DRIEFONTEIN WETLAND

Geographic Description

The Driefontein wetland is located in the Zambezi river basin about 200 km south-west of Harare (Figure 1). It is located in the Chirumanzu district in the Midlands province of Zimbabwe.

The Driefontein wetland site is the head water for five rivers (Mutirikwi, Pokotekwe, Deure, Chivake and Shashe), originating from this central watershed of Zimbabwe. Sebakwe river, one of the major tributaries of the Zambezi river, passes through the northern section and is recharged by the wetland.

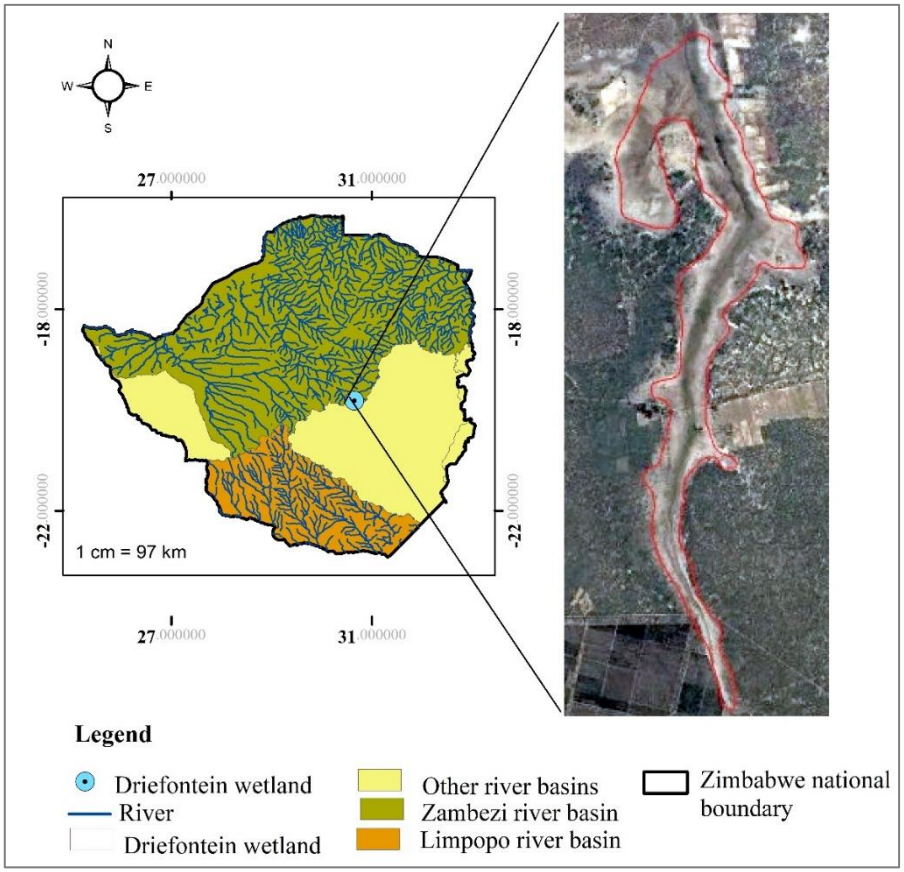

Figure 1: Geographic location of Driefontein wetland

Topographic Description

The Driefontein wetland falls under the Zambezi geomorphic province of Zimbabwe and forms part of the central Zimbabwe's Highveld area, that is, a high plateau land from which major streams radiate in east, south and west ward directions. The landscape in the Driefontein wetland is characterised by extensive expanses of open wet grasslands where soaks, seeps and depressions collect water and form many vleis as a result of the flat terrain.

It is situated at an elevation of 1500 m above sea level. Most of the landscape is under natural high veld grassland, dominated by the thatching grass (Hyparrhenia), which can grow to a height of 3 m and separated by pockets of Miombo Woodlands.

Hydrological Description

The Driefontein wetland resembles a flood plain Hydrogeomorphic (HGM) type, which is found at the headwaters of a first order stream which flows into the Sebakwe river (second order). The wetland's principal source of water is sub-surface flow. The area has a high infiltration rate because of the prevalence of fast draining sandy soils on a gentle slope in the surrounding areas. There are streams traversing the Driefontein wetland which include the Shashe and the Nyororo. The presence of loamy soils, with moderate hydraulic conductivity (Macfarlane et al. 2008) also allows sub-surface water to spread across the wetland. The dominance of sub-surface inflows into the wetland explains why wet conditions persist throughout the year. The depth and high drainage density in Driefontein wetland results in some exposed intercepted sub-surface and surface water to evapotranspiration.

