



14 April 2014

Dear Danie

RE: Avifauna Specialist Study Verification and Input for the Continuous Disposal for Ash at the TUTUKA Power Station

BACKGROUND

A Specialist Avifaunal Impact Assessment was conducted by the EWT for the abovementioned project, during which three possible site alternatives were assessed. The sites were assessed in terms of the envisaged continuation of dry ash disposal over Eskom owned land which was purchased prior to the commencement of environmental laws such as the Environment Conservation Act.

Subsequently, the EWT has been approached to conduct a desktop assessment of an additional area or extension of Alternative A (see Figure 1).

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The Endangered Wildlife Trust is a non-profit, public benefit organisation dedicated to conserving species and ecosystems in southern Africa to the benefit of all people.

NPO Number: 015-502, **PBO number:** 930 001 777, **Member of IUCN** - The International Union for Conservation of Nature
The Endangered Wildlife Trust is US 501(c)(3) compliant under **US IRS Registration number:** EMP98-0586801.



Figure 1 – Proposed extension of Alternative A, Tutuka power station

COMMENT:

Avifauna

It should be noted that site alternative C was preferred for development despite no fatal flaws being identified in terms of avifauna, and that the proposed ash disposal facility could be built on any of the three alternatives, provided that the various mitigation measured recommended by the EWT were implemented.

Site alternative A is located immediately south and east of the existing ash disposal facility and approximately 3.5km north-east of the Tutuka power station. The total area identified is roughly 756.89 ha in size. This site is comprised of parts of portions R, 1 and 2 of the farm Spioenkop 375 IS, portions 1, 4, 6 and 10 of the farm Mooimeisiesfontein 376 IS, portions 1, 2, 4, 5, 22 and 25 of the farm Rouxland 348 IS and portions 3 and 6 of the farm Dwars-in-de-Weg 350 IS.

The amended layout of site alternative A will see almost all of portion 2 of the farm Rouxland 348 IS being included in the site (points G to L of Figure 1). Reduced portions of portion 2 of the farm

Spioenkop 375 IS (points Q to R of Figure 1), portion 2 and 9 of Dwars-in-de-Weg 350 IS, and portions 2, 4 and 5 of Rouxland 348 IS.

The additional areas now included in site alternative A were included in the pentads examined in terms of SABAP1 and 2 data. Thus, there are unlikely to be any additional avifaunal species that need to be considered. A small dam is however located on portion 2 of farm Rouxland 348 IS.

The additional areas do not fall within any Important Bird Areas (IBAs) and are not within 50km of any Co-ordinated Avifaunal Raod-count (CAR) study area. The New Denmark Dam Co-ordinated Waterbird Count (CWAC) site should not affect bird presence in the amended layout of site alternative A.

The focal species for the study remains as follows: Blue Korhaan, Blue Crane, Southern Bald Ibis, Greater Flamingo, Secretary Bird, White Stork, Lesser Kestrel, Caspian Tern and Botha's Lark, as well as their surrogate species e.g. Yellow-billed Stork and Lanner Falcon.

In general the study area is moderate to highly sensitive in terms of avifauna, based on the occurrence of a number of listed species in the study area, as well as the various micro-habitats available to avifauna. The sensitive zones are mapped below:

