

# Site-Specific Environmental and Social Impact Assessment (ESIA)

## Suez Wind Energy BOO Wind Power Plant 1.1 GW – SWE North (PLOT 2)

### Bat Addendum Report

October 2024

**DRAFT**

**REV-0**



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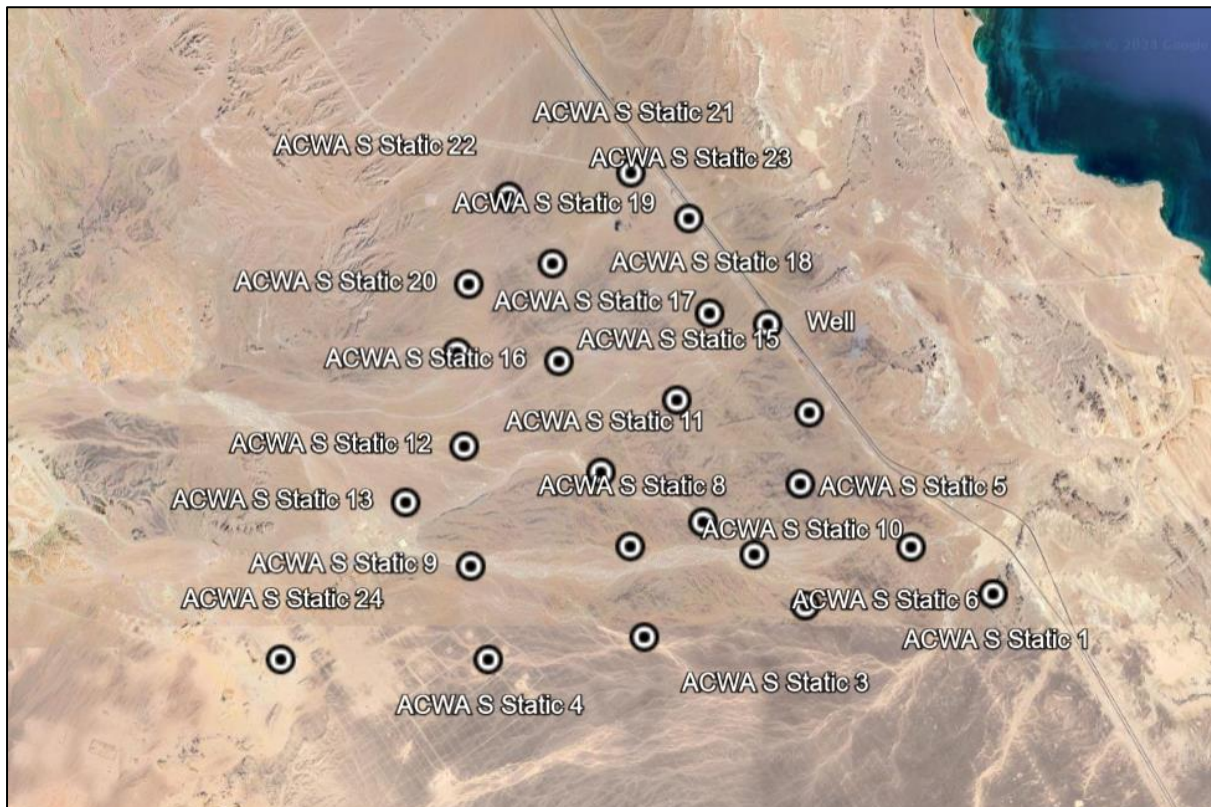
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**Introduction**

Bat surveys consisted of Nocturnal Acoustic Survey along with a search for suitable roosting features within the Project Aol. Due to the size of the Project Aol, and in line with best practice, it was considered that the use of static detectors would give robust data pertaining to the bat species present within the Aol, along with a reasonable estimation of the amount of flight activity.

