



**BAT SPECIALIST LETTER ON VALIDITY OF THE BAT MONITORING CONDUCTED AT**

**HARTEBEEST WIND FARM PROJECT**

**1. Background**

The study area where the Hartebeest Wind Farm Project is proposed was subjected to a 17-month bird and bat monitoring, between May 2013 and September 2014. At the time the project was designated as Moorreesburg Wind Energy Facility development by IE Moorreesburg Wind (Pty) Ltd. However, the Environmental Impact Assessment (EIA) application was not completed and the EIA process was restarted in 2016, following the most recent regulations (NEMA 2014), under the designation of Hartebeest Wind Farm Project. It is the developer intention to use all the data collected between May 2013 and September 2014 from both bat and bird pre-construction monitoring programmes to inform the specialist impact assessment reports for the current Hartebeest Wind Farm Environmental Impact Assessment procedure. It is also of note that the study area has not changed, as shown in Figure 1 and Figure 2 below. The specialist conducted a reconnaissance site visit in September 2016 and it was confirmed that the study area has not changed, with regards to its land use and habitats or suitability for bird and bat communities. Project specifications have also barely changed since both monitoring programmes were conducted, though a layout option of up to 40 wind turbines was chosen, in relation to Moorreesburg WEF when two options were evaluated, and a slight change in turbine specifications was proposed (Table 1).

**Table 1 – Project specifications for Moorreesburg Wind Energy facility and Hartebeest Wind Farm Project.**

<b>Project characteristics</b>	<b>Moorreesburg Wind Energy Facility</b>	<b>Hartebeest Wind Farm Project</b>
<b>Farm portions</b>	See Figure 1	See Figure 2
<b>Number of wind turbines</b>	Two layout options with 25 and 40 wind turbines respectively	Up to 40 wind turbines
<b>Turbine specifications</b>	Rotor Diameter up to 130m Hub Height up to 120m Highest Rotor Height between 55 and 185m Turbine Capacity up to 3.5MW	Rotor Diameter up to 136m Hub Height up to 120m Highest Rotor Height between 52 and 188m Turbine Capacity up to 4MW



## 2. Applicability of previous bat and bird monitoring programmes

### 2.1. BAT MONITORING PROGRAMME

Since the start of the pre-construction bat monitoring programme bat guidelines have been updated with the most recent document being released early in 2016: *Best Practice Guidelines for Bat Monitoring at Wind Energy Facilities* (Sowler et al. 2016).

According to the **Section 3.3** (*Amendment Reports or New EIAs*) of the most recent version of the guidelines (Sowler et al. 2016):

*If (...) a new EIA for the same project is required, the previous monitoring conducted is sufficient for EIA amendment and new applications, as long as within the validity period (see Section 3.5 below) and as long as the guideline requirements at that time were met or bettered and as long as the study area doesn't change. However, the impact assessment must be revised.*

*Should the study area in which turbine infrastructure is to be developed change or the previous monitoring did not cover monitoring within the appropriate rotor swept zone/ height for new turbine dimensions proposed, or the monitoring period has expired, then monitoring should be redone according to the latest version of the guidelines at the time of the EIA amendment or new EIA application. If supporting infrastructure routes change, then a walkthrough of the new routes is required.*

*A confirmation in writing from the original specialist that they agree or disagree with any new specialist's input must also be provided in the application.*

Regarding the validity period of the study, **Section 3.5** of the same document (*Validity Period of Bat Monitoring Studies*) refers that:

*A bat monitoring study conducted in accordance with the latest guidance relevant at the time of commencement of the monitoring is valid for a period of 3 or 5 years from the last day of the 12-month fieldwork period, depending on whether significant changes to the environment occurred since the completion of the 12-month fieldwork period. The following procedure applies:*

