Veldfire Management Strategy

for the

Eastern Cape Umbrella Fire Protection Association (ECUFPA)

In terms of Section 5(1)(a) of the National Veld and Forest Fire Act, Act 101 of 1998

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2. Background

The Fire Protection Associations of the Eastern Cape collectively agreed to form an Umbrella Fire Protection Association for the Eastern Cape Province in 2011. A significant factor contributing to this decision, was that the Council for Scientific and Industrial Research (CSIR) lists the Eastern Cape as having a combined 53.5% high-to-extreme fire danger over the entire province as part of the 2010 National Veldfire Risk Assessment Report.

The Eastern Cape Umbrella Fire Protection Association (ECUFPA) is registered with the Department in terms of sections 4(9) and 4(10) of the National Veld and Forest Fire Act, act 101 of 1998 (NVFFA). Furthermore, ECUFPA is registered as a Non-Profit Company (NPC), ECUFPA NPC (Reg. No.: 2012/109394/08) and is governed by its *Rules to the Memorandum of Incorporation.* These rules have been submitted to the Department and approved by the Minister. In addition, the rules make provision for the inclusion of section 5(1)(a) of the NVFFA, namely the Development and Application of a veldfire management strategy. In terms of section 4(10) of the NVFFA, ECUFPA must develop a veldfire management strategy for the Eastern Cape Province to ensure a stanardised approach across the province.

Veldfires (veld, forest, and mountain fires in terms of the Act's definition) are a persistent problem in South Africa. They frequently result in emergency situations and often grow to disastrous proportions. At the same time, veldfires are natural – they occur as part of the normal process of events in grassland, woodlands and fynbos, and even sometimes in natural forests.

Veldfires are perceived as a problem, especially when not managed properly and used as part of a veld management strategy, because they pose a risk to life, property and the environment. The veld and forest fire situation has significantly worsened across South Africa during the past several years and there have been major and catastrophic fires in many areas. Over time, we have become more vulnerable to the risk of veldfires because urban areas have expanded into the natural veld and forest areas, thereby placing lives and homes on closer proximity to fires in the neighbouring veld, and simultaneously increasing the chance of veldfires being started. In addition, it is important to manage veldfires properly to protect environmental values. Most ecosystems of South Africa are adapted to a greater or lesser extent to the presence of fire. In these ecosystems we need to manage fire in a way that imitates nature. For this reason, we must manage and control veldfires both for protection of people and their assets as well as for protecting our environmental values such as protecting biodiversity and catchment areas.

As our climate changes, so must our management of veld and forest fire. The Veld and Forest Fire Management Strategy gives provincial direction for the management of fire that will effectively

restore the natural role of fire in the ecosystem processes, as well as improve our ability to continue providing a world-class level of veld and forest fire response when unwanted fires occur.

3. Objective

Implementation of the Eastern Cape Veld and Forest Fire Management Strategy will result in healthier natural ecosystems; preservation of catchment areas; decreased risk from fire to communities; and a more cost-effective fire suppression programme.

This will be achieved by adopting a proactive approach to:

- Minimising the losses caused by unwanted veldfires in the Eastern Cape;
- Reduce fire hazards and risks (particularly in and around communities and other high-value areas);
- Carefully utilise controlled burning where the benefits are clearly defined, and the risks can be cost-effectively managed;
- Monitor and manage, rather than suppress, fires that are of minimal risk to communities, infrastructure or resource values;
- Integration of fire management into programs aimed at the reduction and control of invasive alien plant species;
- Minimising the potential occurrence of ecologically undesirable fires in vulnerable ecosystems;
- Implementing land, natural resource, catchment area and community planning that incorporates the management of veld and forest fires at all appropriate scales;
- Where necessary, oversee the standardisation of policies, norms and procedures to ensure a united fight against unmanaged veld and forest fires in the Eastern Cape;
- Advocate a high level of readiness across all role-players, and
- Develop a high level of public awareness and support for veld and forest fire management.

4. Eastern Cape Fire Assessment

Veldfires are an important natural hazard in South Africa. To plan for fire incidences, one must understand the province's fire risk, frequency, and distribution.

