# Blue Swallow Survey Report November

2013- March 2014



By Fadzai Matsvimbo (BirdLife Zimbabwe) with assistance from Tendai Wachi ( Zimbabwe Parks and Wildlife Management Authority)





# **Background**

The Blue Swallow *Hirundo atrocaerulea* is one of Africa's endemics, migrating between East and Central to Southern Africa where it breeds in the summer. These breeding grounds are in Zimbabwe, South Africa, Swaziland, Mozambique, Malawi, southern Tanzania and south eastern Zaire, Zambia. The bird winters in northern Uganda, north eastern Zaire and Western Kenya (Keith et al 1992). These intra-african migrants arrive the first week of September and depart in April In Zimbabwe (Snell 1963.). There are reports of the birds returning to their wintering grounds in May (Tree 1990). In Zimbabwe, the birds are restricted to the Eastern Highlands where they occur in the Afromontane grasslands. The Blue Swallow is distributed from Nyanga Highlands southwards through to Chimanimani Mountains and are known to breed from 1500m -2200m (Irwin 1981). Montane grassland with streams forming shallow valleys and the streams periodically disappearing underground and forming shallow valleys is the preferred habitat (Snell 1979). Whilst birds have been have only ever been located in the Eastern Highlands there is a solitary record from then Salisbury now Harare (Brooke 1962). The Blue Swallow is a medium sized swallow of about 20-25 cm in body length. The males and females can be told apart by the presence of the long tail retrices in the male. The tail streamers in the males measure twice as long as the females (Maclean 1993). The adults are a shiny blue-black with a black tail with blue green gloss and whitish feather shafts. (Hockey PAR, Dean WRJ, Ryan PG (eds) 2005). The small amounts of white on flanks and primary shafts are hard to see in the field (Keith 1992) and only visible when the bird is preening (Snell 1963). The birds have a black bill and brown eyes. The young birds are quite similar to adults except that the feathers are not glossy blue. The juveniles have a yellow gape and bill with black tip (personal observations). The bird has been classified as Vulnerable under the IUCN criteria (BirdLife International 2014). The justification for this is the destruction of its wetland and grassland habitat both in the breeding and non-breeding grounds. A detailed explanation of this status is available from the proceedings of the International Blue Swallow Actions Plan (Combrink and Little 2012). Evans and Bouwman (2010) estimated the Blue Swallow population as 1,006 pairs.

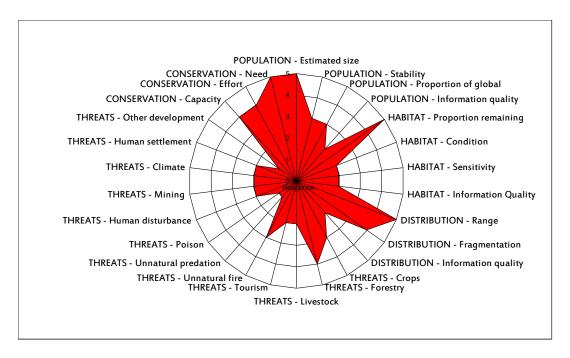


Figure 1. Visual Representation of Blue Swallow Conservation Status Zimbabwe

### Methods

The objective was to cover as much grassland habitat as possible and also take advantage of any sightings sent in by birders and bird guides. Areas to be surveyed were chosen on the basis of previous surveys were Blue Swallows were recorded and historical records. The surveys were carried out between end of October and March. The method was combination of road transects in areas were the road network allowed and walking transects in other areas. Each team was issued with a GPS and 1:50000 Surveyor General Maps list with previous sightings locations of Blue Swallows. GPS were used to record routes taken either by driving or by walking on foot. At all localities waypoints were marked on the GPS when Blue Swallows or nests were seen. Whilst at times the observers were limited to the road, the open grasslands allowed them to see for considerable distance. Once Blue Swallows were spotted, the protocol was to record the number of birds and where possible age and sex the birds. The other birds to record were other Swallows and Martins found in association with Blue Swallows. It was also important to record the activities of the birds and make an assessment of the habitat and any threats to the birds and to the habitat. In cases where nests were located, they were noted down as well. Most of the areas which were also surveyed are important Bird Areas. Recording sheets were were also made available at the Nyanga National Park Tourist Office, Chimanimani National Park Tourist office to encourage birding tourists to submit any Blue Swallow sightings they come across in the parks. Records from BirdLife Zimbabwe members were also accepted. Local bird guides were asked to send their information through to the author.

