

# Environmental Monitoring Report of Formosa II

## Operation Phase (January to March 2024)

### Monitoring & Improvement Summary

Monitoring Item		Monitoring Site	Monitoring Result Summary	Measures & Effects
Bird Ecology	Offshore Bird	Wind farm and its Periphery	<ol style="list-style-type: none"> <li>Species Composition: 3 orders, 3 families, and 4 species.</li> <li>Protected Species: none recorded.</li> <li>Flying Altitude: All of recordings were below 10m.</li> </ol>	—
	Coastal Birds	<ol style="list-style-type: none"> <li>Xihu National Wetland</li> <li>Peripheral Coast</li> </ol>	<ol style="list-style-type: none"> <li>Species Composition: A total of 10 orders, 16 families, 38 species and 5,579 individuals were recorded.</li> <li>Protected Species: 5 protected species were recorded, including Osprey (II), Black-Winged Kite (II), Common Kestrel (II), Peregrine Falcon (II), and Brown Shrike (III).</li> </ol>	—
	Analysis of Tern Migration Routes	Weather Radar Observation Data Analysis	The migration routes of Terns from May to October are analyzed annually and the analysis results will be presented in the third and fourth quarter monitoring reports respectively.	—
Cetacean Sighting		Wind farm and its Periphery	A total of 2 offshore surveys were conducted this quarter (January-March, 2024). 1 pod of Bottlenose Dolphins was sighted on March 22.	—
Fishery Resource		3 Survey Lines in Wind Farm Area	<ol style="list-style-type: none"> <li>Fish: 12 families, 13 species, and 60 individuals, with Spotted Catfish being the majority.</li> <li>Fish Egg: 2 families, 3 genera, and 128 eggs, with Goldlined Seabream being the dominant species.</li> <li>Fish Larva: 4 families, 4 genera, and 17 individuals with Buccaneer Anchovy being the most dominant species.</li> </ol>	—

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Underwater Noise (including Cetacean Acoustic Survey)	5 stations within wind farm area	1. Whistles: HM-1 detected a total of 33 whistles HM-2 detected a total of 73 whistles HM-3 detected a total of 39 whistles HM-4 detected a total of 39 whistles HM-5 detected a total of 76 whistles 2. Clicks: HM-1 detected a total of 1,067 clicks HM-2 detected a total of 1,413 clicks HM-3 did not detect any clicks HM-4 detected a total of 855 clicks HM-5 detected a total of 541 clicks	—
Marine and Intertidal Ecology	10 stations within wind farm area	1. Marine Ecology: Phytoplankton: 4 phylum, 58 genus, 99 species; Chlorophyll A is between 0.45-1.00 µg/L, Zooplankton: 12 phylum, 28 genre; Benthic Organism: 12 orders, 22 families, 26 species. 2. Intertidal Ecology: Benthic organism: 5 orders, 8 families, and 8 species	—
Underwater Photography	Same two wind turbine locations (D01 & D07) as in the pre-construction survey	A total of 1 order, 5 families, and 5 species were recorded at D01. A total of 2 order, 5 families, and 5 species were recorded at D07.	—
Fishery Economy	Miaoli County	The Fisheries Agency, MOA plans to announce the Fisheries Statistical Yearbook for the previous year at the end of each year. The analysis results will be presented in the fourth quarter monitoring report.	
Terrestrial Ecology	Planned important wetland in Zhunan	1. Plantation: 95 families, 251 genera, and 345 species were recorded. 2 rare species were recorded, including Formosan Medinilla and Taiwan Incense Cedar. Both are artificially cultivated. 2. Mammal: 4 families, 8 species, and 7 individuals of mammals were recorded. 1 order, 1 family, and 3 species of bats were recorded. No protected species were recorded. 3. Amphibian: 4 families, 4 species and 17 individuals were recorded. No protected species were recorded. 4. Reptile: 4 families, 7 species, and 22 individuals	—

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		<p>were recorded. No protected species were recorded.</p> <p>5. Butterfly: 5 families, 12 subfamilies, 18 species and 88 individuals were recorded. No protected species were recorded.</p> <p>6. Bird: 26 families, 47 species, and 396 individuals were recorded. 1 protected species, including <b>Brown Shrike (III)</b> was recorded.</p>	
Aquatic Ecology	Planned important wetland in Zhunan	<p>1. Plantation: 15 families, 19 genera, and 21 species were recorded. 2 rare species were recorded, including <b>Common Myoporum</b> and <b>Kandelia</b>.</p> <p>2. Fish: 6 families, 7 species, and 116 individuals were recorded. No protected species were recorded.</p> <p>3. Crabs and Shrimps: 6 families, 9 species, and 142 individuals were recorded. No protected species were recorded.</p> <p>4. Conch: 4 families, 4 species, and 161 individuals were recorded. No protected species were recorded.</p> <p>5. Aquatic Insects (including Odonata): for Odonata, 3 families, 9 species, and 39 individuals were recorded; for aquatic insects, 3 orders, 5 families, and 199 individuals/m<sup>2</sup> were recorded. No protected species were recorded.</p>	—

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Groundwater Quality	1. Substation 2. Planned Important Wetland in Zhunan	1. Substation: The survey results of this quarter are still being analyzed and will be presented in full in the second quarter monitoring report. 2. Planned Important Wetland in Zhunan: pH value is 7.9; BOD is 39.6 mg/L; COD is 175 mg/L, SS is 66.5 mg/L, ammonia nitrogen is 1.19 mg/L, ADMI is 81, fat is 16.2 mg/L, water temperature is 24.7 °C, NO <sub>3</sub> -N is 0.02 mg/L, TP is 6.84 mg/L, Dissolved Oxygen is 4.81 mg/L. Except for BOD exceeding the class IV water body quality standard and the water quality standards for irrigation, all other monitoring items meet the class IV water body quality standard.	BOD value measured in EIA and DA phases are also higher than class IV water body quality standard (referring to Protection Project of National Important Wetlands: <a href="https://wetland-tw.tcd.gov.tw/">https://wetland-tw.tcd.gov.tw/</a> ). It is inferred that the value is affected by organic pollutants in water from agriculture, water cultural, household and industry discharged into the wetland, which belongs to background value and is not caused by the construction of the Project. Monitoring will be continued to clarify the changes.
Electromagnetic Field	1. Substation 2. Residential Area near Kaiyuan Road	1. Substation: (1) Magnetic Field: 0.72 (mG) (2) Electric Field: 1.83 (V/m) 2. Residential Area near Kaiyuan Road: (1) Magnetic Field: 8.56 (mG) (2) Electric Field: 9.48 (V/m)	—