In compiling this section, information is used from CSIR Report No: CSIR/NRE/ECO/ER/2010/0023/C, namely **National Veldfire Risk Assessment: Analysis of Exposure of Social, Economic and Environmental Assets to Veldfire Hazards in South Africa** by Authors: GG Forsyth, FJ Kruger and DC

Le Maitre, March 2010.

4.1. Fire Regime and Fire-Ecology Types:

The "fire regime" is the history of fire in a particular vegetation type or area, including the frequency, intensity and season of burning; it is the combination of elements that typifies fires in a given region under assumed natural conditions.

A fire-ecology type is a class of vegetation types that was relatively uniform in terms of the fire regimes (e.g. frequency, season, intensity and size) within the constituent vegetation types. Figure 1 indicates the fire-ecology types in the Eastern Cape.

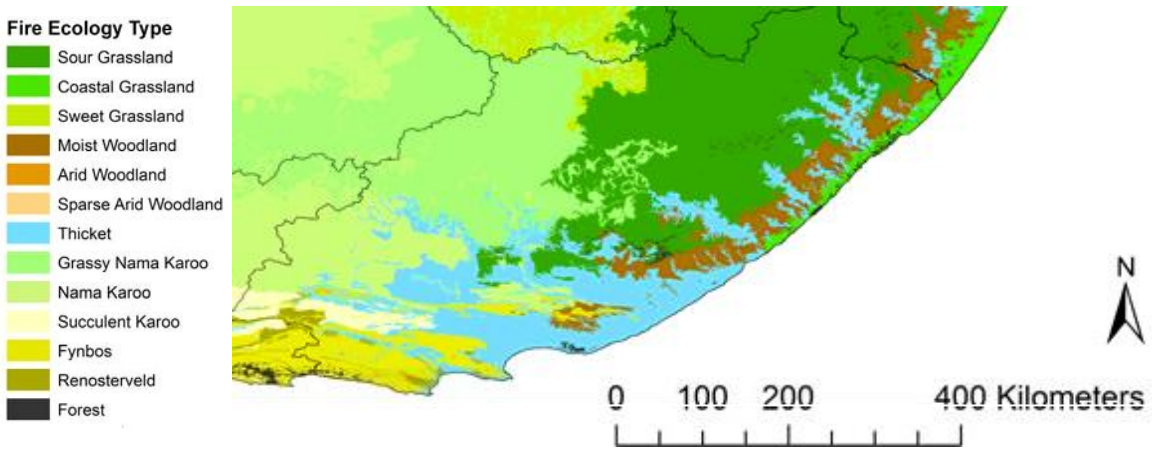

***Figure 1*: The distribution of the 13 fire-ecology types based on the descriptions and distribution of the vegetation.**

4.2. Rural Populations and Veldfires:

Rural populations in South Africa have an affect fire activity. Addtionally, unmanaged fires can affect these communities adversely. Figure 2 indicates the concentration of rural settlements in the Eastern Cape. These rural populations are primarily based on un-demarcated state land, in the former Transkei and Ciskei.

