Formosa II Offshore Wind Farm Environmental Monitoring Report of the Operation Phase (January to March 2026)

Summary Table of Environmental Monitoring Results and Improvement Measures

Monitoring Item		Monitoring Site	Monitoring Result Summary	Measures & Effects
Bird Ecology	Offshore Birds	Wind Farm and its Periphery	1. Species Composition: 1 orders, 1 families, and 1 species. 2. Protected Species: No endemic or protected species were recorded this season. 3. Flying Altitude: Below 30 meters accounted for 100.00%.	—
	Coastal Birds	1. Xihu National Wetland 2. Periphery Coast	1. Species Composition: A total of 9 orders, 18 families, 44 species, and 8,610 individuals were recorded. 2. Protected Species: A total of 7 protected bird species were recorded, including Greater painted-snipe (II), Osprey (II), Black-winged kite (II), Crested serpent eagle (II), Crested Goshawk (II), Taiwan Hwamei (II), and Brown shrike (III).	—
	Analysis of Tern Migration Routes	Weather Radar Observation Data Analysis	The migratory routes of terns from May to October are analyzed annually, and the results will be presented in the Q3 and Q4 monitoring reports.	—
	Long-term Bird Monitoring System	Wind Farm Area	1. Vertical Radar The F2 Wind Farm experiences peak bird migration during the spring and autumn seasons. In particular, bird traffic in April and November 2025 was significantly higher than in other months. During the spring migration, large numbers of birds were observed in	

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			the early evening hours (19:00–22:00), while in the autumn migration, peak activity occurred around midnight (23:00–01:00). The flight altitudes of birds were distributed as follows: 1.42% flew below the rotor-swept zone (below 30 meters), 21.16% within the rotor-swept zone (30–197 meters), and 77.42% above the rotor-swept zone (above 197 meters). The average flight altitude was 848.57 meters, indicating that most birds crossed the sea at heights above the wind turbine level. 2. Horizontal Radar In spring 2025, the primary flight directions were toward the north and northeast. During late summer, autumn, and winter, most flight directions were toward the south and southeast. 3. Surveillance Cameras and Acoustic Microphone Data collection and analytical verification for the monitoring cameras and acoustic microphones are currently ongoing. The results will be presented in the monitoring report once the analysis is complete.	
Cetacean Sighting		Wind Farm and its Periphery	During this season (January to March 2026), a total of 3 offshore surveys were conducted. 2 pods of bottlenose dolphins was spotted on February 10.	—
Fishery Resource		3 Survey Lines in Wind Farm Area	1. Fish: 15 families, 17 species, and 34 individuals, with Spotted catfish being the majority. No protected species were recorded during the survey. 2. Fish Egg: 7 families, 8 genera, and 124 eggs, with Japanese scad being the	—

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		dominant species. No protected species were recorded during the survey. 3. Fish Larva: 8 families, 8 genera, and 12 individuals, with Bensasi goatfish, Lanternfish, and Silver sillago being the dominant species. No protected species were recorded during the survey.	
Underwater Noise (including Cetacean Acoustic Survey)	5 stations within the wind farm area	1. Whistles: The highest whistle count was recorded at HM-1 (10,284), followed by HM-4 (6,725). HM-2 is excluded from the discussion as it was a 24-hour supplementary monitoring session. 2. Clicks: The highest click count was recorded at HM-1 (10,499), followed by HM-5 (6,469). HM-2 is excluded from the discussion as it was a 24-hour supplementary monitoring session.	—
Marine and Intertidal Ecology	10 stations within the wind farm area	1. Marine Ecology: (1) Phytoplankton: A total of 117 species from 55 genera and 4 phyla were recorded this season. The Shannon–Wiener diversity index ranged from 1.19 to 2.96, and the evenness index ranged from 0.37 to 0.86. The dominant species was *Thalassiosira gravida* with the highest relative abundance (15.62%), followed by *Thalassionema frauenfeldii* (6.56%) and *Trichodesmium erythraeum*. (6.42%). Chlorophyll-a concentrations ranged from 0.73 to 1.68 μg/L, and primary productivity ranged from 44.93 to	—