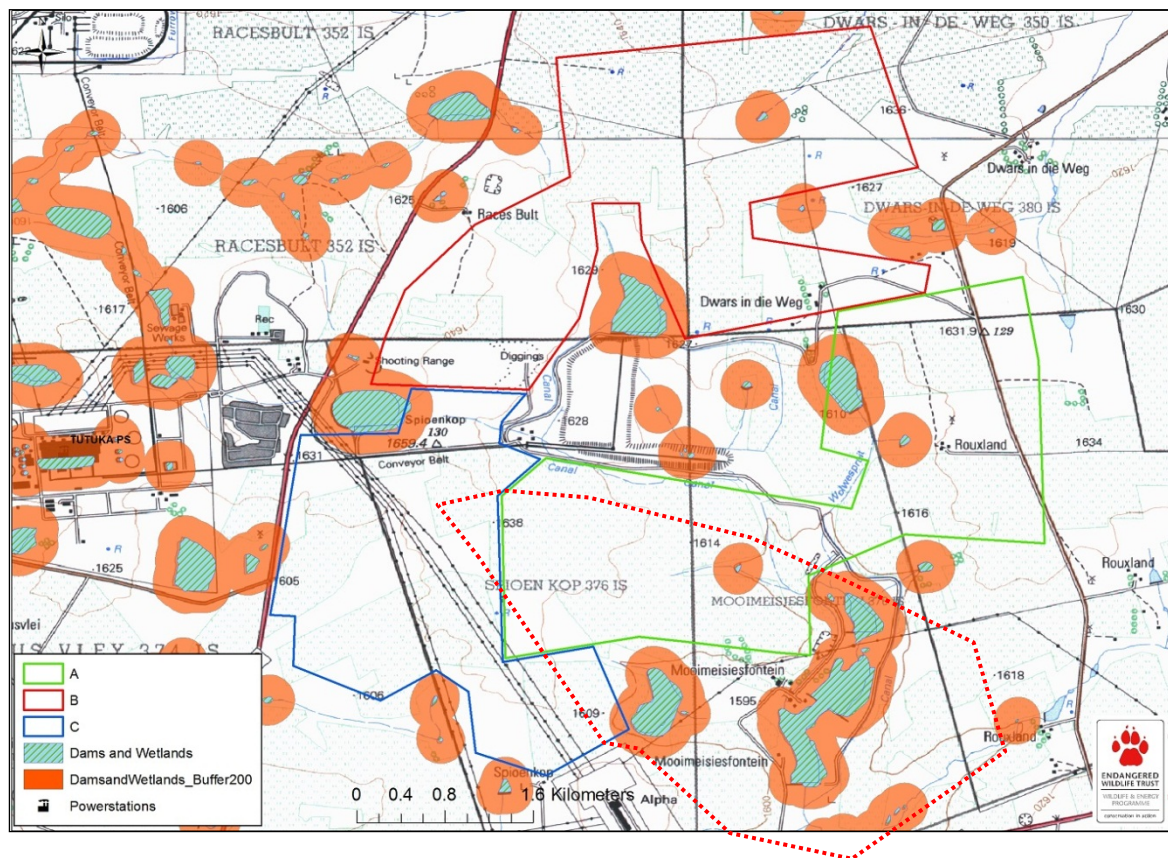


Figure 2 – Avifaunal sensitivity map of the study area

All dams and wetlands have been buffered by 200m – these buffered zones are regarded as Medium-High Sensitivity areas and if possible should be avoided for construction activities. The dotted red polygon also shows a general area, which in the specialists opinion, appeared to be sensitive following the field investigations. There are relatively open grassland areas here as well as dams where good numbers of birdlife were seen. This zone was designated as Medium Sensitivity while the remaining areas outside of the wetland buffers and outside of the red polygon were designated as Low-Medium sensitivity during the original study.

However, the expansion into portion 2 of the farm Rouxland 248 IS would result in the dams in portion 10 of Mooimeisjesfontein 376 IS being bordered on three sides by the ash dump. The potential impact of leachate and/or fly ash contaminating water systems is thus considerably increased raising the sensitivity designation of the zone to Medium-High.

Mitigation and Management Measures:

The greatest predicted impacts of ash disposal facilities on avifauna are the destruction of habitat and disturbance of birds during construction and operation. However, both of these impacts can be minimized and mitigated to some extent by avoiding more sensitive areas where possible. Disturbance of birds is anticipated to be of lower significance than habitat destruction. Leachate from fly ash disposal facilities can contain heavy metals (Theism and Marley, 1979) which could result in contamination of surrounding water sources, used by water birds in the study area.

Ash Disposal Facility

- *Construction Phase*

<i>Impact</i>	<i>Mitigation</i>
destruction	Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. It is difficult to mitigate properly for this as habitat destruction covering the entire ash dam footprint is inevitable. However, it is important to ensure that the construction Environmental

	Management Plan incorporates guidelines as to how best to minimize this impact, and ensure that only designated areas are impacted upon, as per the design.
<i>Disturbance</i>	Strict control should be maintained over all activities during construction. It is difficult to mitigate properly for this as some disturbance is inevitable. During Construction, if any of the “Focal Species” identified in this report are observed to be roosting and/or breeding in the vicinity, the EWT is to be contacted for further instruction.

- *Operational phase*

<i>Impact</i>	<i>Mitigation</i>
Leachate contamination of surrounding water sources	Ensuring that the construction Operational Management Plan incorporates guidelines as to how best to minimize this impact. Eskom must implement its existing Environmental procedures accordingly.

Assessment of Impacts During the Operational Phase:

The increased potential impact of the operational phase on the proposed amended site alternative A would be as follows:

Operational Phase									
Ash Disposal Facility – Alternative A									
Potential Impact	Mitigation	Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)		Status (+ve or -ve)	Confidence
Contamination of surrounding water.	Nature of Impact:	Lechate containing heavy metals, could result in contamination of water sources, used by water birds.							
	without	2	5	6	4	52	Medium		Low
	with	2	5	5	4	48	Moderate		Low
	degree to which impact can be reversed:	Low							
	degree of impact on irreplaceable resources:	High							

CONCLUSION:

The increased potential impact of the operational phase on the wetlands occurring in Mooimeisjesfontein 376 IS, which would now be bordered on three sides by the ash dump, as well as in the rest of the site is high Medium.

As a result, the proposed amendments to site alternative A are **not supported** due the potential long-term negative impacts on a valuable natural resource.

Regards

A handwritten signature in black ink, appearing to be 'SA', with a large loop at the top and several vertical strokes below.

Stephanie Aken

(EWT: Wildlife & Energy Programme - Manager)

A handwritten signature in black ink, appearing to be 'CP', with a large loop at the top and a few vertical strokes below.

Claire Patterson-Abrolat

(EWT: Bat Specialist)