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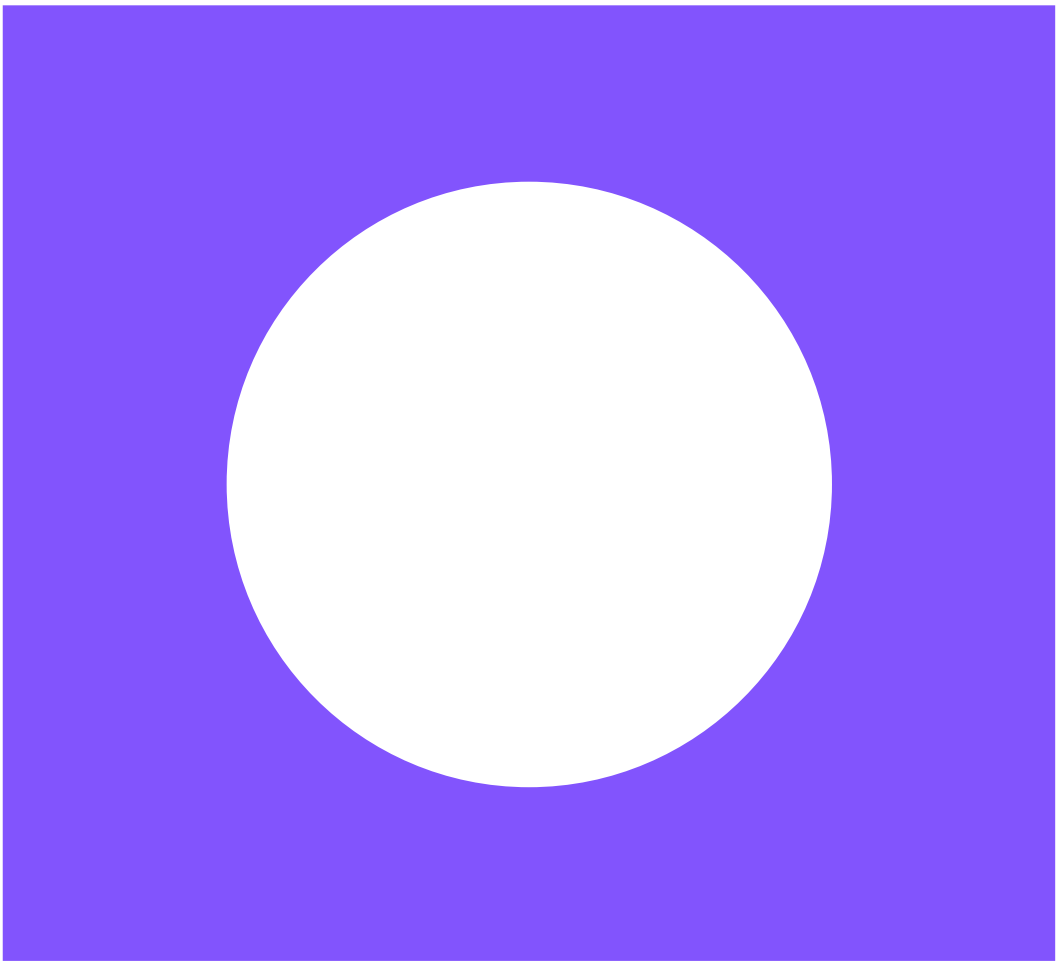

Formosa 4 Offshore Wind Farm in Taiwan

Critical Habitat Assessment

September 2025

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Mott MacDonald
5F, No.92 Sec 2
Dunhua S. Road
Da'an District
Taipei City 10668
Taiwan

T +886 (0)2 8978 8978
mottmac.com

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Critical Habitat Assessment

September 2025

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	17 January 2025	S Toh SC See	J Tham	B Lim	Draft CHA report submission to Client
B	5 February 2025	S Toh SC See	J Tham	B Lim	Revised draft CHA report submission to Client
C	28 March 2025	S Toh SC See	J Tham	B Lim	Final CHA report addressing LESA comments
D	17 April 2025	S Toh SC See	J Tham	B Lim	Revised Final CHA report
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Executive summary

Formosa 4 International Investment Co., Ltd. and its subsidiary Formosa 4 Wind Power Co., Ltd. (herein referred to as “Project Company” or “Formosa 4”) is proposing to develop an offshore windfarm (OWF) in Taiwan (herein referred to as the “Project”). The Project is located approximately 20km offshore from the coast of Miaoli County, Taiwan.

As part of the transaction process undertaken for obtaining project financing from an Equator Principle Financial Institute (EPFI), the Project potentially needs Equator Principles (EP) compliance. Therefore, Mott MacDonald have been commissioned by Formosa 4 to undertake the Critical Habitat Assessment (CHA), alongside other environmental and social services.

This report presents a CHA which has been undertaken to determine whether the Project footprint and its relevant ecological appropriate area of analysis (EAAAs) is located in ‘critical habitat’ as defined by IFC PS6 with elaborations provided in the corresponding guidance note, IFC Guidance Note (GN) 6, updated as of 27 June 2019. The EAAAs established for this CHA are delineated based on the habitats of relevant species/groups.

Integrated Biodiversity Assessment Tool (IBAT) was applied to obtain potential biodiversity-related features (ie species, protected areas and Key Biodiversity Areas) in the EAAAs. Project documentation including the approved environmental impact assessment (EIA) of this Project was reviewed as part of this CHA. Various international and national checklists (eg IUCN Red List of Threatened Species, Taiwan protected species lists (保育類野生動物名錄)), Important Bird Areas in Taiwan and Map of Taiwan’s Wetlands as well as research papers were also reviewed to inform the critical habitat determination process.

The CHA determined that the critical habitat features as relevant to the Project are:

- Marine flora and fauna:
  - Taiwanese humpback dolphin (*Sousa chinensis ssp. Taiwanensis*)
  - Taiwanese Wedgefish (*Rhynchobatus immaculatus*)
  - Brown Guitarfish (*Rhinobatos schlegelii*)
  - Ringed Guitarfish (*Rhinobatos hynnicephalus*)
  - Taiwan Picnic Seabream (*Acanthopagrus taiwanensis*)
  - *Bothus assimilis*
- Migratory birds (including seabirds at sea):
  - Black-faced spoonbill (*Platalea minor*)
  - Oriental stork (*Ciconia boyciana*)
  - Chinese crested tern (*Thalasseus bernsteini*)
  - Baer's Pochard (*Aythya baeri)*
  - Kentish Plover (*Charadrius alexandrinus*)
- EAAA for marine fauna and flora - coral reef ecosystems

The Project’s offshore and onshore impacts during construction and operation phases, as described in the Project EIA, were assessed against the critical habitat features. Mitigation measures proposed in the Project EIA and EIA addendum were also evaluated against the critical habitat features to determine if adequate measures are established to prevent adverse

impacts to the critical habitat features and prevent a net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species.

The proposed mitigation measures contained within the Project EIA would be implemented to prevent significant impacts to the biodiversity values for which critical habitat has been designated and the supporting habitat, as well as prevention of a net reduction in the global, national and/or regional population of any Critically Endangered or Endangered species. Given that there are critical habitat species identified, a biodiversity action plan (BAP) containing additional recommendations and further details on the actions required to achieve net gains for critical habitats and species is developed for the Project.

1 Introduction

1.1 Overview

Formosa 4 International Investment Co., Ltd. and its subsidiary Formosa 4 Wind Power Co., Ltd. (herein referred to as “Project Company” or “Formosa 4”) is proposing to develop an offshore windfarm (OWF) in Taiwan (herein referred to as the “Project”). The Project is located approximately 20km offshore from the coast of Miaoli County, Taiwan.

The Project participated in the Energy Administration[1], Ministry of Economic Affair (EA, MoEA)’s Third Round of Offshore Wind Project Development (herein referred to as “Round 3.1”) and has been awarded a grid allocation for the Project of up to 495MW with the grid connection latest by end of 2027. MOEA announced the availability of one year extension to the grid connection milestone for R3.1 project to apply in the form of an official letter to Taiwan Offshore Wind Industry Association in April 2024. The projects expect to be granted the extension as per application to MOEA.

As part of the Project’s financing approach, the Project may be required to demonstrate adherence to the Equator Principles (EP). Therefore, Mott MacDonald have been commissioned by Formosa 4 to undertake a Critical Habitat Assessment (CHA), alongside other environmental and social (E&S) services.

1.2 Aims and objectives

Taiwan is a highly biodiverse country, and as such there is a high probability that some of the species and ecosystems present in the Project area and its EAAAs here will trigger Critical Habitat, hence the need for this CHA. The Project is located approximately 14km from the nationally protected and internationally recognised Gaomei Important Wetlands, which is an internationally recognised Important Bird and Biodiversity Area (IBA) as well as a Key Biodiversity Area (KBA). In addition, the local EIA has identified a number of habitats and species that could trigger Critical Habitat in the relevant ecologically appropriate areas of analysis (EAAAs). This includes globally threatened, restricted range, and migratory species.

The outlined CHA process is defined in IFC PS6 (IFC, 2012) and IFC Guidance Note 6 (GN6) (IFC, 2012). The aim of the CHA is to:

- Determine whether the Project is located in critical habitat
- Assess whether the Project is likely to lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated and on the ecological processes supporting those biodiversity values
- Assess whether the Project is likely to lead to a net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time

The aims of the CHA are achieved by completing the following objectives:

- Defining one or several ecological appropriate areas of analysis (EAAAs) relevant to the biodiversity values regularly occurring the Project footprint and the ecological processes supporting them as identified in the baseline data and published literature

[1] Formerly known as Bureau of Energy (能源局); renamed the Energy Administration in 26 September 2023.

