

Table 1: Red Listed species recorded in the quarter degree squares (SABAP1) covering the study area (Harrison *et al* 1997)

Species	Cons. status	Report rate (%)	
		2629CD	2629CB
<i>QDGS</i>			
<i>Number of cards submitted</i>		69	55
<i>Total Species</i>		175	175
Botha's Lark	EN	-	2
African Marsh Harrier	VU	-	2
Lesser Kestrel	VU	22	16
Blue Crane	VU	12	7
Southern Bald Ibis	VU	4	-
White-bellied Korhaan	VU	-	4
Yellow-billed Stork	NT	1	-
Secretary Bird	NT	10	9
Greater Flamingo	NT	1	2
Lesser Flamingo	NT	1	-
Black-winged Pratincole	NT	-	4
Pallid Harrier	NT	-	2
Lanner Falcon	NT	6	4
Blue Korhaan	NT	30	20
Caspian Tern	NT	13	-
White Stork	Bonn	3	2

CR = Critically Endangered; EN = Endangered; V = Vulnerable; NT = Near-threatened; Bonn = Protected Internationally under the Bonn Convention on Migratory Species. Report rates are essentially percentages of the number of times a species was recorded in the square, divided by the number of times that square was counted.

Southern African Bird Atlas Project 2

SABAP 2 data was examined for the pentads falling within the 8 km radius from Tutuka Power Station (Figure 11 below), and which had been counted more than once. Table 2 below shows report rates, based on the number of cards submitted, for the Red Data species identified in the four pentads meeting the above criteria.

Interestingly, of the 16 red listed species identified in the SABAP 1 data, only 9 species have again been recorded in the SABAP 2 data for the pentads examined. This however, does not necessarily mean that these species do not occur here, or that they have moved from the area post SABAP1, but may merely be due to the low counting effort of the pentads or selective micro habitat counting by the SABAP2 field counters. White Stork, protected through the Bonn Convention, was recorded in both data sets. Botha's Lark was not recorded in pentads examined. An additional red listed species, the African Openbill, was recorded in the SABAP2 data only.

Table 2: Report rates from Southern African Bird Atlas Project 2 (SABAP2) as of 09/10/2012.

Species	Cons. status	Pentad Report Rate (%)			
		2645_2915	2645_2920	2640_2915	2650_2915
<i>Pentad</i>					
<i>No Cards</i>		12	3	16	4
<i>Total Species</i>		121	94	121	60
Botha's Lark	EN	-	-	-	-
African Marsh Harrier	VU	-	-	-	-
Lesser Kestrel	VU	-	-	-	-
Blue Crane	VU	-	-	-	-
Southern Bald Ibis	VU	16.7	-	-	-
White-bellied Korhaan	VU	-	-	-	-
Yellow-billed Stork	NT	-	-	-	-
African Openbill	NT	-	-	6.3	-
Secretary Bird	NT	8.3	-	-	-
Greater Flamingo	NT	41.7	33.3	-	-
Lesser Flamingo	NT	8.3	-	-	-
Lanner Falcon	NT	8.3	-	-	-
Blue Korhaan	NT	-	33.3	18.8	-
Caspian Tern	NT	-	-	-	50
Black-winged Pratincole	NT	8.3	-	6.3	-
Pallid Harrier	NT	16.7	-	-	-
White Stork	Bonn	8.3	-	-	-

CR = Critically Endangered; EN = Endangered; V = Vulnerable; NT = Near-threatened; Bonn = Protected Internationally under the Bonn Convention on Migratory Species. Species in bold were not recorded in the SABAP1 data set.

Table 3 below shows the micro habitats that each Red Data bird species typically frequents. It must be stressed that birds can and will, by virtue of their mobility, utilise almost any areas in a landscape from time to time. However, the analysis in Table 3 represents each species' most preferred or normal habitats. These locations are where most of the birds of that species will spend most of their time – so logically that is where impacts on those species will be most significant. By looking at these preferred habitats, considering the habitats available on site, analysing the reporting rates, as well as using personal experience, the author was able to predict the likelihood of occurrence of a particular species in the study area. Occurrence refers to a species making use of the site for purposes such as foraging, feeding, hunting, nesting and breeding, or regularly flying over as part of a flyway. This likelihood of occurrence is done with precaution at this initial scoping stage and refers to the entire study area (i.e. 8 km radius from Tutuka Power Station). This will be updated to apply to the development site only, once the specialist has accessed the site during the EIA phase.

Table 3: Preferred micro-habitat of red data species and their likelihood of occurrence in the study area.

Species	Cons. status	Preferred micro habitat	Likelihood of Occurrence
Botha's Lark	EN	Grazed upland grassland	Possible
African Marsh Harrier	VU	Wetlands, grasslands	Possible
Lesser Kestrel	VU	Savanna, grassland, shrubland, arable land	Likely
Blue Crane	VU	Grassland, wetland, arable land, dams	Likely
Southern Bald Ibis	VU	Short Grassland, Hills and Ridges, Cliffs (breeding)	Possible
White-bellied Korhaan	VU	Tall grassland, Savanna	Possible
Yellow-billed Stork	NT	Rivers, Lakes, Estuaries	Unlikely
African Openbill	NT	Freshwater lakes and dams. Rivers	Unlikely
Secretary Bird	NT	Grassland, arable lands	Possible
Greater Flamingo	NT	Shallow lakes, Salt Pans, Estuaries	Highly Likely
Lesser Flamingo	NT	Shallow lakes, Salt Pans, Estuaries	Highly Likely
Lanner Falcon	NT	Open grassland, woodland	Possible
Blue Korhaan	NT	Open Grassland	Highly Likely
Caspian Tern	NT	Bays, estuaries, lagoons and inland water bodies	Possible
Black-winged Pratincole	NT	Grassland, cultivated lands	Likely
Pallid Harrier	NT	Grassland and savanna	Possible
White Stork	Bonn	Grassland, arable lands, wetland, dams	Possible