### **Bvumba Highlands**

This was the first area to be surveyed from at the end of November. The Byumba Highlands are an Important Bird Area and have been surveyed in the past. Much of the Byumba consists of privately-owned farms and small holdings. There are large commercial *Pinus* and *Acacia* Plantations. Areas surveyed included Chinamata River, Partridge Hill Estate, Byumba Botanical Garden, Eagle Training Centre, Mutore School and Leopard Rock Hotel and surrounds. Zonwe



Peter Magosvongwe looking at a Blue Swallow nest under the bridge at Partridge Hill Estate

Dam was visited but at an altitude of 1057m was dismissed as possible Blue Swallow habitat. Not many birds were seen during the survey but a nest was spotted under a bridge on what was formely known as Partridge Hill Estate. A pair of Blue Swallows was seen flying around in the vicinity of the nest. Upon inspection of the nest, three eggs were indeed seen in the nest, the birds are still breeding in this locality. A report by Buluwezi Murambiwa (Bird guide at Seldomseen) later saw a group of five Blue Swallows constituting 2 males and three females on the grassland behind Seldomseen in December. In an earlier survey

by BirdLife Zimbabwe a nest was also observed in the same locality when the area was surveyed in 2007 and 2008. However on the two occasions no Blue Swallows were seen. It does appear that the Blue Swallow is now restricted to one site in the Bvumba which is on private property. The site of the nest is prone to damage should any flooding. A nest from the previous season was also on the same wall under the bridge. There future appears to be bleak for the Blue Swallow in the Bvumba. The Blue Swallow habitat in the Bvumba is under threat from the spread of Pine and Wattle as well as agricultural expansion and intensification. See Annexe 2

## **Chimanimani Mountains**

This is the second most important for Blue area Swallows in Zimbabwe. The key area for the Blue Swallows is the Chimanimani National Park (Mountains, Eland Sanctuary. Other areas with suitable habitat include patches of grassland within Sawerombi Estate- managed by Border timbers and Nhuka Fam which is close to the Village. Border Timbers has maintained these grassland patches for



biodiversity as well as wetland sites. Another Area that was also surveyed is Green Mount which is just east of Chimanimani village. The Blue Swallows habitat is under threat from the spread of wattle and pine and agricultural expansion. Fires are also a problem in the area. Four active nests were recorded during the survey. Nest location was within the altitude range between 1200-1800m above sea level. Nests availability and distribution was determined by the presence of sinkholes. Generally in Chimanimani nest sites are a shortage due to unavailability of aardvarks that burrows holes which provides the most suitable nest sites for the Blue Swallows. In some areas Blue Swallow nests were observed in artificial sites like offices and toilets. Birds were seen in the mountains, Bundi Plain provides suitable habitat. See Annexe 3

# Penhalonga

A brief survey was carried out at Mountain Home Estate which belongs to John Meikle. BirdLife Zimbabwe has visited the site a number of times in the past. The small patch is not actually in Zimbabwe but just across the border into Mozambique in the Manica Area. According to John Meikle (pers communication) the birds usually arrive the first week of September. The Zimbabwean side is highly afforested and not suitable for Blue Swallows. Birds have been observed as low as 1350 metres, but never



higher than 1650 metres, although suitable habitat is available higher available up to 1800 metres. (John Meikle Honey guide). The area is an active Bauxite Mine. There are numerous mining prospecting pits that were dug in 1990s and these provide nesting sites for Blue Swallows. At the time of the visit a total of twenty birds were observed in the area surrounding John Meikles's house and Office. A few juveniles were also observed perching on the wire fence close to the house.



