

Environmental Monitoring Report of Formosa II

Operation Phase (October to December 2023)

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"> Species Composition: 4 orders, 5 families, and 8 species. Protected Species: Osprey (II) and Little Tern (II). Flying Altitude: All of recordings were below 20m. 	—
	Coastal Birds	<ol style="list-style-type: none"> Xihu National Wetland Periphery Coast 	<ol style="list-style-type: none"> Species Composition: A total of 8 orders, 16 families, 49 species and 5,216 individuals were recorded. Protected Species: 8 protected species were recorded, including Little Tern (II), Chinese Egret (II), Osprey (II), Black-Winged Kite (II), Serpent Eagle (II), Crested Myna (II), Brown Shrike (III), and Chestnut Munia (III). 	—
	Analysis of Tern Migration Routes	Weather Radar Observation Data Analysis	<p>Based on Nantun Weather Radar observation, around 3,000 birds passed through the wind farm in August 2023 with the peak occurring on August 20, mainly consisting of Common Terns migrating across the island. In September, approximately 10,000 birds passed through the wind farm with the peak on September 18, marked by a significant presence of Common Terns and Little Terns, along with an increasing number of Whiskered Terns. In October, about 5,000 birds passed through the wind farm, with the peak occurring on October 20, indicating the tail end of the southward migration of Terns.</p>	—
Cetacean Sighting		Wind farm and its Periphery	<p>A total of 3 offshore surveys were conducted this quarter, with no cetacean sightings recorded. Throughout the year, a total of 30 offshore surveys were conducted. The total survey time for this</p>	—

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		quarter was approximately 22.1 hours, with the line-transect survey time of about 13.7 hours. The total survey distance was approximately 277.8 km, with the line-transect survey distance of about 216.2 km.	
Fishery	3 Survey Lines in Wind Farm Area	<ol style="list-style-type: none"> 1. Fish: 12 families, 14 species, and 42 individuals. Spotted Catfish takes the majority. 2. Fish egg: 8 families, 8 genera, and 1,736 eggs. Yellowfin Seabream was the dominant species. 3. Fish larva: 6 families, 7 genera, and 26 individuals. Saddle Grunt and Silver Sillago were the most dominant species. 	—
Underwater Noise (including Cetacean Acoustic Survey)	5 stations within wind farm area	<ol style="list-style-type: none"> 1. Whistles: No cetacean whistles were detected. 2. Clicks: No cetacean clicks were detected. 	—
Marine and Intertidal Ecology	10 stations within wind farm area and in the vicinity of submarine cable	<ol style="list-style-type: none"> 1. Marine ecology: phytoplankton: 5 phylum, 97 genus, 187 species; Chlorophyll A is between 0.84-5.31 µg/L, Zooplankton: 12 phylum, 29 genre; Benthic organism: 12 orders, 17 families, 26 species. 2. Intertidal ecology: Benthic organism: 6 orders, 9 families, and 10 species 	—
Underwater Photography	Same two wind turbine locations (D01 & D07) as in the pre-construction survey	<p>A total of 2 order, 8 families, and 8 species were recorded at D01.</p> <p>A total of 2 order, 5 families, and 6 species were recorded at D07.</p>	—
Terrestrial Ecology	Planned important wetland in Zhunan	<ol style="list-style-type: none"> 1. Plantation: 88 families, 232 genera, and 322 species were recorded. 1 rare species were recorded, including Taiwan Incense Cedar. All are artificially cultivated. 2. Mammal: 5 families, 10 species, and 9 individuals of mammals were recorded. 1 order, 2 families, and 6 species of bats were recorded. No 	—

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		<p>protected species were recorded.</p> <p>3. Amphibian: 5 families, 5 species and 28 individuals were recorded. No protected species were recorded.</p> <p>4. Reptile: 5 families, 8 species, and 33 individuals were recorded. No protected species were recorded.</p> <p>5. Butterfly: 5 families, 10 subfamilies, 22 species and 97 individuals were recorded. No protected species were recorded.</p> <p>6. Bird: 22 families, 39 species, and 316 individuals were recorded. 2 protected species, including Black-Winged Kite (II) and Brown Shrike (III) were 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 Myoporum and Kandelia.</p> <p>2. Fish: 6 families, 7 species, and 195 individuals were recorded. No protected species were recorded.</p> <p>3. Crabs and Shrimps: 6 families, 9 species and 175 individuals were recorded. No protected species were recorded.</p> <p>4. Conch: 4 families, 4 species and 192 individuals were recorded. No protected species were recorded.</p> <p>5. Aquatic insects (including Odonata): for Odonata, 3 families, 10 species, and 83 individuals were recorded; for aquatic insects, 3 orders, 6 families, and 261 individuals/m² 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 pH value is 7.9; BOD is 8.4 mg/L; COD is 33.3 mg/L; SS is 52.5 mg/L; ammonia nitrogen is 0.2 mg/L; ADMI is 44; fat is 35.4 mg/L; water temperature is 25.2°C; NO3-N is 43.8; TP is 6.27 mg/L; dissolved oxygen is 5.65 mg/L. 2. Planned Important Wetland in Zhunan: pH value is 7.7; BOD is 34 mg/L; COD is 116 mg/L, SS is 58 mg/L, ammonia nitrogen is 0.01 mg/L, ADMI is 35, fat is 3.9 mg/L, water temperature is 24°C, NO3-N is 1.7, TP is 0.07 mg/L, dissolved oxygen is 5.3 mg/L. Except BOD, all other monitoring items comply to 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: https://wetland-tw.tcd.gov.tw/). 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: 10.02 (mG) (2). Electric Field: 1.769 (V/m) 2. Residential Area near Kaiyuan Road: (1). Magnetic Field: 10.01(mG) (2). Electric Field: 9.87 (V/m)	—