- Undertaking a comparative analysis of the biodiversity values against the critical habitat criteria and thresholds of IFC PS6
- Undertaking a preliminary assessment of the likely impacts of the Project on the critical habitat values
- Reviewing the magnitude, temporal scale and significance of the Projects impacts on the biodiversity values for which critical habitat is designated, identifying those impacts that are likely to result in a measurable adverse impact and a net reduction in the population
- Defining the mitigation strategy for the critical habitat values

The definition of critical habitat and the assessment principles used in this CHA are set out in the following guidance documents:

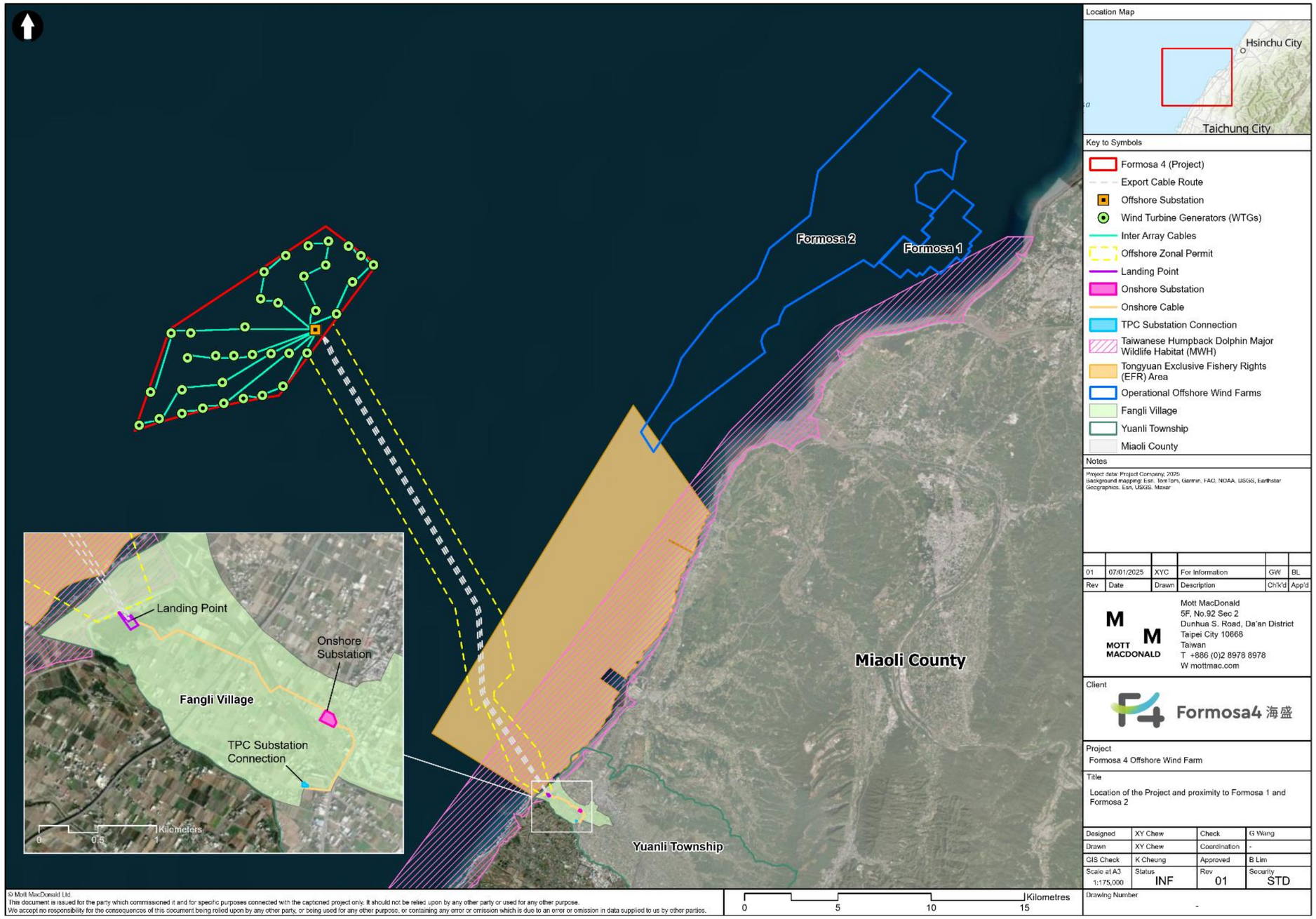
- IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources (IFC, 2012).
- IFC Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources (IFC, 2019).

The CHA is based upon information received from the client and publicly available data sources (detailed in Section 2.3.2).

1.3 Project background

The Project's offshore windfarm area will be approximately 58km^2 in size and located approximately 20km offshore from Tongxiao Township (通霄鎮), Miaoli County, on the western coast of Taiwan (see Figure 1.1). The Project is located further offshore of the neighbouring Formosa 1 and Formosa 2 windfarms. The Project's location is illustrated in Figure 1.1 and Figure 1.2.

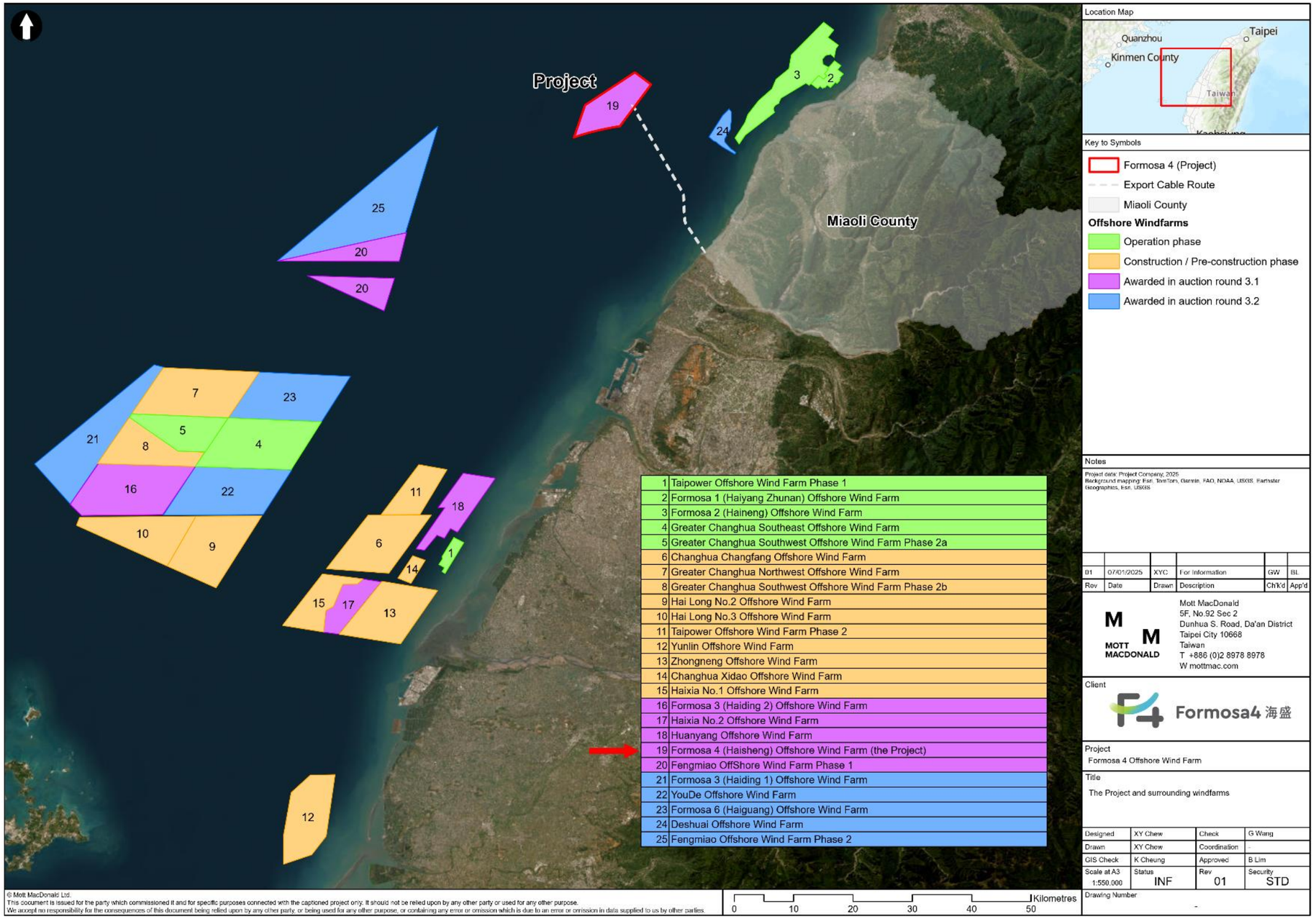
Figure 1.1: Location of the Project and proximity to Formosa 1 and Formosa 2



Source: Mott MacDonald, 2025

Note: This is subjected to change based on the detailed design phase

Figure 1.2: Proximity of the Project and surrounding windfarms



Source: Mott MacDonald, 2025

The Project received approval from MoEA on 30 December 2022 for up to 495MW of installed capacity. It is planned to consist of 35 wind turbine generators (WTGs), each of 14.142MW capacity. The total installed capacity will be 495MW. The WTGs will be located at water depths approximately 56m to 72m below mean sea water level (MSWL). The Project has two export cable strings and one planned landing point at Fangli village, which is to connect to Project dedicated onshore substation (OnSS) then to Taiwan Power Company (TPC) OnSS. The operation period is planned for 20 years, based on the asset life.

The Project had successfully obtained regulatory approval for its final environmental impact statement (EIS, 環境影響說明書) and environmental deviation report (EDR) from Ministry of Environment (MoEnv) on 11 August 2023 and 22 July 2024, respectively.

1.4 Project components

The details of each project components are presented in Table 1.1 below:

Table 1.1: Summary of the Project's components and schedule

Aspect	Project
Project components	
Windfarm capacity	495MW
Windfarm area	58km^2
Number of WTGs (and capacity)	35 WTGs (14.142 MW each)
Offshore substation (OSS)	One (1) planned OSS
Onshore substation (OnSS)	One (1) planned OnSS in Fangli Village, Yuanli Township
Transmission	66kV / 161kV / 230kV
Inter-array cables (IAC)	Eight (8) 66kV IAC strings
Export cables	Two (2) 230kV export cable strings with approximate length of 27km to the landing point, sharing the same cable alignment route. Cable landing point is located at Fangli Village, Yuanli Township.
Transmission line (onshore)	One (1) 161kV transmission cable with approximate length of 4km from OnSS to grid connection point
Grid connection point	Fangli (TPC), located in Yuanli Township, Miaoli County
Construction commencement	Onshore: Q2 2025 (targeted) Offshore: Q2 2026 (targeted)
Construction completion	Onshore: Q4 2027 (targeted) Offshore: Q4 2028 (targeted)
Commercial operation date (COD)	Targeting Q2 2029

Source: Project Company and Mott MacDonald, 2025

1.5 Implementation schedule

The key milestones for the Project's implementation are summarised in Table 1.2 below. The onshore construction is expected to commence in 2025, while the Commercial Operation Date (COD) is targeted for Q2 2029.