### Tsetsera Farm

This high altitude grassland 1900m and above is on the border with Mozambique. The area has a small population of people living there looking after livestock, in the form of cattle goats and sheep. There is also small scale cultivation. No records exist from previous surveys. No Blue

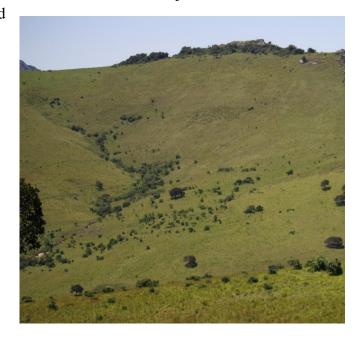


Swallows were seen in the area. There are small patches of pine growing on the lower slopes. It appears some forestation may have taken place in the past. The area appears is worth monitoring although the road to get to this place has not been repaired in years.

# Stapleford Forest and surrounding area

Stapleford Forest was first surveyed in October 2013. The Forest is under the jurisdiction of

Allied Timber Holdings. Patches of open grassland and natural forest within the plantation is being kept free of pines and wattle as part of the forest's conservation policy. The patches of grassland in the forest appear to be too small to support significant Blue Swallow populations. In one of the suitable areas, a sawmill was established. Should any birds have been present, the presence of the sawmill might have deterred them from making use of the site. Another visit was made in February 2014. The second visit the search was expanded to the Rupinda Village that borders Stapleford Forest. For the first time in more than five years, Swallows were found in the area. The open grassland is to the east of the Rupinda Village at an altitude above 1400m above sea



level. See Annexe 1 This particular patch of grassland mainly reserved for cattle grazing,

Cultivation takes place at much lower ground. The open grassland is not used for anything else. A small patch of afromontane forest within the grassland is regarded as scared by the community hence the area is well looked after. A total of 4 Blue Swallows were recorded in this overlooked area. The area might not be important enough to support a big swallow population; it might be an important stopover as part of the migratory route. No birds were actually seen within Stapleford Forest, a possible nest was seen under bridge. There is possibility that Blue Swallows do breed in Stapleford Forest.

# **Nyanga Mountains and Gleneagles**

Nyanga Mountains form the northern most extend of the Eastern Highlands. Nyanga National Park, 18 ° 15'S and 32 ° 50' E lies along the Eastern border of Zimbabwe. The park is 440km<sup>2</sup> in size and is surrounded by forestry plantations, tea estates, and communal lands. This is the most important area for Blue Swallows in Zimbabwe. Nyanga was surveyed in February, which made it difficult to find any nests. Most of the suitable habitat in Nyanga has already been converted to pine and wattle plantations, settlement or being cultivated. The Nyanga area in general is suitable for growing fruits (apples, plums, apricots) and potato farming hence the Blue Swallow habitat continues to shrink. During the survey vast areas were observed to be under potato cultivation, as well recent conversions of grassland to cultivated areas. The core area for the birds is mainly confined to Nyanga National Park. The prime area for the birds is Nyazengu, an area relatively free from pine and wattle, mainly from previous interventions of removal of the alien plant species. In the communal area of Sanyatwe a total of 7 individuals were counted. The grasslands in close proximity to streams sources are under threat from expanded cultivation especially maize growing. Sanyatwe and its environs are warmer and drier than areas that are more to the east. A pair of Blue Swallows was found nesting in a disused well which was easily 10m deep. At the time of the visit three chicks were visible. Not many aardvark holes were sighted during the surveys. Most of the birds found in Nyanga were in the National Park (Figure 2). In the end a total of 153 birds were recorded in the Nyanga area. Glen Eagles is to the east of Mt Nyangani. This area was accessed from Honde Valley through Aberfoyle Estate in November. At the time of the visit three Blue Swallows were seen. Morgan Saineti the bird guide at Aberfoyle sent in his sightings of the birds on a regular basis.