Importance of Wetland

1. Social and Economic Value

Vegetable cropping within the wetland is the main source of livelihood for the local communities. Several types of vegetables are grown in communal gardens within the wetland. These include beans, tomatoes, potato, rape and other cash crops which fetch high market prices in nearby towns and cities, such as in Gweru. Due to the wet conditions throughout the year, the wetland supports the growing of maize crop during the dry season. Communities around the wetland sometimes exchange the maize for horticultural crops. The wetland also provides grazing pasture and water for livestock and provides cultural services as there are many traditional beliefs and myths attached to it.

2. Environmental Value

The Driefontein wetland is rich in birds and other biodiversity. Three globally threatened bird species namely the Wattled Crane (Bugeranus carunculatus), Grey Crowned Crane (Balearica regulorum) and Secretary bird (Sagittarius serpentarius) are found in the wetland. Driefontein wetland is the key breeding and foraging area for cranes, supporting more than half of the total crane population found in the country. The Grey Crowned Crane, which is quite common in Driefontein, is an endangered bird species. The Wattled and Grey Crowned Cranes were reported to damage maize crops in Driefontein wetland resulting in conflict with subsistence farmers. Many other protected bird species which include Kori Bustard, Black-bellied Korhan, Saddle Billed tork, White-backed and Lappet-faced Vulture, and Batelaur Eagle are found in this area. Mammals which include waterbuck, zebra, vervet monkeys, baboons, warthog, spring hares, impalas, squirrels and jackals are also found in the wetland. The wetland also supports species of amphibians such as pythons and puff adder. The vegetation is dominated by grasses and shrubs of *Syzigium spp*. and *Parainari spp*. and Miombo woodlands in the interfluve. Miombo woodlands which are dominated by *Brachystegia spiciformis* play an important role in protecting the watershed. The woodlands also provide wild fruits for wildlife and local communities.

3. Conservation Status

The Driefontein area is one of the seven Ramsar sites in Zimbabwe. The Ramsar Convention on wetlands provides a framework for wetland conservation and asks that nations promote the sustainable utilisation and conservation of wetlands. The Environmental Management Agency and the Rural District Council, with the help of the local traditional leadership, are responsible for the conservation of the Driefontein wetland. The area along the wetland has been set aside for cropping activities, while the core of the wetland is protected and efforts are underway to fence it. Four Local Conservation Groups (LCGs) established by Bird Life Zimbabwe in Shashe, Chinyaure, Daviot and Chipisa are playing a pivotal role in promoting wetland and crane conservation in Driefontein wetland. In addition, the local authorities and the extension officers, both environmental and agricultural, have also been instrumental in promoting sustainable use of wetlands. The wetland is also protected through traditional norms and beliefs of the area.

Risks, Threats or Drivers of Change

Major threats to Driefontein wetland include veldt fires and cultivation in the wetland fringes. Farmers with gardens along the wetland have been expanding them into the wetland. Therefore, farming encroachment has been affecting water distribution and retention. Uncontrolled veldt fires destroy nesting sites, eggs and chicks, crane foraging habitats, and disturbs the hydrology of the wetlands. Overgrazing in some parts of the wetland is another key threat to the area. Illegal collection of crane eggs is also a threat to the key bird species in the area. Human activities on the crane breeding sites disturbs the birds which require calm places for breeding. This, coupled with other naturally induced threats like climate change, has resulted in a limited number of conducive breeding sites available for the threatened Grey Crowned Crane and the Wattled Crane.

The wetland area used to be fenced when it was under private ownership, before resettlement areas were established in year 2000. Grazing was controlled and no cultivation was carried out. Change of land tenure has resulted in land use change, resulting in wetland ecological conditions modification. Due to uncontrolled human activities on the wetlands site, the fence was removed and uncontrolled grazing and cultivation is contributing towards the degradation of the wetland.

Figure 2: Evidence of trampling by livestock; Cropping within the wetland