Table 1.2: Project implementation schedule

Project milestone	2025				2026				2027				2028			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Onshore construction																
Offshore construction																
COD	Targeting Q2 2029															

Source: Project Company and Mott MacDonald, 2025

1.6 Document structure

The CHA is structured as follows:

- Section 1 (ie this section) outlines the aims and objectives of the CHA and Project.
- Section 2 of this document describes the methodology for undertaking this CHA, including the definition of the EAAA, the collection of baseline data through desktop study, field surveys, and consultation with experts.
- Section 3 presents a summary of the biodiversity baseline, including internationally recognised and legally protected areas, natural/modified habitats, and flora and fauna species of conservation importance.
- Section 4 presents the actual assessment of Critical Habitat against the criteria and thresholds in IFC PS6 and GN6.
- Section 5 provides a high-level assessment of the likely project impacts on the features that meet Critical Habitat thresholds.
- Section 6 provides a high-level assessment of ecosystem services present which are likely affected by the Project.
- Section 7 includes a series of recommendations for mitigation and further studies.

2 Approach and methodology

2.1 IFC critical habitat definition and assessment overview

This CHA follows the methodology in IFC GN6 of June 2019 (IFC, 2019). Critical habitat is defined in Paragraph 16 of IFC Performance Standard 6 (PS6) (IFC, 2012) and Note 53 of IFC GN6 (IFC, 2019) as an area of high biodiversity value that includes at least one or more of the five values specified in Paragraph 16 of PS6 and/or other recognised high biodiversity values. These values are referred to as critical habitat criteria and include:

- Criterion 1 (C1): Habitat of significant importance to Critically Endangered (CR) and/or Endangered (EN) species
- Criterion 2 (C2): Habitat of significant importance to endemic and/or restricted range species
- Criterion 3 (C3): Habitat supporting globally significant concentrations of migratory and/or congregatory species
- Criterion 4 (C4): Highly threatened and/or unique ecosystems
- Criterion 5 (C5): Areas associated with key evolutionary processes

Criteria C1 to C3 apply to the species regularly present within the EAAA, while C4 and C5 apply to the characteristics of the EAAA. Criteria C1-C4 have defined thresholds which enable the determination of critical habitat to be made. Criteria are further explained in Section 2.2 below.

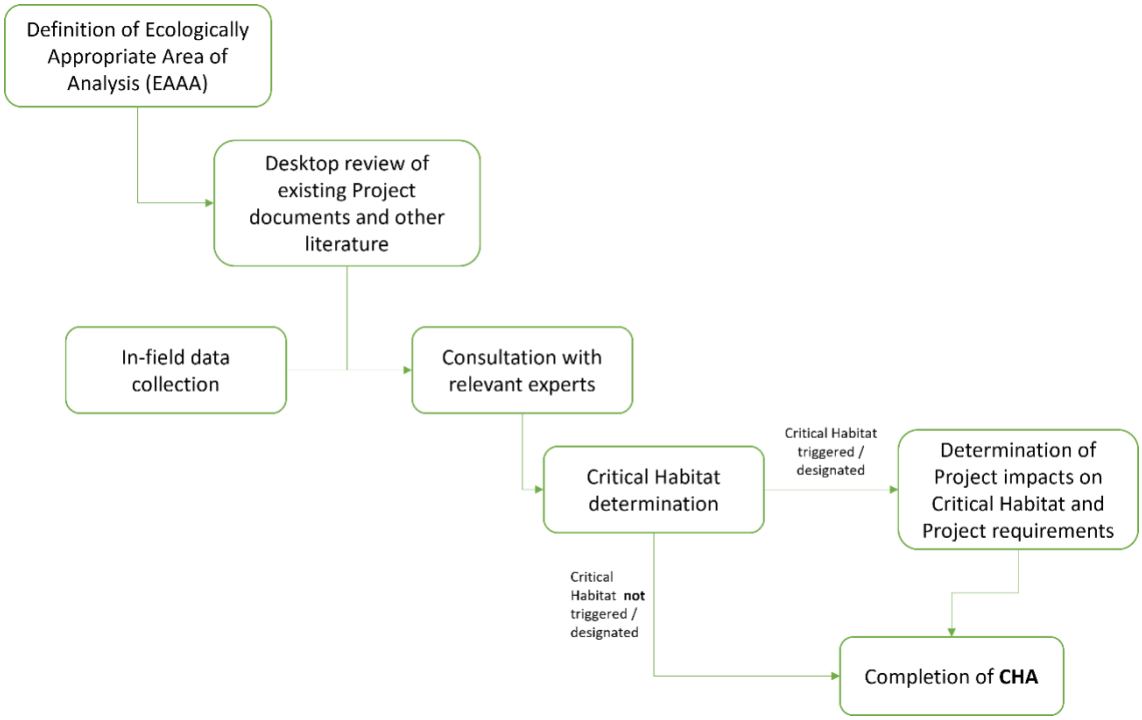
A stepwise process based on guidelines provided by IFC GN6 has been followed for this assessment (Figure 2.1). This CHA uses results from a literature review, and previous baseline biodiversity surveys to determine whether the Project is likely to be located within critical habitat.

In accordance with IFC PS6, the determination of critical habitat is based on the IUCN Red List assessment. Taiwan's National Red Lists[2] (which lists nationally protected flora and fauna species) following IUCN Red List criteria guidance (IFC, 2012) has been used for context. This will hence be referred to National Red List.

To conduct a CHA, one or several Ecologically Appropriate Area of Analysis (EAAA) (ie the geographic area which is being investigated) must be defined for species with regular occurrence in the Project's area of influence (AoI), or ecosystem, covered by Criteria C1-C4 (see IFC Guidance Note 6, Paragraph GN59). The EAAA is usually larger than the area affected by the Project directly or indirectly and should take into account the distribution of species or ecosystems and the ecological patterns, processes, features, and functions that are necessary for maintaining them. Refer to Section 2.2 for the EAAA descriptions for this project.

[2] 紅皮書名錄 - 特有生物研究保育中心 (tesri.gov.tw)

Figure 2.1: Summary of CHA Approach and Methodology



Source: Mott MacDonald, 2025, based on steps outlined in IFC (IFC, 2019) and applied to this project

This CHA contributes, alongside other relevant documentations, to achieving the Project's aim to deliver the following objectives described in paragraph 17 of IFC PS6 (ie as quoted below).

No project activities can take place in critical habitat unless it can be demonstrated that:

1. There are no viable alternatives within the region for the development of the project on modified or natural habitats that are not critical.
2. The project does not lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values.
3. The project does not lead to a net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time.
4. A robust, appropriately designed, and long-term biodiversity monitoring and evaluation program is integrated into the project's management program.

Where all of the above can be demonstrated, the project's mitigation strategy will be described in a Biodiversity Action Plan (BAP). The BAP will be designed to achieve a biodiversity net gain for those biodiversity values for which the critical habitat was designated. Where biodiversity offsets are proposed as part of the mitigation strategy, it must be assessed and demonstrated that the project's significant residual impacts on biodiversity will be adequately mitigated as discussed in detail in Section 7.

2.2 IFC PS6 critical habitat criteria

Criteria C1-C3 apply to the species regularly present within the EAAA, while Criteria C4 and C5 apply to the characteristics of the EAAA. Each criterion has defined thresholds which enable the determination of critical habitat to be made. Numerical thresholds have been defined as per IFC

GN6 for the first four critical habitat criteria. The quantitative thresholds for triggering Critical Habitat for criteria C1-C4 are described in Table 2.1.

In accordance with IFC PS6 paragraph 16, footnote 11, the determination of critical habitat will be based on the National Red List assessment for the species listed as critically endangered or endangered in the country. Where no national Red List assessment following IUCN criteria is published, the determination of critical habitat will be based on IUCN Red List assessment.

Table 2.1: Quantitative Thresholds for Critical Habitat for Criteria 1, 2, 3 and 4

Criteria		Quantitative thresholds	
1.	Critically Endangered (CR) / Endangered (EN) Species	a.	Areas that support globally important concentrations of an IUCN Red-listed EN or CR species (⩾0.5% of the global population AND ⩾5 reproductive units[3] of a CR or EN species).
		b.	Areas that support globally important concentrations of an IUCN Red-listed Vulnerable (VU) species, the loss of which would result in the change of the IUCN Red List status to EN or CR and meet the thresholds in GN72(a).
		c.	As appropriate, areas containing important concentrations of a nationally or regionally listed EN or CR species.
2.	Endemic/Restricted Range Species[4]	a.	Areas that regularly hold ⩾10% of the global population size AND ⩾ 10 reproductive units of a species
3.	Migratory / Congregatory Species	a.	Areas known to sustain, on a cyclical or otherwise regular basis, ⩾ 1% of the global population of a migratory or congregatory species at any point of the species' lifecycle.
		b.	Areas that predictably support ⩾10% of the global population of a species during periods of environmental stress.
4.	Highly Threatened / Unique Ecosystems	a.	Areas representing ⩾5% of the global extent of an ecosystem type meeting the criteria for IUCN status of CR or EN.
		b.	Other areas not yet assessed by the IUCN but determined to be of high priority for conservation by regional or national systematic conservation planning.

Source: IFC, 2019

2.3 Critical habitat assessment methodology

The method of determining 'critical habitat' within this CHA is based upon the approach described in IFC PS6 (IFC, 2012) and IFC GN6 (IFC, 2019). The steps undertaken are as follows:

- Define an EAAA based on the distribution of species or ecosystems, and the ecological processes necessary for maintaining them (refer to Section 3 for details)
- Review and summarise the published data including Project specific biodiversity survey results, public literature, international data and modelling tools such as the Integrated Biodiversity Assessment Tool (IBAT) to establish the biodiversity values with regular occurrence within the EAAA (refer to Section 3 for details)
- Assess the biodiversity values within the EAAA against the 'critical habitat criteria' as defined in IFC GN6) to identify 'critical habitat' (refer to Section 5 for details)

[3] The minimum number and combination of mature individuals necessary to trigger a successful reproductive event at a site (IFC GN6 2019)

[4] In accordance with IFC GN6 Paragraph 74, restricted range for terrestrial vertebrates and plants are defined as those species that have an EOO less than 50,000km^2. For marine systems, restricted range species are provisionally being considered those with an extent of occurrence (EOO) of less than 100,000km^2. For coastal, riverine, and other aquatic species in habitats that do not exceed 200 km width at any point (for example, rivers), restricted range is defined as having a global range of less than or equal to 500 km linear geographic

- Assess the residual Project impacts on the biodiversity values for which critical habitat is designated by considering the mitigation measures that have been proposed as part of the local EIA reports (ie refer to Section 6 for details).