- *Should an environmental application only be submitted 3 years or more after the completion of the 12-month fieldwork period, a bat specialist, preferably the one who did the original study, must provide an official statement in a letter on whether the original preconstruction bat monitoring study is still valid or not. The specialist must determine whether there is a need to conduct a desktop survey and/or a short field assessment in order to provide such a statement.*
- *If the original study is still valid, then a total validity period of 5 years from the end of the 12-month fieldwork applies, but if the original study is deemed not to be valid anymore then a validity period of 3 years from the end of the 12-month fieldwork applies.*
- *In determining the validity of the original study, the specialist should consider if there are any important changes to the environment at or surrounding the site that may change bat activity patterns or bat species composition since the completion of the original study. For example, if significant artificial roosting spaces have been created, or roosts have been destroyed,*



*disturbances to large roosts within a 50km radius, significant habitat alterations occurred, surrounding developments, etc. Additionally, it should also be considered whether the original study was conducted during abnormal climatic conditions such as extreme droughts, higher than normal rainfall, unusual rainfall patterns, etc.*

- *If it is sufficiently motivated by the specialist that the original study is not valid anymore, based on above mentioned factors, then an additional 12-months of monitoring should take place in accordance with the latest guidelines at that time to inform the environmental application.*

According to the requirements of Section 3.3 of the most recent version of the guidelines the previous bat monitoring programme conducted at Moorreesburg WEF is still within the validity period – monitoring programme ended in September 2014, hence 2 years have passed since then. Also the best practice guidelines at the time corresponded to the 2012 version (Sowler & Stoffberg 2012) (as the monitoring programme began in May 2013) and the monitoring complied with its requirements. In spite of the small differences between the previous wind turbines assessed and the new project ones, it is considered that bat monitoring at height still remains valid, as the rotor height was surveyed at approximately 50m height (Bioinsight 2014).

The land main use is for wheat farming. Therefore, the natural habitats are highly transformed. Some tree stands appear scattered throughout the study area. The highest altitudes are reached in a series of hills running in a northwest to southeast direction traversing the study area, with tops covered in natural vegetation.

The study area has not suffered any significant changes which supports the adequacy of the monitoring programme already conducted, as the bat community is expected to remain the same.

It is also considered that the original study accurately represents the average environmental conditions felt in the study area.

Thus, the results of the original pre-construction bat monitoring programme are expected to still be valid and fully applicable to the current environmental impact assessment of the proposed Hartebeest wind farm.

## 2.2. BIRD MONITORING PROGRAMME

Best-Practice Guidelines for assessing and monitoring the impact of wind-energy facilities on birds in southern Africa (Jenkins *et al.* 2015) have been updated since the beginning of the bird monitoring programme. As the monitoring programme started in May 2013, the applicable best practice guidelines were the 2012 version (Jenkins *et al.* 2012). Nonetheless, according to the most recent version of the guidelines (Jenkins *et al.* 2015), **Section 2.2.2 (Timing of study):**

*If there is a significant gap (i.e. more than three years) between the completion of the initial preconstruction monitoring and impact assessment, and the anticipated commencement of construction, it may be advisable to repeat the preconstruction monitoring (or parts thereof) to assess whether there have been any changes in species abundance, movements and/or habitat use in the interim.*

Considering that the bird monitoring programme ended in September 2014, according to the Best Practice Guidelines, this study is still valid. As aforementioned, the bird monitoring programme was undertaken in full



compliance with the 2012 version of the Best Practice Guidelines, and it is considered to also comply with all requirements of the most recent version of the Guidelines (Jenkins *et al.* 2015).

As aforementioned the study area has not changed significantly and the environmental conditions remain the same. Therefore, we have no reason to believe that the bird community has changed substantially since the end of the already conducted monitoring programme. Thus the characterization of the bird community present at the time, as well as the impacts assessed are considered to still be valid and applicable to the area of the current proposed Hartebeest wind farm.

### 3. Conclusions and Recommendations

Considering the aforementioned it is considered that the original bat and bird pre-construction monitoring studies conducted at Moorreesburg WEF is still valid and represents accurately the bat and bird communities trends expected to occur at the Hartebeest Wind Farm Project.

The bat and bird specialist impact assessment reports must be revised and updated.