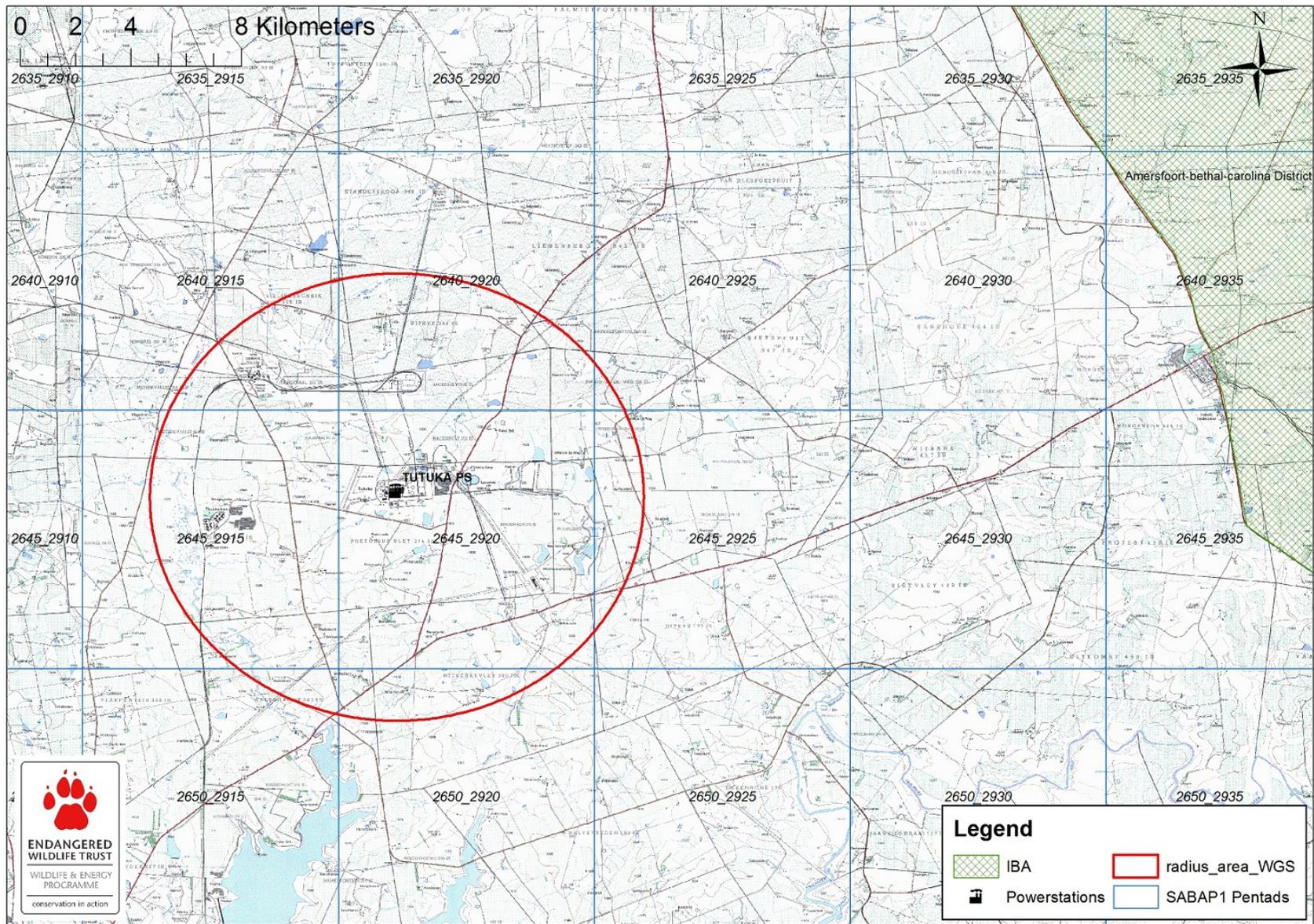


Figure 11: Map showing the location of the nearest IBA, as well as SABAP2 pentads in the study area.

Important Bird Areas (IBA's)

The site where continuous ashing is proposed does not fall within any Important Bird Area (IBA). However, the *Amersfoort-bethal-carolina District (SA018)* IBA lies approximately 27 km to the east of Tutuka Power Station, and it is not unlikely that some bird species found in this IBA, may occur in the study area. This IBA is known to hold a large proportion (>10%) of the global population of the endangered Botha's Lark (Barnes 1998). This species (Figure 12) favours short dense, natural grassland found on plateaus and upper hill slopes. The Globally threatened Wattled Crane was listed as a vagrant to this IBA, while other key listed species recorded in this IBA include Southern Bald Ibis, Lesser Kestrel, Blue Crane, African Grass Owl, Lanner Falcon and Blackwinged Lapwing.



Figure 12: The Endangered Botha's Lark may occur in grasslands in the study area.

Coordinated Avifaunal Road-count (CAR) data

There are no routes within 50 km of the general study area.

Coordinated Waterbird count (CWAC) data

New Denmark Dam CWAC site is situated within the study area (Figure 2), and is a private dam in a coal mining area. CWAC data here records large numbers of Redknobbed Coot, Egyptian Goose, Yellow-billed Duck, Blacksmith Lapwing, Little Stint and African Darter. Greater Flamingo has been recorded here on numerous occasions between 2005 and 2009, while Caspian Tern has also been recorded at this site.