2.3.1 Ecologically appropriate area of analysis

The species with regular occurrence in the project's area of influence (AoI) typically occur within relatively broad landscape and seascape units and fall into several distinct ecological groups. As per IFC GN6 (Paragraph GN59), the EAAAs have been defined taking into consideration the distribution of species or ecosystems (within and sometimes extending beyond the Project's area of influence) and the ecological patterns, processes, features, and functions that are necessary for maintaining them (IFC, 2019).

According to IFC PS6 GN59, the Project must identify species of regular occurrence within the Project's AoI as part of delineating the EAAA. The EIA report includes ecological study areas defined for conducting biodiversity baseline surveys. These study areas were established in accordance with Taiwanese environmental impact assessment guidelines, making them relevant and associated with the Project's AoI (ie even if no ecologically-specific AoI is defined for the EIA). All species that have been identified in the EIA's baseline surveys have been taken into consideration as part of the CHA to determine the species that regularly occur at the project site and its surrounding areas. The spatial distribution and/or flight paths of these regularly occurring species were studied and served as the basis of the EAAA. After which, the EAAA was further refined by considering ecological patterns, processes, features, and functions in the landscape necessary for maintaining these species.

A separate EAAA has been defined for each of the main ecological groups of species: terrestrial flora and fauna, migratory birds (including seabirds at sea), and marine flora and fauna. For this CHA, the three EAAAs are summarised below:

- **Terrestrial flora and fauna, including bats and resident terrestrial birds** (Figure 2.2):
  - The terrestrial flora and fauna EAAA is delineated based on terrestrial areas surrounding the Project's onshore components, land use of these surrounding areas, and distinct physical boundaries that would restrict the movement of non-volant terrestrial species.
    - The terrestrial flora and fauna EAAA primarily consist of modified landscapes, including agricultural fields and built-up areas in Fangli, Yuanli Township. Additionally, this region features a strategically planted windbreak forest along the western coast of Miaoli County, Taiwan, designed to mitigate wind erosion.
    - Due to the avoidance behaviours exhibited by terrestrial fauna in response to man-made roads (Jaeger, et al., 2005) , the existing Zhongshan Road will be utilised as the eastern boundary of the terrestrial flora and fauna EAAA.
    - The northern boundary of the terrestrial EAAA is defined by the Fangli stream (房裡溪) and Beifang stream (北房溪), which flows toward the coast of Miaoli County. The southern boundary is delineated by the Nanfangli (南房裡溪) stream and its network of connecting canals, namely the Xinfu canal (新復溝). These streams and canals create natural barriers that limit the movement of non-volant terrestrial species, forming a distinct ecological unit within this area.
  - As the terrestrial flora and fauna EAAA is situated within open forests, agricultural fields and built-up areas, this area is considered to be a mix of natural and modified habitat.
- **Marine flora and fauna** (Figure 2.2):
  - The marine EAAA is delineated based on the biophysical characteristics of the north-western marine waters of Taiwan, where regularly occurring species within the project site are likely to occur. It takes into account the bathymetry of north-western marine areas

of Taiwan, surface marine water temperature gradient, and the Marine Ecoregions of the World (MEOW) obtained from ArcGIS (The Nature Conservancy, 2019). The species range of threatened species off the west coast of Taiwan, potential underwater noise impacts generated during pilling and the operation phase (ie approximately 5km from the Project site) were also considered. Figure B.1 within Appendix B illustrates the key components as relevant to the abovementioned.

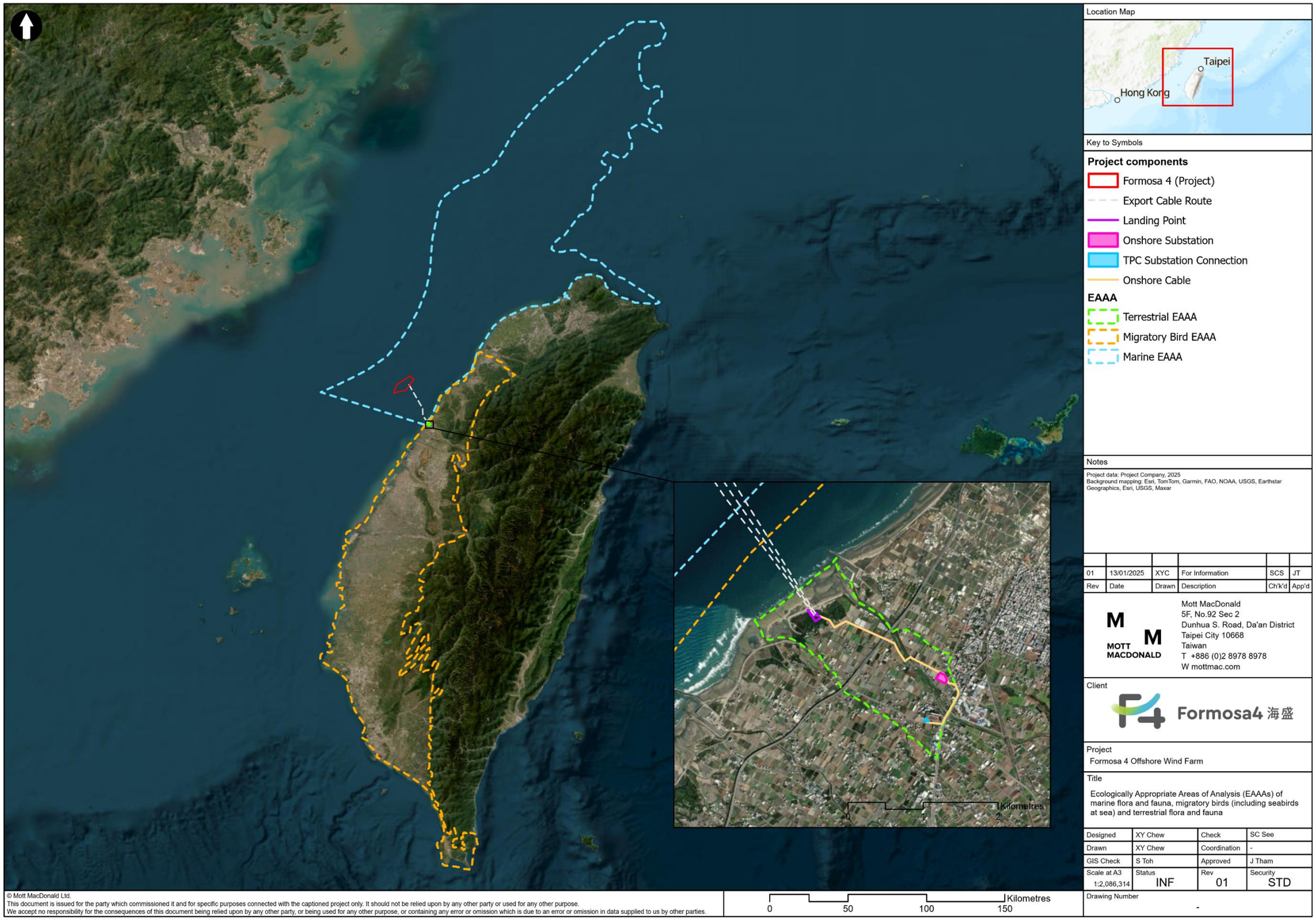
- Using data from the Marine Ecoregions of the World (MEOW) obtained from ArcGIS Hub (The Nature Conservancy, 2019), the western coast of Taiwan was divided into two parts according to the two marine ecoregions – East China Sea and South China Sea.
  - The Project's lies within the East China Sea ecoregion. The southern boundary of the marine EAAA is thus defined by the East China Sea marine ecoregion.
- The Taiwan Strait is a shallow body of water that separates Taiwan from mainland China. The bathymetry of the Taiwan Strait is characterised by its relatively shallow depth, with an average depth of about 50m.
  - The strait's seabed features a gentle slope, gradually deepening from the coastlines up to 70m in the central part of the strait. The northern part of the strait is generally shallower compared to the southern part, such bathymetric contours may form natural boundaries to species movements and abrupt limits to habitat distributions.
  - Thus, the eastern boundary of the marine EAAA is defined by the bathymetry of north-western marine areas of Taiwan at depths of 70m.
- In parallel, there are three primary water masses with different characteristics within the Taiwan Strait: Kuroshio Branch Current, Mixed China Coastal Current and South China Sea Current (Tseng, et al., 2020). The varying mixing ratios of the three primary water masses in the Taiwan Strait can lead to diverse chemical and hydrographic conditions.
  - One notable outcome of interactions between the South China Sea Current and Kuroshio Branch Current during summer, and between the China Coastal Current and Kuroshio Branch Current during winter, is a distinct sea surface temperature gradient at the northern marine waters of the Taiwan Strait (Jan et al., 2010; Belkin et al., 2023)
  - As most marine species are ectotherms whose biological processes are dependent on temperature (eg metabolic rate and photosynthesis), temperature variability presumably plays an important role across all levels of biological organisation (Hiung, et al., 2024). This temperature variation may result in a significant impact on the spatial and temporal distribution of marine fauna along the western coast of Taiwan (Chen et al., 2023).
  - Thus, the western boundary of the marine EAAA is determined by the temperature gradient of surface marine water along the northwestern coast of Taiwan.
- As the marine EAAA consists of open water habitats, this area is considered to be a natural habitat.

- **Migratory birds, including seabirds at sea** (Figure 2.2):
  - The migratory bird EAAA is delineated based on regularly occurring bird species within the project boundary and factoring the current available information relevant to their spatial distribution and likely flight paths. The topography of Taiwan was also taken into consideration, factoring in the maximum flight altitude for seabirds that will likely be impacted by the project (Hartman, et al., 2012). In addition, this EAAA includes the Important Bird Areas (IBAs) in the south-western region of Taiwan (Figure 2.3) and the corresponding areas of connectivity between the IBAs. Figure B.2 within Appendix B illustrates the key components as relevant to the abovementioned.
  - An initial comparison was done between IBAs and the EIA survey data in order to find overlaps between qualifying species of IBAs along the western coast of Taiwan and bird species identified in the EIA surveys. Further analysis also took into consideration bird

migratory route maps that were developed from observations from radar surveys in the EIA.