**Methods**

Eight Wildlife Acoustic SM4BAT detectors were deployed across 24 locations in Plot 2 (see figure below) a total of six times per location between 25th May 2023 and 15th November 2023. The survey protocol adapts methods protocols set out in guidelines published by NatureScot 2021 (formerly Scottish Natural Heritage) and Eurobats Publication 6, 2015. The detector locations were targeted largely at a number of WTG locations as well as at locations providing useful contextual information. At the time of deployment 18 locations were at known WTG locations, four were throughout the wider AOI to ensure coverage of the whole AOI was considered and two were at features of interest (a cave and the wadi dam). The detectors were programmed to start recording 30 minutes before sunset until 30 minutes after sunrise. Data was downloaded approximately once per month and batteries changed as necessary.



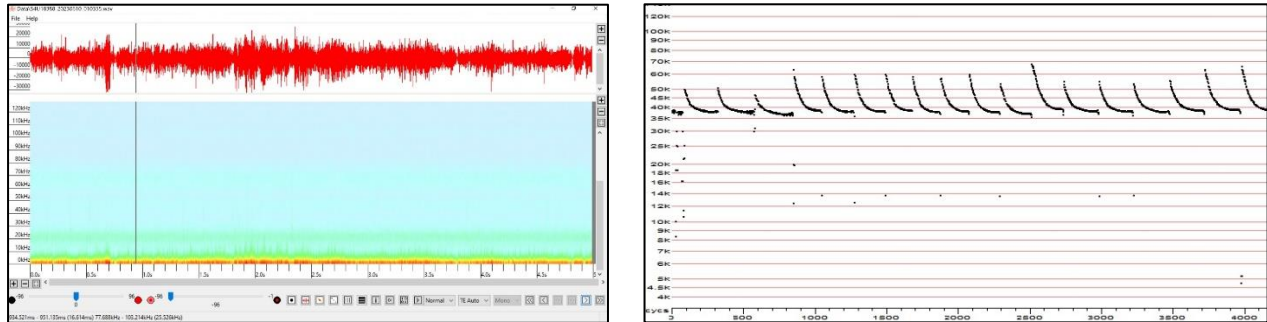
The total amount of recording nights completed to date, and corresponding size of data files collected are shown on the tables below.

	May		June		July		August		September		October		November	
Static Location	Number of Survey Nights	Number of Files	Number of Survey Nights	Number of Files	Number of Survey Nights	Number of Files	Number of Survey Nights	Number of Files	Number of Survey Nights	Number of Files	Number of Survey Nights	Number of Files	Number of Survey Nights	Number of Files
Whole Site	5	1869												
1			5	704	5	2376	5	3558	5	0	5	527	5	4556
2			5	3513	5	1992	5	3435	5	3174	5	697	5	5752
3			5	771	5	2378	5	2714	5	3954	5	200	5	2323
4			5	1870	5	1888	5	1294	5	1567	5	281	5	3383
5			5	3925	5	2073	5	2873	5	4341	5	23	5	1245
6	5	1543	5	4658	5	2686	5	2635	5	900	5	61	5	267
7			5	2288	5	8870	5	775	5	578	5	8	5	2766
8			5	4635	5	5342	5	435	5	1323	5	404	5	5092
9			5	512	5	2523	5	3533	5	782	5	719	5	2142
10			5	1303	5	7081	5	4518	5	0	5	1029	5	3118
11	5	1869	5	3946	5	6036	5	5194	5	1663	5	586	5	1969
12			5	1763	5	8411	5	3510	5	3292	5	5244	5	378
13	5	1559	5	3867	5	4904	5	2196	5	906	5	5727	5	1907
14	5	1679	5	2951	5	6015	5	3734	5	1852	5	2323	5	4509
15	5	1008	5	3437	5	2582	5	2003	5	445	5	5929	5	3593
16			5	656	5	9292	5	1273	5	852	5	2220	5	854
17			5	2200	5	876	5	686	5	4260	5	4260	5	17
18	5	1027	5	4328	5	9424	5	6952	5	861	5	135	5	604
19			5	5339	5	2356	5	2659	5	272	5	15	5	810
20			6	3241	6	6211	6	589	6	5076	5	24	5	716
21			5	4616	5	8475	5	4488	5	2759	5	29	5	1912
22	5	1149	5	4481	5	11923	5	4680	5	2929	5	52	5	7
23	5	358	5	5029	5	4813	5	3086	5	1097	5	52	5	14
24			5	13881	5	681	5	19181	5	10752	5	7	5	407