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on Behalf of Bioinsight (Pty) Ltd

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Location on maps

J118AC	J118AD	J118BC	J118BD
J118C	J118D	J118E	J118F
J118G	J118H	J118I	J118J

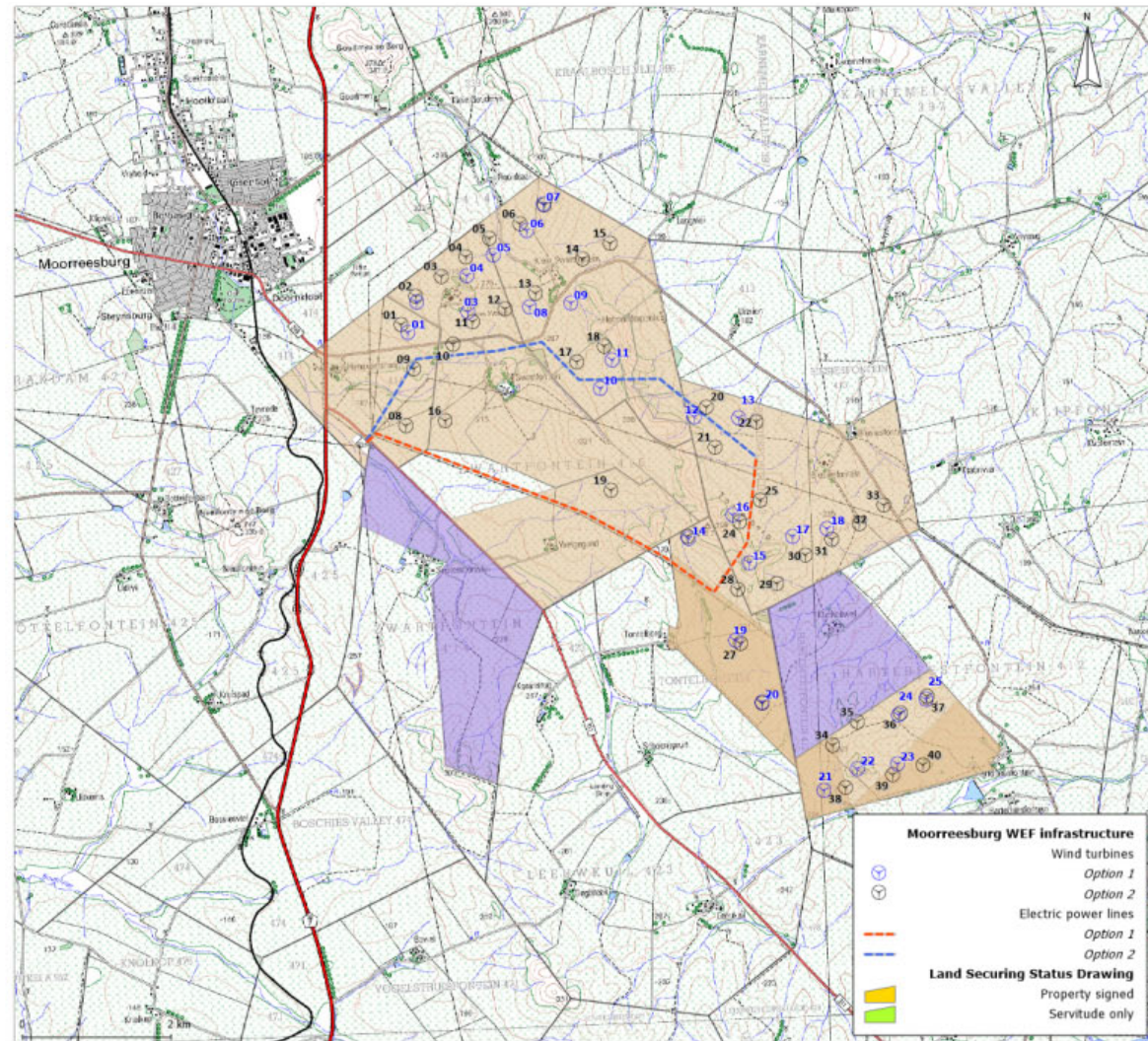


Figure 1 – General Framework of Moorreesburg WEF (previous designation for Hartebeest WEF) evaluated in the bat monitoring programme conducted in 2013/2014.