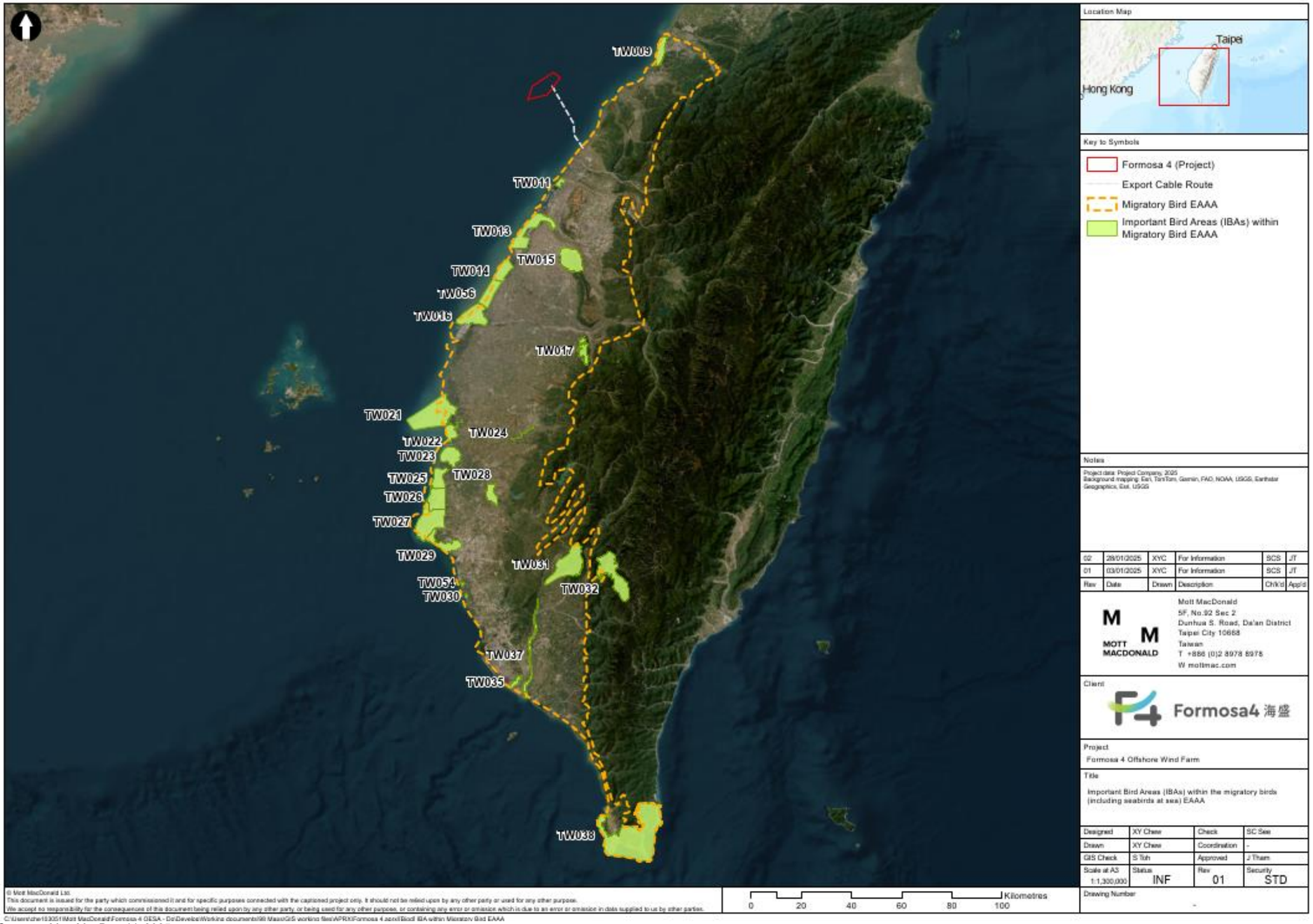
- In consideration of the analysis done above, the migratory bird EAAA was determined to include the south-western region of Taiwan.
- The IBAs within the migratory bird EAAA include the following:
  - Hsinchu City Coastal Area (TW009)
  - Gaomei Wetland, Taichung City (TW011)
  - Dadu River Estuary Wetland (TW013)
  - Hanbao Wetland, Changhua County (TW014)
  - North Section of Baguashan, Changhua County (TW015)
  - Zhuoshui River Estuary Wetland (TW016)
  - Huben, Yunlin County (TW017)
  - Aogu Wetland, Chiayi County (TW021)
  - Puzi River Estuary, Chiayi County (TW022)
  - Budai Wetland, Chiayi County (TW023)
  - Middle Section of Bazhang River, Chiayi County (TW024)
  - Beimen, Tainan City (TW025)
  - Qingkunshen, Tainan City (TW026)
  - Qigu, Tainan City (TW027)
  - Hulupi, Tainan City (TW028)
  - Sicao Wildlife Refuge, Tainan City (TW029)
  - Yong'an, Kaohsiung City (TW030)
  - Yellow Butterfly Valley, Kaohsiung City (TW031)
  - Shanping, Kaohsiung City (TW032)
  - Fengshan Reservoir, Kaoshiung City (TW035)
  - Gaoping River, Pingtung County (TW037)
  - Kenting National Park (TW038)
  - Qieding Wetland, Kaohsiung City (TW054)
  - Fangyuan Wetland, Changhua County (TW056) (prospective)
- As the migratory bird EAAA encompasses built-up areas along the inland and coastal regions of Taiwan, as well as IBAs and natural areas, this area is considered to be a mix of natural and modified habitat.

Figure 2.2: Ecologically Appropriate Areas of Analysis (EAAAs) of marine flora and fauna, migratory birds (including seabirds at sea) and terrestrial flora and fauna



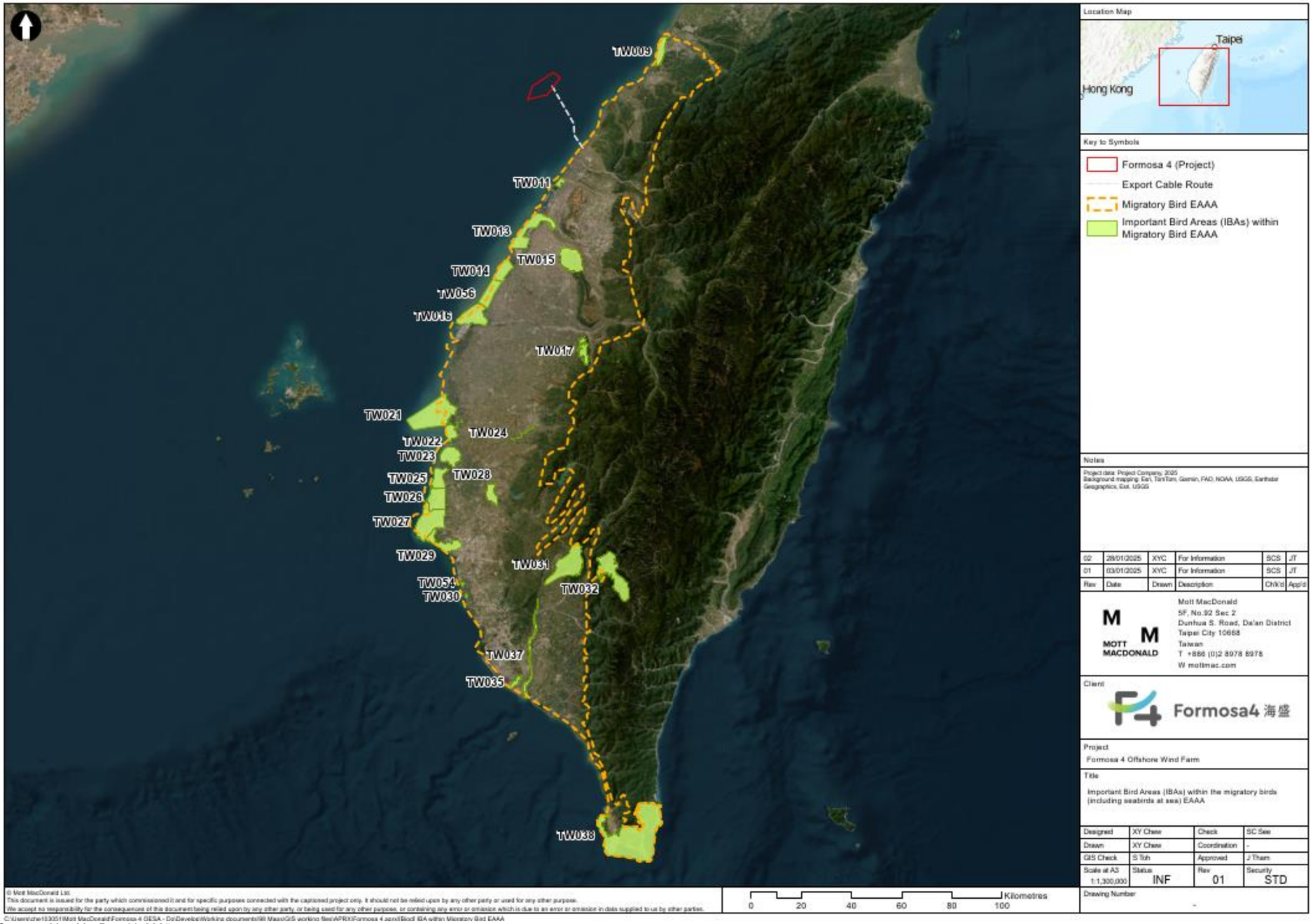
Source: Mott MacDonald, 2025

Figure 2.3: Important Bird Areas (IBAs) within the migratory birds (including seabirds at sea) EAAA



Source: Mott MacDonald, 2025

Figure 2.4: Important Bird Areas (IBAs) within the migratory birds (including seabirds at sea) EAAA



Source: Mott MacDonald, 2025

2.3.2 Data sources referenced for CHA

2.3.2.1 Overview

This CHA was undertaken with reference to the ecological baseline, consisting of the habitats and species, identified by the Project EIA as well as those in published literature.