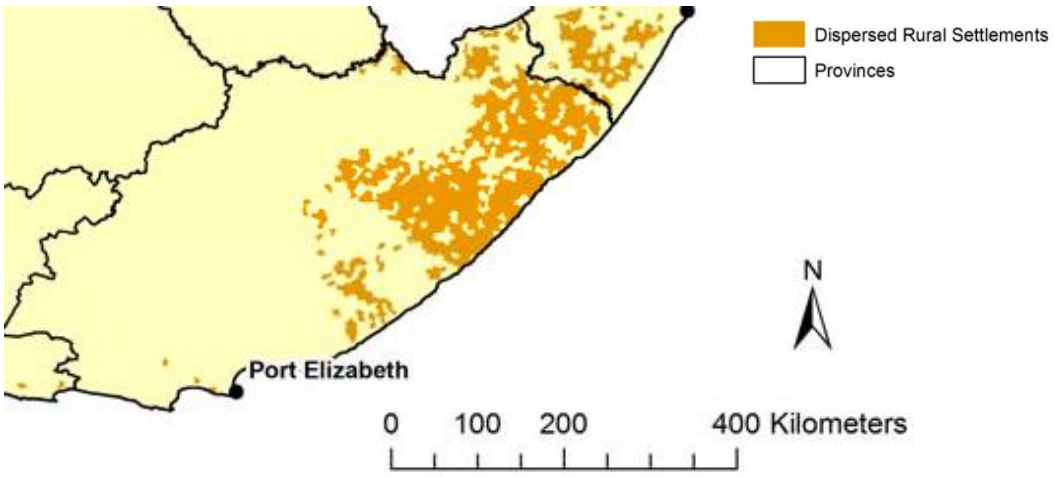

***Figure 2:* Indicative distribution of the rural population in the Eastern Cape. This shows only dispersed rural settlements which account for the larger majority of the rural people.**

4.3. Fire Regions in the Eastern Cape:

The Eastern Cape is divided into two distinct fire regions which have been listed below:

- **Grassveld Area / Summer Rainfall Region**:

This includes the largest portion of the Eastern Cape. The eastern and northern regions predominantly have a summer rainfall season with mainly Grasslands, Savanna and a winter fire season.

- **Fynbos Area / Winter or All-Year Rainfall Region:**

The southern and, in particular, the Tsitsikamma area is predominantly an all-year rainfall region with an all-year fire season.

4.4. Veldfire Risk Levels in the Eastern Cape:

Overall extreme veldfire risk corresponds with the Sour Grassland and Moist Woodland fire- ecology types (see Figure 3 below). In the Fynbos fire-ecology type, such conditions mainly occur where there are commercial forestry plantations. On the contrary, in Coastal Grasslands and Arid Woodland pockets, an extreme veldfire risk occurs where there are dispersed rural settlements. In 48.2% of the province, there is an extreme veldfire risk, while it is high in 5.3%, medium in 18.8% and low in 27.8%. In areas of extreme and high veldfire risk, it is necessary to take precautions to safeguard lives, livelihoods, property and the environment.

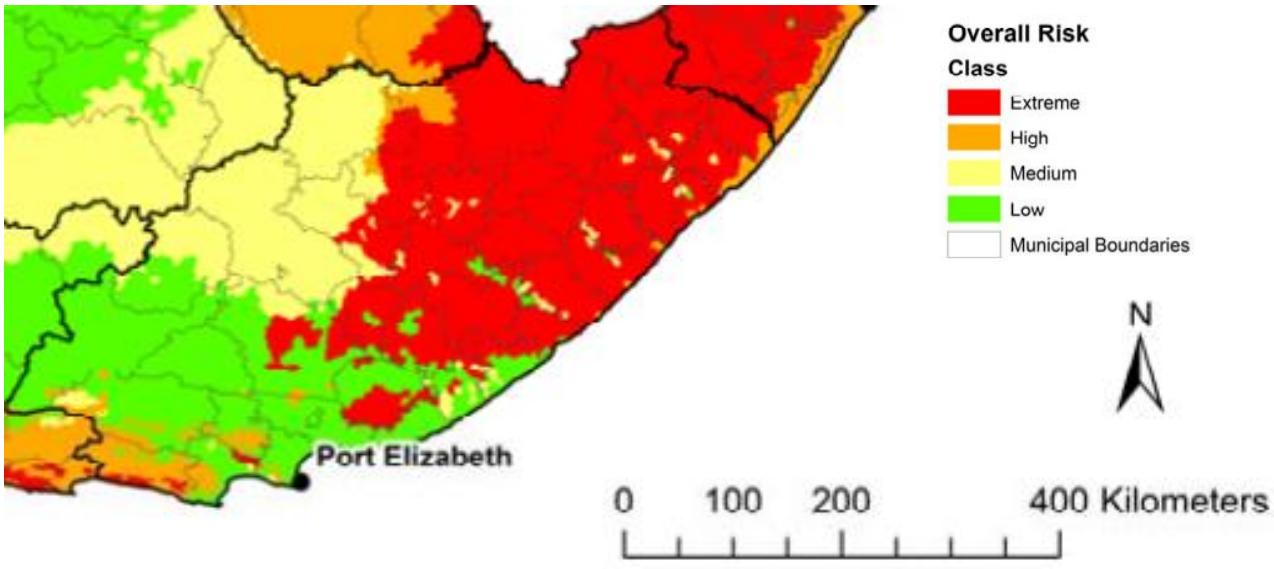

***Figure 3*: Overall assessment of veldfire risk levels in the Eastern Cape**

Additionally, it is essential to look at the fire danger at a municipal level. Refer to detailed fire danger ratings per Municipality (***Appendix A***).

