



### **Review of the Avifaunal report:**

AVIFAUNA BASELINE AND IMPACT ASSESSMENT REPORT FOR THE PROPOSED CONSTRUCTION OF PAULPUTS CSP PROJECT NEAR POFADDER, NORTHERN CAPE PROVINCE (2016)

By: Hudson Ecology (Pty) Ltd

### **Pre-amble**

Birds & Bats Unlimited have been asked by Savannah Environmental to peer-review the avian impact assessment report on the Concentrated Solar Power (CSP) development proposed for Paulputs, near Pofadder.

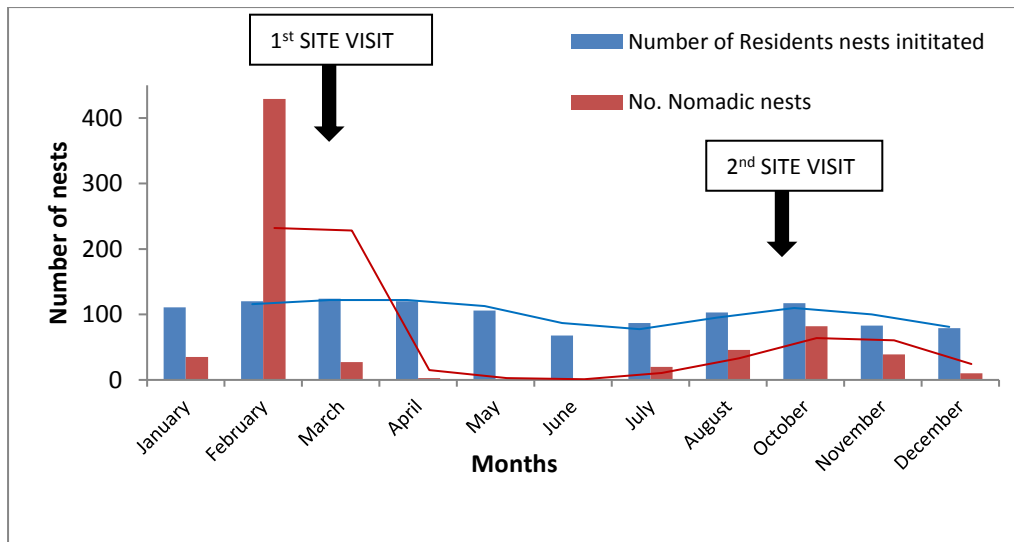
Adrian Hudson has provided a fair overview of the avifaunal impacts at the Paulputs site and he has outlined the limitations of his methodology. He undertook two site visits in August and March which are well-timed for maximum activity of birds on site (see below). He has provided appropriate mitigations, assessments of cumulative impacts and a management plan.

### **Seasons for monitoring:**

Birdlife and the DEA recommend that for all CSP sites 4-5 monitoring visits per year are required. A justification why this was not done is thus required. We ourselves don't think it is necessary, in arid areas, for there to be more than 2 visits for the following reasons :

- To capture the first breeding peak of resident arid-adapted birds, a visit in the spring period from August to November is best
- To capture the influx of nomadic birds that arrive with the rains and breed 2-4 weeks later a visit in March/April is best

The graph below indicates the timing of breeding in s-w Kalahari birds drawn from Maclean's (1969) year-round monitoring. Visits after rains (1<sup>st</sup> visit) and in spring (2<sup>nd</sup> visit) indicate how they coincide with the main breeding events in arid areas. Note that Maclean was away in September so no data is given then.



So a visit in the window August to November coincides with late spring when many resident arid-species first start to breed (blue bars). Furthermore, according to Lepage and Lloyd (2004), who analysed the breeding seasons of all South Africa's birds (with an emphasis on arid-breeding birds), the top breeding month is October (even for areas with late-summer rains). Paulputs fits into the latter category. Most breeding is finished by the winter (June-July) and dry, cold conditions are likely to force some species away. Only the larger eagles would begin breeding then (Simmons 2005 a and b).

For really arid areas such as the Kalahari, with late summer (March/April) rains, nomadic birds respond to (fly into) areas with rains and begin breeding within 14 days (insectivores) or 32d (granivores) (Maclean 1969). So two visits timed for August-November and March/April will record resident and nomadic birds present and breeding respectively. A summer and winter visit (as advised by the DEA) would miss both peaks and cannot be supported.

A third visit would be ideal, because, as Hudson points out, too few visits will miss the rarer species. To ensure that all the migrants are included a December visit is advised. This could take place in the pre-construction phase after the EIA is complete. It may also clear up the mystery why Verreaux's Eagles were seen by Birdlife SA but not by this monitoring. And it is the rare species (e.g. Red Lark, Sclater's Lark, bustards) that we must mitigate from being impacted by the development.

Lepage D, Lloyd P. (2004). Avian clutch size in relation to rainfall seasonality and stochasticity along an aridity gradient across South Africa. *Ostrich* 75(4): 259–268.

Maclean, G .(1969). The Breeding seasons of birds In the Southwestern Kalahari. *Ostrich (supplement)* 40:179-192.

Simmons RE 2005a. Martial Eagle *Polemaetus bellicosus* In: Hockey PAR, Dean WRJ, Ryan PG (eds). Roberts birds of southern Africa. John Voelcker Bird Book Fund, Johannesburg.

Simmons RE 2005b. Verreaux's Eagle *Aquila verreauxii* In: Hockey PAR, Dean WRJ, Ryan PG (eds). Roberts birds of southern Africa. John Voelcker Bird Book Fund, Johannesburg.