### Bat Call Analysis

Wave data recorded by “Song meter SM4” was explored by a special sound analysis software (Kaleidoscope 5.6.2) a file by file to determine the presence of bat calls in a spectrum of sound frequencies ranging from 10 to 120 KHz (Figure 1).

Bat activity can be determined by the recording time by the song meter and species by the frequency and speed cycles of the calls. Figure 3 shows a bat calls analysis technique.



### Constraints

Highlighted in the table above are occasions where the static detector either made no recordings, or very few. It may be that there were no recordings that night but this seems unlikely given the detectors can be triggered to record not only bat calls but environmental noise such as wind also and the assumption is therefore that there was an issue with the detector. However, this only occurred on five occasions over a six month period and around 150 separate deployments, so this is not thought to have impacted the overall dataset.

### Results

There are 21 species of bat known to occur within Egypt and neighbouring countries and have the potential to occur within the Project Aol (Qumsiyeh, B., 1985).

The Project Aol consists of flat open desert with generally low suitability for bats due to the lack of suitable roosting features within the Aol and also lack of permanent waterbodies. There are no buildings or trees within the Aol nor are there bridges, culverts or wells which could support roosting bats.

One known species: Botta’s Serotine *Epitesicus bottae* and two unknown species of bat were recorded across the survey period including a *Nyctalus* species and a Long-Eared species. The details of these records can be seen in Table 2 below:

**Table 2. Species recorded throughout the survey period.**

Species	Scientific Name	Location	Number of records	Record Date	Time	IUCN Conservation Status
Botta's Serotine	<i>Epitesicus bottae</i>	7	1	03/09/2023	02:46:35	Least Concern
Long-Eared species	<i>Plecotus sp</i>	19	1	11/11/2023	19:06:42	
Nyctalus species	<i>Nyctalus sp</i>	24	36	11/11/2023	19:32:00 - 01:43:00	

## Impact Assessment

### General

All species recorded were of Least Concern, and were recorded in very small numbers with a total count of 38 recordings across a six month period. Thirty-six of these records were on a single night, and were most likely a single foraging Nyctalus species.

Recordings were evenly distributed across the Project Area, with the highest number of records at Static 24, in the south of the Project Area.

No roosts were identified in buildings or trees within the site boundary so direct impacts on roosting bats are not anticipated.

### Species Specific Impacts

A Nyctalus species was recorded the most frequently, with 36 records. This species group is primarily threatened by habitat loss, as is Botta's Serotine.

Long-Eared Bat species in this region forage close to the ground for prey (including spiders and scorpions) and is therefore less likely to be flying within range of turbine blades. Threats to this species are largely unknown (Eurobats Publication No.5).

## Monitoring

Full operational fatality monitoring of the Project Area will be completed for at least three years post construction although with scope to continue depending upon results over those years. Post construction monitoring on site will include carcass searching, searcher efficiency trials and carcass persistence trials. The results of the post-construction fatality monitoring will be used to inform a GenEst Analysis. Such effort will be in line with the Post-construction Bird and Bat Fatality Monitoring for Onshore Wind Energy Facilities in Emerging Market Countries – Good Practice Handbook and Decision Support Tool (2023)

An adaptive management strategy will be developed, and additional mitigation will be undertaken if the results of the post-construction fatality monitoring indicate higher than predicted mortality, especially in relation to species of elevated conservation concern.

## Conclusion

All species recorded were of IUCN Least Concern and were recorded in small numbers. Therefore there will be negligible likely impact on bat populations from this Project. No direct mitigation is recommended at this time. Fatality monitoring will be undertaken, and an adaptive management strategy will be used to ensure against changes to activity during operation.