The following sources were used to establish the baseline for this CHA:

- Miaoli Offshore Windfarm 3 environmental impact statement (EIA) and its appendices (苗栗離岸風力發電計畫三 環境影響說明書)
- Miaoli Offshore Windfarm 3 EIA addendum and its appendices (苗栗離岸風力發電計畫三 環境影響差異分析報告)
- Miaoli Offshore Windfarm 3 Taiwanese Humpback Dolphin Major Wildlife Habitat – Application for development and utilisation (苗栗離岸風力發電計畫三 中華白海豚野生動物重要棲息環境 - 開發利用申請書
- Miaoli Offshore Windfarm 3 environmental monitoring reports (苗栗離岸風力發電計畫三 環境監測報告)
  - October 2023 to December 2023
  - January 2024 to March 2024
  - April 2024 to June 2024
  - July 2024 to September 2024
  - October 2024 to December 2024

To identify critical habitat within each EAAA, a desk-based review of available information from international and national sources was undertaken. The information sources used in the assessment include those listed below.

- International and national databases
  - Integrated Biodiversity Assessment Tool (IBAT) (https://www.ibat-alliance.org/)
  - International Union for Conservation of Nature (IUCN) Red List of Threatened Species (http://www.iucnredlist.org)
  - BirdLife International Data Zone (https://datazone.birdlife.org/home)
  - Biodiversity A-Z org (https://biodiversitya-z.org)
  - Catalogue of Life in Taiwan (https://taibnet.sinica.edu.tw/home_eng.php)
  - Convention on Biological Diversity (CBD) website (https://www.cbd.int/)
  - eBird (https://ebird.org/)
  - Fishbase (https://www.fishbase.se)
  - The Amphibia Web
  - World Wildlife Foundation (WWF) Ecoregions (https://worldwildlife.org)
- Additional information on the legally protected and internationally recognised areas (existing or proposed) within the EAAA has also been collected and reviewed from online sources:
  - Important Bird and Biodiversity Areas (IBA) (http://datazone.birdlife.org/home)
  - Key Biodiversity Areas (KBA) (www.keybiodiversityareas.org/)
  - World Heritage Sites (WHS) (https://whc.unesco.org/en/list/)

  - UNESCO Biosphere Reserves (http://whc.unesco.org/en/statesparties/id)
- Published literature on various species
  - National Red Lists following IUCN Red List criteria guidance (IUCN, 2012), including Taiwan Red List of Amphibians (Yang, et al., 2024), Birds (Lin et al., 2024), Terrestrial Mammals (Zheng et al., 2024), Terrestrial Reptiles (Xu et al., 2024), Vascular Plants (IUCN, 2017) and Freshwater Fishes (Yang *et al*., 2024)
  - Taiwan protected species lists (Forestry Bureau, 2016)
  - Important Bird Areas in Taiwan (Second Edition) (Forestry Bureau COA, 2015)
  - Map of Taiwan's Wetlands (Ramsar Citizen, 2020)
  - Population Ecology and Estuary Habitat Monitoring for Chinese White Dolphin (*Sousa chinensis*) (Zhuo *et al.*, 2018)
  - Status Review Report of the Taiwanese Humpback Dolphin (*Sousa chinensis taiwanensis*) (Whittaker & Young, 2018)
  - Progress report of cetacean research and conservation in Taiwan (Chou, 2002)
  - Unsustainable human-induced injuries to the Critically Endangered Taiwanese humpback dolphins (*Sousa chinensis taiwanensis*) (Wang *et al*., 2017)
  - Evidence for year-round occurrence of the eastern Taiwan Strait Indo-Pacific humpback dolphins (Sousa chinensis) in the waters off western Taiwan (Wang & Yang, 2011)
  - Tropical and subtropical moist broadleaf forests, Southeastern Asia: Taiwan (Brooks, 2018)

2.3.2.2 Landcover and habitat mapping

Habitat types were determined for the EAAAs using information obtained from Copernicus Global Land Service (CGLS, 2019) and consolidated via ground-truthing during baseline studies carried out by SRE in 2020 for the Miaoli Offshore Windfarm 3 EIA. The EIA also provided information on the habitats found on site and plant species that were observed (see Section 2.3.2.3 for a summary of the field surveys).

2.3.2.3 Field survey methodology summary

Baseline studies were conducted between May 2020 to July 2022 as part of the approved EIA conducted for the Project. Subsequently, an EIA addendum was prepared, and supplementary baseline surveys were conducted between February 2023 to December 2023. In addition to the local EIA for this Project, environmental monitoring reports of the Project (ie Miaoli Offshore Windfarm 3) also presented additional biodiversity monitoring surveys conducted between September 2023 to May 2024.

Surveys conducted as part of the EIA included terrestrial, intertidal and marine biodiversity. The field surveys undertaken are summarised in Table 2.2. These surveys were conducted in accordance with following guidelines by the Executive Yuan, Environmental Protection Agency (EPA):

- Technical Specifications for Animal Ecological Assessment (動物生態評估技術規範)
- Technical Specifications for Plant Ecological Assessment (植物生態評估技術規範)
- Technical Specifications for Marine Ecological Assessment (海洋生態評估技術規範)

Table 2.2: Baseline and monitoring survey summary

Survey type	Timeframe	Methodology
Terrestrial		

Survey type	Timeframe	Methodology
Habitat and flora	July 2020 (Baseline survey[5]) October 2020 (Baseline survey)	Site walkover and aerial photography Quadrat sampling in major habitats identified
Mammals (including bats)	March 2021 (Baseline survey) April 2021 (Baseline survey) May 2021 (Baseline survey) July 2021 (Baseline survey)	Day and night transect surveys Trapping (ie rodent and Sherman traps) Bat acoustic detector surveys (AnaBat II Bat Detector)
Herpetofauna	August 2021 (Baseline survey) September 2021 (Baseline survey) October 2021 (Baseline survey)	Visual detection at dawn and dusk Active searching at dawn Opportunistic sightings
Butterflies and Dragonflies	November 2021(Baseline survey) December 2021 (Baseline survey) March 2022 (Baseline survey) July 2022 (Baseline survey) February 2023 (Supplementary survey[6]) April 2023 (Supplementary survey) August 2023 (Supplementary survey) September 2023 (Supplementary survey) November 2023 (Supplementary survey) December 2023 (Supplementary survey) September 2023 to November 2023 (Monitoring survey[7]) December 2023 (Monitoring survey) December 2023 to February 2024 (Monitoring survey) March 2024 (Monitoring survey) May 2024 (Monitoring survey)	Visual detection Net capturing
Birds	July 2020 (Baseline survey) October 2020 (Baseline survey) July 2021 (Baseline survey) September 2021 (Baseline survey) December 2021 (Baseline survey) March 2022 (Baseline survey) April 2022 (Baseline survey) July 2022 (Baseline survey) February 2023 (Supplementary survey) April 2023 (Supplementary survey) August 2023 (Supplementary survey) September 2023 (Supplementary survey) November 2023 (Supplementary survey) December 2023 (Supplementary survey)	Point counts at dawn Transect survey at dusk, sights and calls Opportunistic recording between sampling points Little tern nest surveys
Marine		
Birds	May 2020 (Baseline survey) June 2020 (Baseline survey) July 2020 (Baseline survey) August 2020 (Baseline survey)	Visual counts by boat-based transect (marine) Visual counts by transect (intertidal) Weather and meteorological radar (raptor) Night radar survey (raptor)

[5] Baseline surveys refer to ecological surveys undertaken during the pre-construction phase of the Project as part of the EIA. In which, the purpose is to establish baseline flora and fauna of the project area

[6] Supplementary surveys refer to ecological surveys undertaken during the pre-construction phase of the Project as part of the EIA addendum. In which, the purpose is to re-establish baseline flora and fauna of the project area due to amendments from the original EIA.

[7] Monitoring surveys refers to ecological monitoring surveys undertaken during the pre-construction phase of the Project

Survey type	Timeframe	Methodology
	September 2020 (Baseline survey) October 2020 (Baseline survey) November 2020 (Baseline survey) December 2020 (Baseline survey) January 2021 (Baseline survey) February 2021 (Baseline survey) March 2021 (Baseline survey) April 2021 (Baseline survey) May 2021 (Baseline survey) June 2021 (Baseline survey) September 2021 (Baseline survey) February 2023 – April 2023 (Supplementary survey) June 2023 – July 2023 (Supplementary survey) September 2023 (Supplementary survey) November 2023 (Supplementary survey)	
Zooplankton	May 2020 (Baseline survey) August 2020 (Baseline survey)	NORPAC net and laboratory test
Phytoplankton	October 2020 (Baseline survey)	Water sampler and laboratory test
Benthic organisms	November 2020 (Baseline survey) January 2021 (Baseline survey) August 2021 (Baseline survey) September 2021 (Baseline survey) December 2021 (Baseline survey) January 2023 (Supplementary survey) March 2023 (Supplementary survey) May 2023 (Supplementary survey) August 2023 (Supplementary survey)	Benthic sampler and visual identification Transect sampling in the intertidal zone Quadrat sampling in the intertidal zone
Marine fauna and flora (excluding marine mammals)	May 2020 (Baseline survey) July 2020 (Baseline survey) August 2020 (Baseline survey) September 2020 (Baseline survey) November 2020 (Baseline survey) December 2020 (Baseline survey) January 2021 (Baseline survey) March 2021 (Baseline survey)	Trawl survey Fishery resource local catch statistics NORPAC net (fish eggs and juvenile fish)
Cetaceans (marine mammals)	May 2020 – April 2021 (Baseline survey) July 2023 – November 2023 (Supplementary survey)	Visual monitoring by boat-based transect

Source: EIA, 2023; EIA Addendum, 2024; Monitoring reports, 2023 & 2024.

Details of the baseline survey methods can be found in Section 6.3 of the EIA and Section 6.8 to 6.14 of the EIA addendum. Baseline survey data have been supplemented by additional literature review and spatial analysis using IBAT species range data relevant to each EAAA.

2.3.2.4 Stakeholder consultations

A series of stakeholder and public consultations as well as EIA appraisals and reviews were conducted during the preparation and review of the local EIA reports, which included ecology and biodiversity as one of the main topics. Details are provided in Table 2.3.

Table 2.3: Stakeholder and public consultation meetings undertaken for the Project's EIA

Activities	Date
EIA Public Hearing	6 November 2020
EIA 1st Sub-committee review	9 March 2022
EIA Public Hearing	26 April 2022
EIA 2nd Sub-committee review	10 Jun 2022
EIA committee review meeting	26 April 2023
EIAV Sub-committee review	28 December 2023
EIAV Committee review	13 March 2024

Source: Project Company, 2025

3 Biodiversity baseline

3.1 General biodiversity description

3.1.1 Ecoregion

The World Wildlife Fund (WWF) has published the Terrestrial Ecoregions of the World (TEOW) as a biogeographic regionalisation of the Earth's terrestrial biodiversity ecoregions (WWF, 2012). Ecoregions are defined as relatively large units of land or water containing a distinct assemblage of natural ecological communities sharing a large majority of species, dynamics, and environmental conditions.