5. Role Players in the Veldfire Environment

There is a large number of role-players involved in Integrated Fire Management. All role-players must work together towards acheiving a common goal.

5.1. Landowners:

Private landowners and the farming community form the most significant single grouping or group of landowners in the rural Eastern Cape. These landowners are organised via structured agricultural organisations. Furthermore, there are registered Fire Protection Associations (FPAs) in all of the high fire risk areas.

5.2. Large Landowners, e.g. Nature Reserves, Forestry areas and Conservation areas

This is a grouping of large properties managed for conservation and forestry purposes. Land ownership is both private land and extended state land. Due to the large surface areas of these reserves, they have a definite impact on the spatial, environmental and Integrated Fire Management principles and practices.

5.3. State Land

State land is spread over the entire Eastern Cape. This makes the involvement of these areas significant for Integrated Fire Management. These properties are utilised for a large variety of purposes. Land reform is quickly becoming a significant factor and must be taken into account when considering these areas.

5.4. Communities and Communal Grazing Areas

Roughly one-third of the Eastern Cape is under the control of tribal authorities and councils. The former Ciskei and Transkei areas fall under the traditional leaders and local chiefs. These are complex structures, and defining land ownership as per the definition of the NVFFA is challenging.

5.5. Municipal Fire Services

The function of Veld and Forest Fires are currently with the District Municipalities apart from Amahlathi and Raymond Mhlaba where the function has been delegated to the Local Municipality. This is according to the division of functions and powers between the district and local municipalities

as per section 84(1)(j) of the Municipal Structures Act.

5.6. Working on Fire Programme

The Working on Fire Programme (WoF) is a valuable asset to FPAs and landowners in the Eastern Cape.

6. Fire Protection Associations (FPAs)

The backbone of veldfire management is within functional FPAs in the high-risk areas of the province.

There are currently 48 registered FPAs in the Eastern Cape. A number of these are unfortunately completely dysfunctional and only there in name. The majority of the FPAs boundaries correspond with that of the Agricultural Associations. These associations bring about strong cohesiveness and cooperation amongst members.

It is the aim and objective of the ECUFPA to strengthen these FPAs and ensure good cooperation amongst each other.

7. Strategic Shift

In order to achieve the greatest benefits and least overall combination of cost and damage, a veld and forest fire management programme must balance its investment in threat reduction activities and its response activities. Threat reduction actions include awareness programmes, land planning, fuel management and fire prevention. Response actions include pre-fire preparation of fire-suppression equipment and personnel, detection, initial attack, suppression, and post-fire rehabilitation.

One of the challenges to implementing this model in the Eastern Cape has been the separation between land-use decision making and fire management. However, recent history shows that fire risk and threats are increasing faster than the suppression capacity and ability to respond.

Fire managers have been forced to prioritise limited suppression resources and utilise a modified response strategy. What is now required is the implementation of integrated fire management.

The changing operating environment for veld and forest fire management calls for a formalisation and accelerated approach taken by governments, their partners and stakeholders. A more integrated approach is needed at all levels, where management of fuels and both the benefits and risks of veld and forest fire are fully recognised.