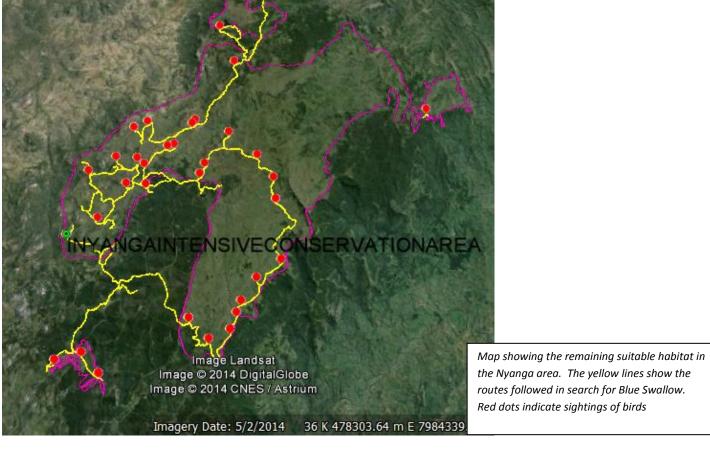


Figure 2 Remaining grassland habitat in Nyanga

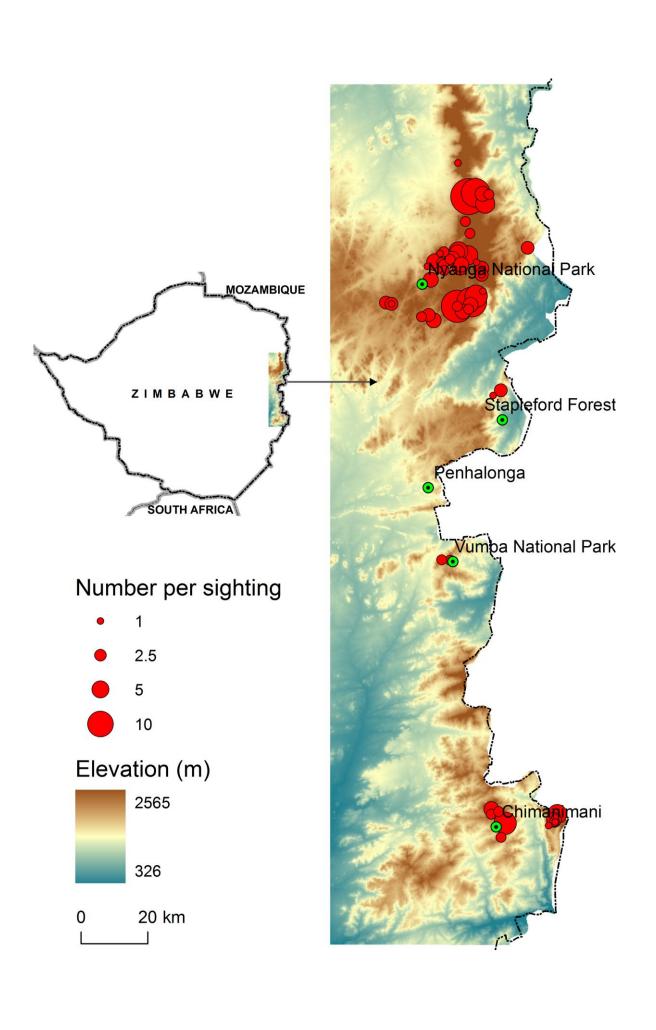


Figure 3. Distribution of Blue Swallows sightings within the Eastern Highlands of Zimbabwe