Three WWF ecoregions overlap with the terrestrial, marine and migratory birds EAAAs, as follows:

- Taiwan subtropical evergreen forests (eco-code IM0172); and
- South Taiwan monsoon rain forests (eco-code IM0171)
- Eastern China marine ecoregion (eco-code 052)

The South Taiwan monsoon rain forests also overlap with some of the onshore Project components. Both ecoregions are described in the below sub-sections.

3.1.1.1 Taiwan subtropical evergreen forests (IM0172)

The Taiwan subtropical evergreen forests ecoregion represents most of the forests of Taiwan, except for the southernmost section that is covered by the South Taiwan monsoon rain forests ecoregion. A north-south mountain range runs along the length of the island, with about 200 peaks of over 3000m in height.

Taiwan is on the boundary between the Holarctic and Paleotropical floristic kingdoms and include floristic elements of both. The broadleaf forests can be divided into vegetation zones based on elevation:

- the Ficus-Machilus zone in the lower elevations dominated by *Machilus japonica*, *Ficus irisana* and *Ficus benjamina*;
- the Machilus-Castanopsis zone dominated by *Castanopsis cuspidata*, C*yclobalanopsis longinux* and *Beilschmiedia erythrophloia*; and
- the lower and upper Cyclobalanopsis zones dominated by C*astanopsis cuspidata, Cyclobalanopsis longinux* and *Trochodendron aralioides*.
- Above 3000m the forests are mixed broadleaf, dominated by *Alnus formosana*, species of Acer, and *Tsuga chinensis*. The highest elevations have pure stands of conifer forests with *Tsuga chinensis*, species of Picea (spruce) and Abies (fir).

The larger fauna has been extirpated from the island, including predators such as the clouded leopard, and the Eurasian otter. The Asiatic black bear is extremely rare. The Sika deer, Taiwan's largest ungulate, was once extirpated, but has now been reintroduced into the wild through a species recovery programme. Other species of conservation importance include smaller predators such as the leopard cat, gem-faced palm civet, crab-eating mongoose, Formosan ferret badger, Siberian weasel, and yellow-throated marten and larger herbivores and omnivores such as the Sambar deer, Formosan serow, Reeves' muntjac, Formosan macaque, and Chinese pangolin. Several of Taiwan's restricted-range bird species overwinter here, including the Japanese night-heron, Nordmann's greenshank, and spoon-billed sandpiper.

About 68% of the forests in this ecoregion remain, and 20% of the ecoregion is protected, mostly along the central mountains (Wikramanayake, One Earth, n.d.). Most of the lowland forests have been cleared for agriculture and industry, while the remaining forest cover estimates likely includes monoculture plantations of non-native species (Wikramanayake, One Earth, n.d.).

3.1.1.2 South Taiwan Monsoon Rain Forests (IM0171)

The South Taiwan Monsoon Rain Forests ecoregion covers the low elevation forests in the southern-most part of the island. The topography of the island is comprised of granitic mountains that rise steeply on the eastern slope from a deep oceanic trench to nearly 3952 m in elevation at the summit of Mount Yushan, while the western and northern sides slope gently into coastal plains that extend to the south.

The forest vegetation is very similar to the coastal forests of southeastern mainland China. Common tree species include *Illicium arborescens*, *Ilex cochinchinensis*, *Castanopsis cuspidate*, *Daphniphyllum glaucescens*, *Microtropis japonica*, and *Lasianthus obliquinervis*. The montane forests in the more seasonally variable climate include evergreen tree species such as *Ficus microcarpa*, *Cryptocarya chinensis*, and *Schefflera octophylla*, as well as some deciduous species such as *Bombax malabaricum* and *Albizia procera*.

Fauna on the island is largely similar to the species described in the Taiwan subtropical evergreen forests subsection above, including the lack of large predators, presence of smaller carnivores, large mammals and several of Taiwan's restricted-range bird species. In addition, two giant flying squirrels – the red and white giant flying squirrel and the Indian giant flying squirrel – live in sympatry in these forests, while the rare black-faced spoonbill and endemic Styan's bulbul are also easily spotted here (Wikramanayake, One Earth, n.d.).

Although close to 70% of the forests in this ecoregion still remain, only a small area is formally protected. The remaining forest cover estimates also likely include monoculture plantations of non-native species. In the meantime, growing industrialisation and urbanisation are taking a toll on Taiwan's natural forests. Even the Kenting National Park is threatened by anthropogenic activities (Wikramanayake, One Earth, n.d.).

3.1.1.3 Eastern China marine ecoregion

The Eastern China Sea Marine Ecoregion is a hotspot of marine biodiversity, featuring a mix of tropical, subtropical, and temperate species. This region is home to over 22,000 recorded species across 46 phyla. The marine life here includes a variety of fish, invertebrates, marine mammals, and seabirds. Key ecosystems such as coral reefs, seagrass beds, and mangrove forests provide essential habitats for these species. Coral reefs in the Eastern China Sea are particularly notable for their diversity and productivity, supporting a wide range of coral species, fish, and other marine organisms. Seagrass beds, found in the shallow coastal areas, are crucial for the life cycles of many marine species, offering feeding and nursery grounds. Mangrove forests, although less extensive, play a vital role in coastal protection and as habitats for various species.

The nutrient-rich waters, influenced by riverine inputs from the Yangtze and other rivers, enhance primary productivity, supporting complex food webs. Key species in this ecoregion include the Grey conger (*Muraenesox cinereus*), Slender shrimp (*Leptochela gracilis*), and Largehead hairtail (*Trichiurus lepturus*), which are important for maintaining the balance of the marine ecosystem. Pelagic sharks and rays also play a crucial role as keystone species, exerting top-down control on the ecosystem and influencing the population dynamics of other marine organisms. Taiwan, located at the western edge of this ecoregion, is particularly relevant due to its geographical proximity and ecological connections. The Taiwan Strait links the South

China Sea and the Eastern China Sea, making Taiwan an integral part of the region's marine biodiversity and ecological processes.

3.1.2 Biodiversity hotspot

Biodiversity hotspots are defined as regions that have at least 1,500 endemic plant species and/or with 30% or less of its original natural vegetation remaining (Conservation International, n.d.). They are important areas that are used to establish priorities in conservation.

There presently exist 36 defined hotspots around the world (CEPF, n.d.). The Project components (and in fact the whole island of Taiwan) are not located within any of these hotspots. A hotspot analysis study done by Wu *et al*. (2013) showed that the mountainous regions of Taiwan fulfilled various hotspot criteria from a local conservation perspective, including total species richness, endemic species richness, threatened species richness and other conservation-dependent species richness, as they hold most of Taiwan’s avian biodiversity. However, these are not located within the Project footprint or EAAAs.

3.2 Legally protected and internationally recognised areas within the EAAA

The following subsections detail legally protected and internationally recognised areas within the EAAA.

3.2.1 Legally protected areas

Legally protected areas in Taiwan are categorised into the following:

- Taiwanese Humpback Dolphin Major Wildlife Habitat (MWH) (中華白海豚野生動物重要棲息)[8]
- Important wetlands (重要濕地)[9]
- National parks (國家公園及國家自然公園)[10]
- Major wildlife habitats (野生動物重要棲息環境)[11]
- Wildlife refuges (野生動物保護區)[12]
- Nature reserves (自然保留區)[13]
- Forest reserves (自然保護區)[14]
- Coastal natural protected areas (台灣沿海自然保護區)[15]
- Exclusive fishery rights (專用漁業權)[16]
- Fixed net fishing rights (定置網漁業)[17]
- Artificial reef areas (人工魚礁)[18]
- Protection reefs (保護礁)[19]
- KBAs and IBAs

[8] Formally gazetted with effect from 1 September 2020, as follows: https://gazette.nat.gov.tw/egFront/e_detail.do?metaid=118079

[9] Presently 60 wetlands of which 2 are of international level. List of wetlands: https://wetland-tw.tcd.gov.tw/tw/index.php

[10] Presently 10 sites, as follows: https://conservation.forest.gov.tw/nationalpark

[11] Presently 38 locations, as follows: https://conservation.forest.gov.tw/wildlife_habitats

[12] Presently 20 locations, as follows: https://conservation.forest.gov.tw/protectarea

[13] Presently 23 locations, as follows: https://conservation.forest.gov.tw/reserve

[14] Presently 6 locations, as follows: https://conservation.forest.gov.tw/nature_protect

[15] Split into nature conservation zones and normal conservation zones. It is forbidden to change existing ecological characteristics and natural landscape in nature conservation zones. More information: https://www.cpami.gov.tw/最新消息/業務新訊/18327-「臺灣沿海地區自然環境保護計畫」專區.html

[16] Zones with designated exclusive rights to be used by fishery associations, who will need to be compensated for use of these areas. More information: https://www.fa.gov.tw/view.php?theme=web_structure&id=108

[17] Zones which are licensed to individual fishermen. Licensees will have to be compensated if their respectively fishing area is affected. More information: http://140.121.160.124/fi/images/5_075.pdf

[18] Man-made structures dropped into the seabed to help recruit and encourage coral reef and fishery resources. Presently 89 artificial reef zones: https://www.fa.gov.tw/view.php?theme=Info_on_AF_and_PF&subtheme=&id=1

[19] Areas established to protect and conserve fisheries resources. Presently 62 protection reefs: https://www.fa.gov.tw/view.php?theme=Info_on_AF_and_PF&subtheme=&id=2

Notably, the Project footprint has avoided most of the above legally protected areas. However, the export cable (ie connecting the WTG area to the landing point) of the Project is located within the Taiwanese Humpback Dolphin MWH (ie for a length of approximately 4km). Other (designated) areas of notes include Tongyuan District Fisheries Association's exclusive fishery rights waters (通苑區漁會專用漁業權水域), Tongyuan protection reef (通苑保護礁禁漁區) and Haikou artificial reef (海口人工魚礁禁漁區), where the export cable overlaps with these areas.