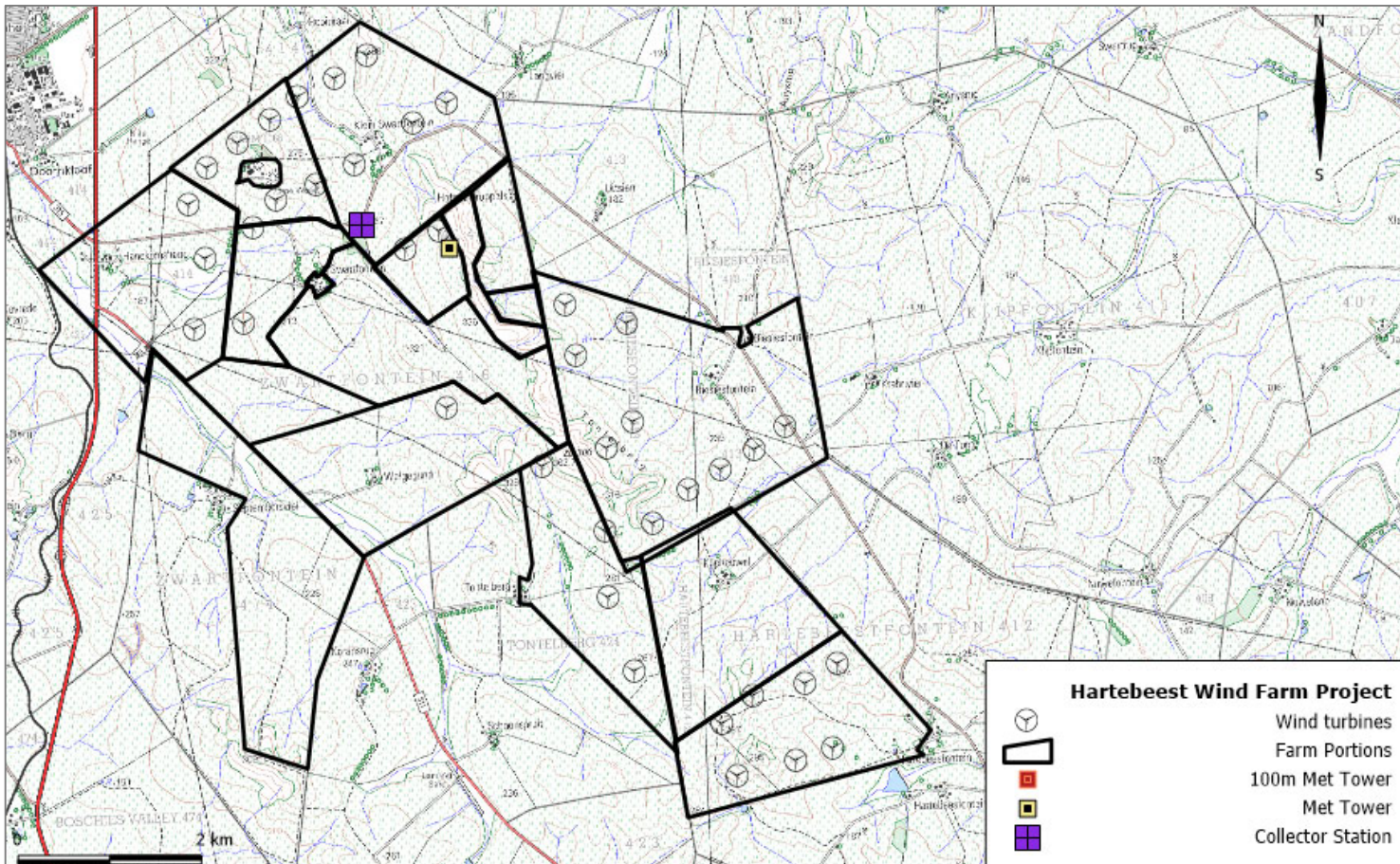


Figure 2 – General framework of the proposed Hartebeest Wind Farm Project.