## **Summary of findings**

Figure three shows the distribution of Blue Swallow sightings in the Eastern Highlands during the survey that were conducted in 2013/2014. Blue Swallows were found in Nyanga, in the communal area, in and around Nyanga National Park, Stapleford, Bvumba and Chimanimani. The details of Mountain Home Penhalonga will not be included as the area is in Mozambique. BirdLife Zimbabwe has been visiting the area for a few years. The status of the Blue Swallow in Zimbabwe still remains Vulnerable. The Blue Swallow habitat continues to be lost and be degraded. The threats that have been reported in earlier surveys still continue to take place. The spread of invasive species, conversion of suitable habitat to agricultural land. Invasive species account for more than 80% of the threats recorded during the survey. As the population continues to grow demand for land for settlement and agriculture also continues. Throughout Zimbabwe human-ignited fires have increased and the Blue Swallow habitat has not been spared. The return of Blue Swallows to their breeding grounds in Zimbabwe coincides with the peak of the fire season. It may be worth finding out the effects of these fires on breeding success as fires reduce the amount food available to the swallows.

Area	Results of survey	Total Area
		Sampled
Nyanga	175	74.7km <sup>2</sup>
Stapleford	4	$1.9 \text{ km}^2$
Bvumba	4	1.01km <sup>2</sup>
Tsetsera	0	-
Chimanimani	34	5.08km <sup>2</sup>

The report only refers to the survey carried out between November 2013 and March 2014. Data from previous surveys was not included. Data from earlier surveys will be analysed and published at a later date.

Visual interpretation of the Landsat imagery available on Google Earth was done to come up with areas of grassland habitat remaining in the various areas. From the recent survey the Zimbabwean population of Blue Swallows is estimated to be between 900- 1000 individuals.

### Recommendations

There is need to intensify monitoring in order to understand the factors that are driving the decline of Blue Swallows. Some of these issues were alluded to in monitoring document produced in 2013. Monitoring need not be expensive and unsustainable but can be simple and robust. There maybe need to look into clearing of vegetation from aardvark holes to encourage their use by Blue Swallows. Quite a number of aardvark holes seen were surrounded by vegetation, something that discourages Blue Swallows from using the burrow. The problem of invasive species needs action from different stakeholders. The impact of these alien invasive species is just on Blue Swallows and their habitat but on whole community of flora and fauna.

### Acknowledgements

Many thanks go to Mr Onias Bepe and Mrs Kwanele Manungo the Area Managers of Nyanga National Park and their staff members who took part in the surveys as well as assisting logistics on the ground. My gratitude is also extended to the Several bird guides deserve special mention for keeping their eyes on the ground and sending through their records; Morgan Saineti from Aberfoyle, Buluwezi Murambiwa (Seldomseen) and Peter Magosvongwe. I also thank John Meikle for showing us around Mountain Home as well as organising the necessary permission for us to cross into Mozambique. The cooperation of different land holders who let us onto their properties is also appreciated.

Convention on Migratory Species (CMS) small grants is acknowledged for providing financial assistance to the project.

# Annexe 1



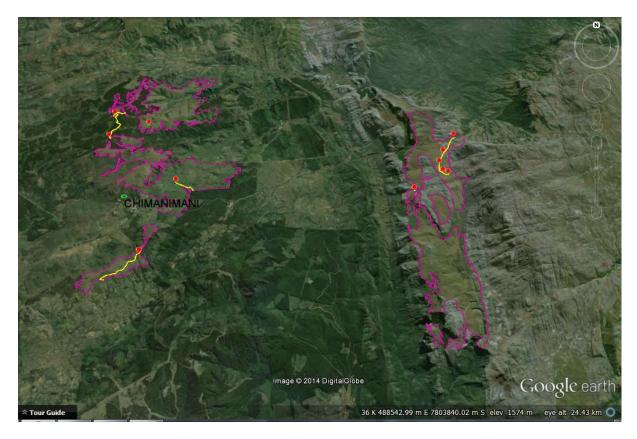
Map showing the remaining suitable habitat in the Stapleford Area. The yellow lines show the routes followed in search for Blue Swallow. Red dots indicate sightings of birds