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		130.13 μg C/L/day. (2) Zooplankton: A total of 34 taxa from 11 phyla were recorded this season. The Shannon–Wiener diversity index ranged from 1.40 to 2.29, and the evenness index ranged from 0.48 to 0.77. The dominant species was Calanoid copepod with the highest relative abundance (44.96%), followed by Cyclops larvae (18.72%) and Lucifer shrimps (6.68%). (3) Benthic Organisms**:** A total of 22 species from 20 families and 16 orders were recorded this season. The Shannon–Wiener diversity index ranged from 1.03 to 1.66, and the evenness index ranged from 0.93 to 0.99. The dominant species was Sea Anemone with the highest relative abundance (12.08%), followed by Spionid worms (10.07%) and *Eucrassatella nana* (9.40%). 2. Intertidal Ecology: A total of 7 orders, 10 families, and 10 species were recorded this season. The Shannon–Wiener diversity index ranged from 1.49 to 1.98, and the evenness index ranged from 0.83 to 0.95. The dominant species was Sand-bubbler crab with the highest relative abundance (36.22%), followed by Striped barnacle (16.84%) and Horn-eyed Ghost Crab (14.29%).	
Underwater Photography	Same two wind turbine locations (D01 & D07) as in the pre-construction survey	A total of 10 species from 9 families and 2 order were recorded this season. At station D01, 6 species from 6 families and 1 order	—

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		were recorded. At station D07, 9 species from 8 families and 2 order were recorded.	
Fishery Economy	Miaoli County	The Fisheries Agency of the Ministry of Agriculture plans to announce the annual fisheries statistics report 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: A total of 303 species from 241 genera and 84 families were recorded. Among them, 1 species is Podocarpus costalis (CR), 1 species is Garcinia subelliptica (EN), and 4 species are Calocedrus formosana (VU), Crossostephium chinense (VU), Diospyros blancoi (VU), and Barringtonia racemosa (VU), all of which were artificially planted. 2. Mammal: 2 species from 2 families and 5 individuals were recorded. All bats (1 families, 3 species, 8 individuals). No protected species were recorded. 3. Amphibian: A total of 5 species from 5 families and 10 individuals were recorded, with no protected species were recorded. 4. Reptiles: A total of 1 species from 1 families and 5 individuals were recorded, with no protected species were recorded. 5. Butterfly: A total of 25 species from 11 subfamilies and 5 families were recorded, totaling 207 individuals, with no protected species were recorded. 6. Bird: A total of 32 species from 21 families and 367 individuals were recorded, including 2 protected species:	—

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		Osprey (II), and Black-winged Kite (II).	
Aquatic Ecology	Planned important wetland in Zhunan	1. Plantation: A total of 18 species from 14 genera and 11 families were recorded, with no rare plants observed. 2. Fish: A total of 12 species from 8 families and 404 individuals were recorded, with no protected species observed. 3. Crabs and Shrimps: A total of 11 species from 5 families and 99 individuals were recorded, with no protected species observed. 4. Conch: A total of 5 species from 5 families and 157 individuals were recorded, with no protected species observed. 5. Aquatic Insects: A total of 6 species from 5 families and 2 order were recorded, totaling 54 individuals. 6. Odonata: A total of 5 species from 4 subfamilies and 2 families were recorded, totaling 22 individuals, with no protected species observed.	—
Groundwater Quality	1. Substation 2. Planned Important Wetland in Zhunan	1. Substation: The water quality parameters were as follows: pH 7.7, BOD 1.4 mg/L, COD 4.8 mg/L, SS 5.8 g/L, ammonia nitrogen 0.04 mg/L, true color N.D., oil and grease 5.3 mg/L, water temperature 15.6 °C, nitrate nitrogen 0.46 mg/L, total phosphorus 0.086 mg/L, and dissolved oxygen 5.1 mg/L. 2. Planned Important Wetland in Zhunan: The water quality parameters were as follows: pH 8.3, BOD 49.8 mg/L, COD 181 mg/L, SS 88 g/L, ammonia nitrogen	BOD values measured during the EIA phase, the environmental variation (DA) phase, and the construction phase also exceeded the Class IV water quality standard (referring to the Protection Project of National Important Wetlands: https://wetland-tw.tcd.gov.tw/). This

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		0.03 mg/L, true color 39, oil and grease 3.0 mg/L, water temperature 15.4 °C, nitrate nitrogen 0.03 mg/L, total phosphorus 0.367 mg/L, and dissolved oxygen 7.6 mg/L. Except for BOD, which exceeded the Class IV water quality standard, all other parameters met the Class IV water quality standard.	is attributed to the accumulation of organic pollutants in the wetland caused by intensive agricultural use of chemical fertilizers, as well as discharges from industrial, aquaculture, and domestic wastewater. These elevated BOD values reflect the wetland's environmental background conditions and are not caused by the Project's construction activities. Monitoring will continue to track any changes.
Electromagnetic Field	1. Substation 2. Residential Area near Kaiyuan Road	1. Substation: (1) Magnetic Field: 15.00 mG (2) Electric Field: 10.00 V/m 2. Residential Area near Kaiyuan Road: (1) Magnetic Field: 6.10 mG (1) Electric Field: 7.00 V/m	—