8. Eastern Cape Veldfire Management Strategy

- Build strong FPAs and **FPA structures** within the province
    - Ensure cooperation and cohesion amongst FPAs
    - Align FPAs with functional Fire Services where needed
    - Promote membership to FPAs across all levels of land ownership
    - Promote awareness and cooperation with the insurance industry
- Implement **policies and systems** to enhance integrated fire management principles
    - Promote the establishment of strategic firebreaks across the high fire risk areas in the province
    - Promulgation of an annual fire prohibition periods as per fire risk and district
    - Promote fuel load reduction and risk by promoting controlled burns where applicable (i.e. burn or get burnt!)
    - Promote conservation principles and policies for controlled burns in terms of seasonal and burning rotation
    - Promote well planned and executed alien plant clearing and restoration
    - Where is not currently in place by Municipal Fire Services, adopt and utilise a localised burning permit system enforceable on all landowners per FPA
    - All vegetation burns within the veldfire environment must have burning permission from FPA or Municipal Fire Services
    - FPA rules will be used as the *de facto* norms and standards for all landowners within the geographical area of each FPA
- Develop and maintain a **Knowledge Management System** for all sectors involved in fire management to ensure well-informed decisions relating to fire and fuel load management.
    - Obtain and disseminate quality weather forecasts and FDI information
    - The ECUFPA may make use of FDR forecasts from an independent forecaster
    - Build a network of local weather stations to use for representative current and historical weather data
    - Build and maintain a spatial information system for the province
    - Build a database of burn scars across the province and use this to develop an updated fire risk map for the province
- Develop and strengthen effective **partnerships** with relevant government bodies, agencies, departments, and private entities to support integrated fire management.
    - Improve coordinated involvement of external role-players during disaster fires via ICS
    - Improve communication amongst role players
    - Build partnerships both at provincial and local FPA levels

- Develop **awareness** strategies that will raise the awareness of the importance of integrated fire management at an organisational, municipal and provincial level to reduce the incidence of ignitions and property loss

Some additional points that must be done at the Provincial Government level:

- Establish a well-coordinated early detection rapid **response** strategy that is financially sustainable.
- Ensure the sustained availability of appropriate fire management **resources** to efficiently practice integrated fire management in terms of knowledge, personnel and equipment quality and quantity.
- Ensure a sustained **budget** to address the long-term integrated fire management activities, including invasive alien vegetation management.
- Ensure that integrated fire management plans **protect** our communities, critical infrastructure, natural ecosystems and catchment areas.
- *Eastern Cape Deparment of Cooperative Governance and Traditional Affairs* (**EC-CoGTA**) to engage and co-operate with the *Eastern Cape House of Traditional Leaders* so that agreements and initiatives between FPAs and local communities can be reached with regards to forming an integrated fire management approach with regards to veldfires.
- Eastern Cape Provincial Government to approach the South African National Government and to ensure that cross-border agreements are reached with neighbouring countries to ensure that veldfires do not cross borders.
- *Department of Foresty, Fisheries and the Environment* (**DFFE**) to engage with the relevant national departments to ensure that the NVFFA is understood and acted upon, so that enforcement of the NVFFA can be carried out appropriately.
- **DFFE** to engage with **CoGTA** to ensure that district and local municipalities are required to be members of FPAs and that NVFFA legislation is added to municipal bylaws.
- **DFFE** to engage with the *National Prosecuting Authority* (**NPA**) on a provincial level so that the schedule of fines and offences, in terms of the NVFFA, is concluded and enacted, so to assist with enforcement of the NVFFA. **DFFE** to also train, enable and ensure more Peace Officers are appointed for NVFFA enforcement.

Appendix 4: Tabular summary of specific veldfire risk scenarios for each fire ecotype with assessed risk levels for the three endpoints of social, economic and environmental consequences.