# Annexe 2



Map showing the remaining suitable habitat in the Bvumba Area. The yellow lines show the routes followed in search for Blue Swallow. Red dots indicate sightings of birds

# Annexe 3



Map showing the remaining suitable habitat in the Chimanimani Area. The yellow lines show the routes followed in search for Blue Swallow. Red dots indicate sightings of birds

General Area	Х	ı	Altitude Number Land Use		Habitat Description	Threats to Blue Swallows	
NYANGA DISTRICT							
Nyanga Downs	-18.08536	32.835300	1872	0 Private Land	Open Grassland used as pasture		
Nyanga Downs	-18.08579	32.810610	1971	12 Private Land	Patches of grassland, in between potato fields	Potato Farming	
Nyanga Downs	-18.08884	32.829490	1880	4 Private Land	Open Grassland		
Nyanga Downs	-18.0904	32.846780	1827	2 Private Land	Patches of open grassland		
Nyanga Downs- Pfumarungwe	-18.09596	32.792330	2174	18 Private Land-Potato farming	Open Grasslands	Potato Farming	
Nyanga Downs- Barwin Downs Estate	-18.11526	32.836510	2023	6 Private Land- Dairy Farm	Patches of open grassland	Potato Farming	
Claremont Estate	-18.321	32.689940	1779	4 Private land-	Open Grassland surrounded by small bushes	Bush encroachment	
Claremont Estate				1			
Claremont Estate			0				
Claremont Estate	-18.3056383224032.70094472290			0			
Claremont Estate	-18.29794725570 32.68997943330		0				
Claremont Estate	-18.28178543770 32.68219826120 -18.27530572360 32.67839187130			0 Private Land	Small patch of grassland dotted with bushes, intersected	d	
Claremont Estate				0 Private Land	by a small river Potato Field		
Claremont Estate	-18.3219068421032.68993785910			0 Private Land	Open grassland surrounding river		
Claremont Estate	-18.30648883420 32.68409181690			0 Private Land	Open grassland		
Clameront Dam	-18.298332068903	2.68786099110		0 Private Land	Dam surrounded by open grassland		
Claremont Dam- bottom	-18.322750816003	2.70260090310		0 Private Land	Dam surrounded by open grassland		
Lake Moodie	-18.32626769490 32.69948819960			0 Private Land			
Claremont Golf Course	-18.344278560803	2.70236059400		1 Private Land	Golf Course		
Nyanga Downs- Nyanoro Dairy Farm	474798	7982466	1815	4 Private Land- Dairy Farm	Open Grassland	Pine and wattle trees	
Nyanga Downs	478363	7988177	2106	2 Pine and Wattle Plantation	Open patches of grasslands along the road	Invasive plants	
Troutbeck Dam	479439 7989614 2030		2030	0 Plantation and Hotel	Golfcourse		

