bindura	Mhene village	7	9
		Lochnaga farm	16	24
	Muzarabani	Mavhuradon	20	40000
		Peri-Urban	2	10
		Mbada	5	200
	Muzarabani	Mutute	3	100
	Muzarabani	McClear farm	4	40
	Muzarabani	Ward 40, Cut 199 mine	1	50
	Muzarabani	Ward 40, Zunde A Village	10	150
	Muzarabani	Ward 20, Kuyedza A	1	400
	Muzarabani	Ward 20, Cbvamuvhu A & B	15	100
	Muzarabani	Ward 20, Hondoyekupedzisira	200	10
	Muzarabani	Ward 20, Tangainherera A & B	150	12
	Muzarabani	Ward 20, Kuyedza B	230	4
	Muzarabani	Ward 23, Chigango	300	50
	Mt Darwin	Ward 23, Mashonga	2.8	25
	Mt Darwin	Ward 12, Chwanda	1.1	12
	Mt Darwin	Ward 12, Chitsato	2.1	6
	Mt Darwin	Smva Gold Mine	2.3	8
	Mt Darwin	Goche farm	2.2	6
	Mt Darwin	DAPP Smva	2. 5	10
	Mt Darwin	Ming Cng	2	4

Province	District	Community / ward	Length of fireguard (KM)	Area protected (hectares)
	Mt Darwin	Nakweru	2.2	5
	Mt Darwin	Stockwell Plot 7	2.4	8
	Mt Darwin	Earling Subdivision 17	2.3	6
	Mt Darwin	Balinety Farm	2.4	7
	Shamva	Ward 23	3	30
	Shamva		5	400
	Shamva		10	1200
	Shamva		0.5	5
	Shamva	Ward 12	2	10
	Mazowe	Ward 4	10	50
	Mazowe	Mavhuradon	12	20
	Mbire		23	1500
	Mbire		15	1300
	Mbire		12,5	1600
			9	100
Mash west	Chegutu		162.8	6360
	Hurungwe		1624	64640
	Kariba		611.2	36996
	Makonde		834	33290
	Mhondoro-Ngezi		407	6280
	Sanyati		262.5	9730
	Zvimba		169	6760
Mat North		Chizarira National Park	90	1910
		Chizarira National Park	60	
		Ward 13 Allendale	17	140
		Ward 13 Robinson	30	175
		Ward 13 Marry Ellen	25	243h
		Hwange Main camp ward 18	77	750
		Deka Safari Area	72	450
		Matetsi Units 1-5 concessions ward 19	243	800
		Ward 1 Matetsi A2 Farms	68	8 5890
		Ward 1 Breakfast Farm	35	6780
		Ward 1 Zambezi National Park	55	9 460
		Ward 19- Robinson Camp	40	5300
		Ward 19 -Sinamattella	75	2500
		Ward 19-Hunting Safari	180	3500
		Ward 18-Main Camp	90	4500
		Matetsi A2 Block/1	54	4020
		Ward 19 Fuller Forest	55	3500

Province	District	Community / ward	Length of fireguard (KM)	Area protected (hectares)
		Ward 19 Pandamasuwe	50	5300
		Ward 19 Kazuna	30	4000
		Ward 19 Robins Camp	40	4560
		Ngamo Forest ward 26	170	2500
		Chimwara/ Ward 25	16	1000
		Masungamala/ Ward 26	15	12000
		Ward 14	2.8	120
		Ward 14	4	1098
		Ward 10	5	1500
		Zambezi National Park, ward 1.	450	56000
		Katumbura Hunting area, ward 1.	460	102000
		Fuller Forest, ward 1	85	23300
		Sikumi Forest	148	54400
		Kazuma Forest	105	24000
		Dibangombe Farm	16	2764
		Breakfast farm	0	0
		Olipnt farm	15	2625
		Kalala farm	39	2800
		Mapanengoma/Annasdale farm	36	6000
		Sikabela farm, ward 1.	40	4000
		Jafuta Shearwater safari area, Ward 1.	17	3000
		Stanley & Livingstone safari area	32	2970
		Woodland farm	24	4000
		Masikili Farm village 3	29	4550
		Isla Farm	56	4200
		Farm 41 Dete	16	2000
		Painted Dog Conservation	21	1500
		Hwange Safari Lodge	12	750
		Masikili village, Ward 1	19	1500
		Isla Farm	15	1565
		Ganda Safari Lodge	12	2504
		Gwango Wildlife	15	1000
		Miombo Safari	19	2000
		Matetsi Hunting Safari Unit 2 &3	29	3005
			32	8317.9
		Selous hunting camp	17	2500
		Tsmangani hunting camp	15	2600
		Volunteers 47, 48 & 49 hunting camp	25	4500

Province	District	Community / ward	Length of fireguard (KM)	Area protected (hectares)
		Lugo hunting camp	117	9000
		Sotni hunting camp	29	3500
		Bindonvale hunting camp (internal clearance is ongoing)	127	9000
		Sotni hunting camp	14	300
		Gundwane village	0	0
		Masungamala	10	3500
		Fatima	18	4400
		Jotsholo	10	3800
		Masenyane village	14	5000
		Ngondo	15	6500
		Gwayi Ranch	15k	5100
		ngano farm	0	0
		Chimwara	12	4000
		Umkombo Ranch	14	4200
		Goodluck farm	484	73817.9
		Ward 2 Village 7B	50	7300
Manicaland	Chimanimani		96	
	Chipinge		117	
	Makoni		263	
	Mutare		39	
	Mutasa		12	
	Nyanga		89	
Mat South	Insiza	13, 18, Bar 2 farm, Mehlo farm, Kombo, Locrd,	1011.69	54377.7
	Bulilima	19	627.5	501
	Mangwe	11,	943.4	20 000
	Matobo	25, Elton Park, Matobo National Park	1021.4	49757
	Beitbridge	Bishopstone	2056	15900
	Umzingwane	Plot 35A Fernspruit , Willgrove farm, Plot 10 farm (Nyoni)	17.5	37,5
Total			**20324.09**	**1 127 351.86**

Notes

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