Province	District Municipality Code	District Municipality Name	Local Municipality Code	Local Municipality Name	Veldfire risk			
					Low	Medium	High	Extreme
Eastern Cape	DC10	Cacadu	EC107	Baviaans	73.7%	5.9%	20.4%	0.0%
			EC102	Blue Crane Route	69.1%	9.5%	2.3%	19.1%
			EC101	Camdeboo	56.6%	43.4%	0.0%	0.0%
			EC103	Ikwezi	99.0%	0.0%	1.0%	0.0%
			EC108	Kouga	66.0%	2.2%	26.1%	5.7%
			EC109	Kou-Kamma	12.6%	0.0%	76.0%	11.4%
			EC104	Makana	57.5%	0.0%	0.0%	42.5%
			EC105	Ndlambe	100.0%	0.0%	0.0%	0.0%
			ECDMA10	Groendal Wilderness Area	69.0%	0.0%	31.0%	0.0%
			ECDMA10	Rietbron - Aberdeen Rural	99.2%	0.0%	0.8%	0.0%
			EC106	Sundays River Valley	100.0%	0.0%	0.0%	0.0%
				DC10 Total	**72.9%**	**8.7%**	**10.1%**	**8.3%**
	DC12	Amatole	EC124	Amahlathi	1.0%	0.5%	0.0%	98.5%
			EC125	Buffalo City	60.6%	12.6%	0.0%	26.8%
			EC123	Great Kei	11.1%	0.0%	0.0%	88.9%
			EC121	Mbhashe	0.0%	1.8%	1.6%	96.6%
			EC122	Mnquma	5.5%	10.0%	1.1%	83.4%
			EC126	Ngqushwa	56.0%	27.0%	0.0%	17.0%
			EC127	Nkonkobe	38.7%	3.6%	0.0%	57.7%
			EC128	Nxuba	16.7%	4.3%	0.0%	79.0%
				DC12 Total	**19.8%**	**6.2%**	**0.3%**	**73.7%**
	DC13	Chris Hani	EC136	Emalahleni	0.0%	5.8%	0.0%	94.2%
			EC137	Engcobo	0.0%	1.9%	0.0%	98.1%
			EC133	Inkwanca	0.0%	27.4%	6.5%	66.1%

Province	District Municipality Code	District Municipality Name	Local Municipality Code	Local Municipality Name	Veldfire risk			
					Low	Medium	High	Extreme
			EC135	Intsika Yethu	8.3%	0.0%	0.0%	91.7%
			EC131	Inxuba Yethemba	1.6%	97.8%	0.0%	0.6%
			EC134	Lukanji	1.6%	1.7%	0.0%	96.7%
			EC138	Sakhisizwe	0.0%	0.0%	0.0%	100.0%
			EC132	Tsolwana	0.0%	48.9%	0.0%	51.1%
				DC13 Total	**1.4%**	**44.7%**	**0.7%**	**53.2%**
	DC14	Ukhahlamba	EC141	Elundini	0.0%	0.0%	0.0%	100.0%
			EC144	Gariep	0.0%	78.1%	6.6%	15.3%
			EC143	Maletswai	0.0%	0.0%	31.9%	68.1%
			EC142	Senqu	0.0%	0.0%	0.0%	100.0%
				DC14 Total	**0.0%**	**27.7%**	**6.3%**	**66.0%**
	DC15	O.R. Tambo	EC157	King Sabata Dalindyebo	1.7%	5.6%	0.0%	92.7%
			EC151	Mbizana	0.0%	0.0%	13.8%	86.2%
			EC156	Mhlontlo	0.0%	5.9%	0.0%	94.1%
			EC153	Ngquza Hill	0.0%	4.8%	16.0%	79.2%
			EC152	Ntabankulu	0.0%	12.8%	0.0%	87.2%
			EC155	Nyandeni	0.0%	3.2%	3.5%	93.4%
			EC154	Port St Johns	5.8%	0.0%	14.7%	79.4%
				DC15 Total	**0.6%**	**4.6%**	**6.1%**	**88.7%**
	DC44	Alfred Nzo	EC441	Matatiele	0.0%	0.0%	0.0%	100.0%
			EC442	Umzimvubu	0.0%	0.0%	0.0%	100.0%
				DC44 Total	**0.0%**	**0.0%**	**0.0%**	**100.0%**
	NMA		NMA	Nelson Mandela Bay	74.4%	4.7%	16.2%	4.8%
				Eastern Cape Total	**27.8%**	**18.8%**	**5.3%**	**48.2%**
Free State	DC16	Xhariep	FS162	Kopanong	1.2%	3.2%	95.6%	0.0%
			FS161	Letsemeng	46.7%	9.1%	44.3%	0.0%
			FS163	Mohokare	0.0%	3.8%	57.8%	38.5%
				DC16 Total	**14.6%**	**5.1%**	**70.5%**	**9.7%**
	DC17	Motheo	FS172	Mangaung	1.5%	0.0%	94.8%	3.8%
			FS173	Mantsopa	0.0%	0.0%	7.2%	92.8%
			FS171	Naledi	0.0%	1.5%	73.5%	25.0%