Campsite and lay-by	470252	7979376	1752	2 Private Land	Open grasslands	Invasive species
Kairezi	-18.16316	32.783330	2222	2 Protected Area	Open Grassland	
Nyanga National Park - Road to Troutbeck	-18.24428	32.764080	1833	6 Protected Area	Open grassland	
Nyanga National Park- close to Boundary with	-18.24521	32.725580	1730	2 Protected Area	Open grassland	
Nyanga Village Nyanga National Park-Udu Turnoff	-18.25016	32.714980	1747	1 Protected Area	Open Grassland	
Nyanga National Park-Area close to Nyanga	-18.25021	32.714720	1746	1 Protected Area	Open Grassland	
Heroes Acre Nyanga National Park-Udu Dam	-18.27383	32.701670	1671	5 Protected Area	Open Grassland	40° NE of position, 200m away
Nyanga National Park-Udu Camp	-18.28467	32.680520	1618	1 Protected Area	Open Grassland	
Nyanga National Park-Nyazengu	-18.29102	32.826050	2052	4 Protected Area	Open Grassland	
Nyanga National Park-Power Station	-18.29475	32.710680	1724	1 Protected Area	Open Grassland	Invasive plants
Nyanga National Park	-18.29561	32.726160	1767	2 Proteceted Area	Open Grassland	Invasive plants
Nyanga National Park- Nyazengu	-18.30765	32.827500	2020	1 Protected Area	Open Grassland	
Nyanga National Park-Nyazengu before cottages	-18.30765	32.827500	2020	3 Protected Area	Open Grassland	
Sanyatwe- Behind Mhembere homestead	-18.38264	32.568550	1774	3 Communal Area	Mixture of cultivated area and open grassland	
Sanyatwe Raudzi Primary School	-18.38577	32.583440	1764	1 Communal Area	Open grassland intersected by a river	
Nyanga National Park-Nyazengu	-18.38892	32.797020	1879	4 Protected Area	Open Grassland	
Nyanga National Park-Kanjakwe Area	-18.39291	32.761730	1907	15 Protected Area	Open Grassland	Invasive species- pine trees
Nyanga National Park-Kanjakwe Area,after the	-18.39291	32.761730	1907	2 Protected Area	Open Grassland	Invasive species
gate Nyanga National Park-Nyazengu	-18.40061	32.792410	1840	2 Protected Area	Open Grassland	
Nyanga National Park-Pungwe Ridge	-18.40708	32.776720	1701	4 Protected Area	Open Grassland	
Erin Forest	-18.41613	32.683990	1633	3 Forest land	Patches of open grassland in forest area	Afforestation- pine and wattle
Erin Forest- On the border with Brittania Farm	-18.42122	32.664860	1769	2 Forest land	Patches of open grassland in forest area	randicatation pine and wattle
Emilorest- On the border with brittania Fami	-10.42122	32.004000	1703	Z i diest ialiu	i atches of open grassianu in forest area	

Erin Forest-Road to Mutare	-18.43034	32.697750	1601	4 Forest land	Patches of open grassland in forest area	Afforestation- pine and wattle
Sanyatwe-Mutigwa Village	-18.385768	-32.58343237	1765	3 Communal Area	Open grassland intersected by a river	
Erin Forest	-18.4303416795032	.69774551810		0	Open grassland along river valley bordered by hills	
Nyanga National Park	-18.25015590700 32	.71498105790		0	Open grassland surrounded by Wattle trees	Invasive plant species- Wattle
Nyanga National Park	-18.27755651610 32	.71819887060		0		
Nyanga National Park-Mare Dam	-18.27382656920 32	.70167386460		0	Dam	
Nyanga National Park-Purdon Dam	-18.29642258750 32	.77010321920		0	Dam with open Grassland	
Nyanga National Park-Gulliver Dam	-18.30080154520 32	.76843857330		0	Dam with open Grassland	Invasive plant species- Wattle
Nyanga National Park	-18.38891596700 32	.79701725890		0		
Mutiro Farm	474938	8009214	2142	1 Potato Farm	Open Grassland	Chemical spraying
Nyanga National Park-Natural Swimming Pool	470856	7978875	1717	2 Protected Area	Open Grassland	Invasive species
Nyanga National Park-Chawomera	472761	7980417	1813	2 Protected Area	Open Grassland	Invasive species
Nyanga National Park-Chawomera	473295	7980548	1818	2 Protected Area	Open Grassland	
Nyanga National Park-Chawomera Fort	473312	7980567	1845	4 Protected Area	Open Grassland	Invasive species
Nyanga National Park-Nyamhunhambo	475512	7977959	1911	4 Protected Area	Open Grassland	
Nyanga National Park-Nyamhunhambo	475898	7978859	1896	4 Protected Area		
Nyanga National Park-Nyamhuzihwa Falls	477910	7981631	1952	6 Protected Area-Nyamuzihwa Falls	Open Grassland	
Nyanga National Park-Road to Mt Nyangani	480289	7979544	2104	1 Protected Area	Open Grassland	
Nyanga National Park	478932	7967669	1867	13 Protected Area	Open Grassland	
Nyanga National Park-Matenderere River	480151	7969392	1886	8 Protected Area	Open Grassland	
Nyanga National Park-Nyazengu	482131	7970839	1867	1 Protected Area	Open Grassland	
Erin Forest	-18.38591	32.686040	1797	1 Forest Land	Patch of grassland, surrounding area has been recently been harvested of trees	
BVUMBA AREA						

Bvumba	472847	7890366	1435	2 Private Farm	Open Grassland borderd by montane forest	Invasive plants -pines
Bvumba	470610	7889760	1583	0 Private Property	Open grassland interspsed by montane forest	Invasive plants -eucalyptus
Bvumba	470447	7890484	1748	2 Private Property	Open Grassland	
Bvumba- Botanical Garden	474180	7885733	1676	O Botanical Reserve-National Parks	Open Grassland with montane forest	
Bvumba	479747	7889314	1057	Estate 0	Dam within a wooded area	
Bvumba	472889	7888282	1587	0 Private Property	Cultivated field, open grassland	
Bvumba	479621	7884799	1457	0 Mutore School	Open Grassland	
Bvumba	478540	788865	1217	0 Cambell Morrison Estate	Dam surrounded by trees	
STAPLEFORD						
Stapleford Forest	479789	7933923	1710	0 Forest Estate	Wet Grassland along a river	
Stapleford- Chiwanze	-18.61987	32.879000	1504	3 Communal Area	Open grassland used for grazing	
Stapleford-Chiwanze	-18.63358	32.857930	1475	1 Communal Area	Open grassland used for grazing	
HONDE VALLEY						
Glen Forest Reserve	494858	7983860	1500	0 Nature Reserve	Open Grassland	
Glen Forest Reserve	494861	7983859	1495	3 Nature Reserve	Open Grassland	
CHIMANIMANI						
Chimanimani National Park	499391	7811920		0		
Chimanimani National Park	502350	7812799	1613	4 Protected Area	Open grassland	10m W, 280°
Chimanimani National Park	502638	7813502	1614	1 Protected Area	Open grassland	
Chimanimani National Park	33.03165	-19.76493056	1660	6 Protected Area	Open grassland	
Chimanimani National Park	502481	7812241	1624	2 Protected Area	Open grassland	
Chimanimani National Park	502749	7812130	1621	1 Protected Area	Open grassland	
Chimanimani National Park	500876	7811091	1660	1 Protected Area	Open grassland	
Sawerombi Estate	484596	7814471	1798	2 Plantation		

Sawerombi Estate	484627	7816015	1867	4 Plantation	Open grassland within the plantation	
Sawerombi Estate	485170	7816171	1829	0 Plantation		Invasive plants
Sawerombi Estate	485714	7816472	1838	0 Plantation	Patch of grassland within the plantation	Invasive plants
Sawerombi Estate	485926	7816846	1870	0 Plantation		
Duncan's Farm	486660	7815267	1897	2 Farming Land	Open Grassland	
Bridal Veil Falls	484048	7811516	1395	0 Protected Area		
Makonese Farm	483376	7810878	1356	0 Protected Area		
Pachedu/Charleswood Farm	494928	7812181	1115	0 Resettled Land	Open grassland and cultivated area	
Nhuka Farm	488535	7811717	1509	8 Resettled Land	Open grassland and cultivated area	
Nhuka Farm	488595	7812006	1520	0 Resettled Land	Open grassland and cultivated area	
Green Mount	487372	7807555	1829	2	Open Grassland	
National Park	-19.76493056	33.03165	1346	6 Protected Area	Open grassland	

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