It is important to note that the Project has already obtained the necessary Taiwanese Humpback Dolphin Major Wildlife Habitat permit from the Miaoli County Government and the Ocean Conservation Administration, allowing passage through the Taiwanese Humpback Dolphin Major Wildlife Habitat area. Additionally, the Project has received approvals from the fishery authority, the Miaoli County Government, and the Fisheries Association regarding the exclusive fishery rights waters, protection reef, and artificial reef zone areas.

There are also other exclusive fishery rights, artificial reefs and protection reefs within 50km from the Project such as the Nanlong District Fisheries Association's exclusive fishery rights waters (南龍區漁會專用漁業權水域) 公司寮人工魚礁禁漁區, Waipu Artificial Reef (外埔人工魚礁禁漁區), Qiding Artificial Reef (崎頂人工魚礁禁漁區), Xiangshan Artificial Reef (香山人工魚礁禁漁區), Haibao Protection Reef (海寶保護礁禁漁區), Zhonggang (I) Protection Reef (中港(一)保護礁禁漁區). Zhonggang (II) Protection Reef (中港(二)保護礁禁漁區), Zhuwei Protection Reef (竹圍保護礁禁漁區),Qiding Protection Reef (崎頂保護礁禁漁區), Tongxiao Artificial Reef (通霄人工魚礁禁漁區), Baixin Artificial Reef (白新人工魚礁禁漁區), Baixin Protection Reef (白新保護礁禁漁區) and Xiangshan Protection Reef (香山保護礁禁漁區)

Within the marine EAAA, there are five legally protected areas and designated areas that are less than 50km from the project footprint. Additionally, within the migratory EAAA, there are ten legally protected areas that are less than 50km from the project footprint. There are no legally protected areas and other (designated) areas of note within the terrestrial EAAA.

Within the EAAAs, all legally protected areas that are less than 50km from the project footprint are summarised in Table 3.1 below, and the locations of each legally protected area are shown in Figure 3.1. Further details of each legally protected area and designated areas of note are also provided in Table 3.1 below. The full list of legally protected areas in the EAAAs can be referred to in Appendix A, Table A.1.

Table 3.1: Legally protected areas (and other areas/zoning of note) within the EAAAs and 50km from the project footprint

Site name	Distance from the Project	Applicable EAAA	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
Taiwanese Humpback Dolphin Major Wildlife Habitat (MWH)	0km (partially overlaps with export cables)	Marine EAAA	Covers approximately 694.35km^2 Taiwanese humpback dolphin is listed as Critically Endangered internationally[20] and Endangered nationally[21] MWH has been formally gazetted with effect from 1 September 2020[5] Inhabits a narrow strip of waters of the western coast of Taiwan, between Miaoli County and Jiangjun fishing port of southern Taiwan. The species distribution comprises shallow coastal waters at depths up to 30m, between 2 and 2.5km from the coast (Wang et al., 2017).	Ocean Affairs Council (OAC)	Regulation: Wildlife Conservation Act Relevant agencies: Local governments Fisheries Agency, Council of Agriculture	The offshore WTG will not be directly located within these areas, however, the export cables will partially overlap with this area. Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed. Underwater noise from offshore foundation installation, most notably for WTG foundations, is recognised to affect the dolphins. However, it is important to note that the shortest path for the export cables has been planned through this area. The project location has also been selected to minimise the impacts. In addition, Project has obtained the necessary Taiwanese Humpback Dolphin Major Wildlife Habitat permit from the Miaoli County Government and the Ocean Conservation Administration.
• Tongyuan District Fisheries Association's exclusive fishery rights waters (通苑區漁會專用漁業權水域) • Haikou Artificial Reef (海口人工魚礁禁漁區) • Tongxiao Protection Reef（通苑保護礁禁漁區）	0km (partially overlaps with export cables)	Marine EAAA	Only licensed fishery operators under the Tongyuan District Fisheries Association are permitted within this exclusive fishery rights waters. To engage in fishing activities within the exclusive fishing rights area of the Tongyuan Fishermen's Association, one must apply for fishing access from the rights holder (Tongyuan Fishermen's Association). All fishing vessels using trawl fishing gear are not allowed to operate within the artificial reef and protection reef.	Fisheries Agency, Ministry of Agriculture	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	The offshore WTG will not be directly located within these areas, however, the export cables will partially overlap with this area. There is no straightforward general definition on appropriate distance or placement for windfarms relative to exclusive fishery rights waters, artificial reefs and protection reefs.
Miaoli Sanyi Huoyanshan Nature Reserve	Approximately 12km east of the export cables of the Project	Migratory bird EAAA	Cover approximately 2.19km^2 Located at the border of Sanyi and Yuanli Townships in Miaoli County, Taiwan, is known for its sharp bare hills and Masson's pine forest. The area was designated a nature reserve by the Ministry of Agriculture in 1986.	Forestry Bureau, Council of Agriculture	Regulation: Forestry Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to nature reserves. It is broadly taken that the further the distance the better, as this reduces likely impact
• Xihu Important Wetland	Approximately 15km south of the export cables of the Project	Migratory bird EAAA	Cover approximately 1.42km^2 The wetland stretches from where Houlong River intersects with Western Coast Expressway No.61 in the east to the windbreaks on the west end of Cape Paradise, and extends southward to the intertidal zone at the intersection of Xihu River and the West Coast line of Taiwan Railway. There are a wide variety of habitats nearby, including estuarine mudflats, stream, sandy coast, gravel beach and sedimentary-rock shores, thus becoming home to various species.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act

[20] IUCN Red list. https://www.iucnredlist.org/species/133710/122515524

[21] Ocean Affairs Council Notice, Schedule of Protected Marine Species (June 2020), https://gazette.nat.gov.tw/egFront/e_detail.do?metaid=115080

Site name	Distance from the Project	Applicable EAAA	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
• Taichung County Gaomei Major Wildlife Habitat • Gaomei Important Wetland • Gaomei Wetlands Wildlife Refuge	Approximately 16km south of the export cables of the Project	Migratory bird EAAA	Taichung County Gaomei Major Wildlife Habitat covers approximately 7.01km^2, and is situated to the west side of Taichung County's Chingshui Township, extending from the mouth of the Dajia River southwards for about 3.5 km It overlaps with the Gaomei Important Wetland and Gaomei Wetlands Wildlife Refuge It supports a range of bird species, including the globally endangered Black-faced Spoonbill and the nationally critically endangered Saunders's Gull and Kentish Plover. The area is also home to Taiwan's largest colony of *Bolboschoenus planiculmis*, a type of sedge, and a dense forest of Australian pine trees, which provide excellent bird habitat	Forestry Bureau, Council of Agriculture	Regulation: National Park Act Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed. The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Wanwa Venus Clam Breeding Conservation Area (灣瓦文蛤繁殖保護區)	Approximately 20km north of the export cables of the Project	Marine EAAA	Covers approximately 0.02 km^2 Established in 2010 To maintain biodiversity and protect the coastal and marine ecology and environment, the government of Taiwan established aquatic organisms' propagation and conservation zones in areas containing important ecology or species. This area is a 'multifunction' area that allows for the sustainable use of marine resources, where a limited amount of harvesting activities on Venus clams is permitted.	Fisheries Agency, Ministry of Agriculture/Miaoli County Government	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to conservation areas. It is broadly taken that the further the distance the better, as this reduces likely impact
• Dadu River Mouth Major Wildlife Habitat • Dadu Estuary Important Wetland • Dadu River Mouth Wildlife Refuge	Approximately 30km south of the export cables of the Project	Migratory bird EAAA	Dadu River Major Wildlife Habitat covers approximately 26.7km^2, and is situated to the west side of Taichung County's Chingshui Township, extending from the mouth of the Dajia River southwards for about 3.5 km It overlaps with the Dadu Estuary Important Wetland and Dadu River Mouth Wildlife Refuge This habitat is renowned for its diverse ecosystems, including estuarine mudflats, sandy coasts, and sedimentary rock shores, which support a wide variety of bird species	Forestry Bureau, Council of Agriculture	Regulation: National Park Act Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed. The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
• Keya River Mouth and Sianshan Wetland Major Wildlife Habitat • Siangshan Wetlands • Hsinchu City Coastal Wildlife Refuge	Approximately 30km north of the export cables of the Project	Migratory bird EAAA	Keya River Mouth and Sianshan Wetland Major Wildlife Habitat covers approximately 16km^2, and is situated to the north, including the mouth of Keya River and the surroundings of Jincheng Lake; to the south, it includes Wuming Ditch, which is the border of Hsinchu and Miaoli It overlaps with the Siangshan Wetlands and Hsinchu City Coastal Wildlife Refuge It was established on June 8, 2001, and is recognised for its primary protected features, which include river and swamp ecosystems1. The habitat is home to a diverse range of flora and fauna species, making it an important ecological site	Forestry Bureau, Council of Agriculture	Regulation: National Park Act Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed.

Site name	Distance from the Project	Applicable EAAA	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
						The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
• Jiujiu Peaks Nature Reserve	Approximately 45km south of the Project	Migratory bird EAAA	Covers approximately 11.98 km^2 Jiujiu Peaks is located in the north of the Wushi , and its prime boundary stretches from section 8 to section 20 in the Puli working circle. Jiujiu Peaks became a nature reserve in May 2000, following the devastating 921 Earthquake, which caused significant landslides and erosion in the area. The reserve now serves as a protected area for scientific research, environmental education, and the preservation of its unique geological and ecological features	Forestry Bureau, Council of Agriculture	Regulation: Forestry Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to nature reserves. It is broadly taken that the further the distance the better, as this reduces likely impact

Source: Mott MacDonald, 2025

3.2.2 Internationally recognised areas

The IFC GN6 exclusively defines internationally recognised areas as UNESCO Natural and Mixed WHS, UNESCO Man and the Biosphere (MAB) Reserves, Key Biodiversity Areas (KBAs), and wetlands designated under the Convention on Wetlands of International Importance ie the Ramsar Convention (IFC, 2019).

KBAs are defined as sites that contribute significantly to the global persistence of biodiversity, in terrestrial, freshwater and marine ecosystems that meet one or more of 11 KBA criteria set out by IUCN (IUCN, 2016). KBAs include IBAs, Important Plant Areas (IPAs) and Alliance for Zero Extinction (AZE) sites.

The Project footprint has avoided most of the above internationally recognised areas. The closest IBA to the Project, Gaomei Wetlands IBA, is located 14km away from the Project footprint. In addition, the 24 IBAs are noted to occur in the migratory bird EAAA.

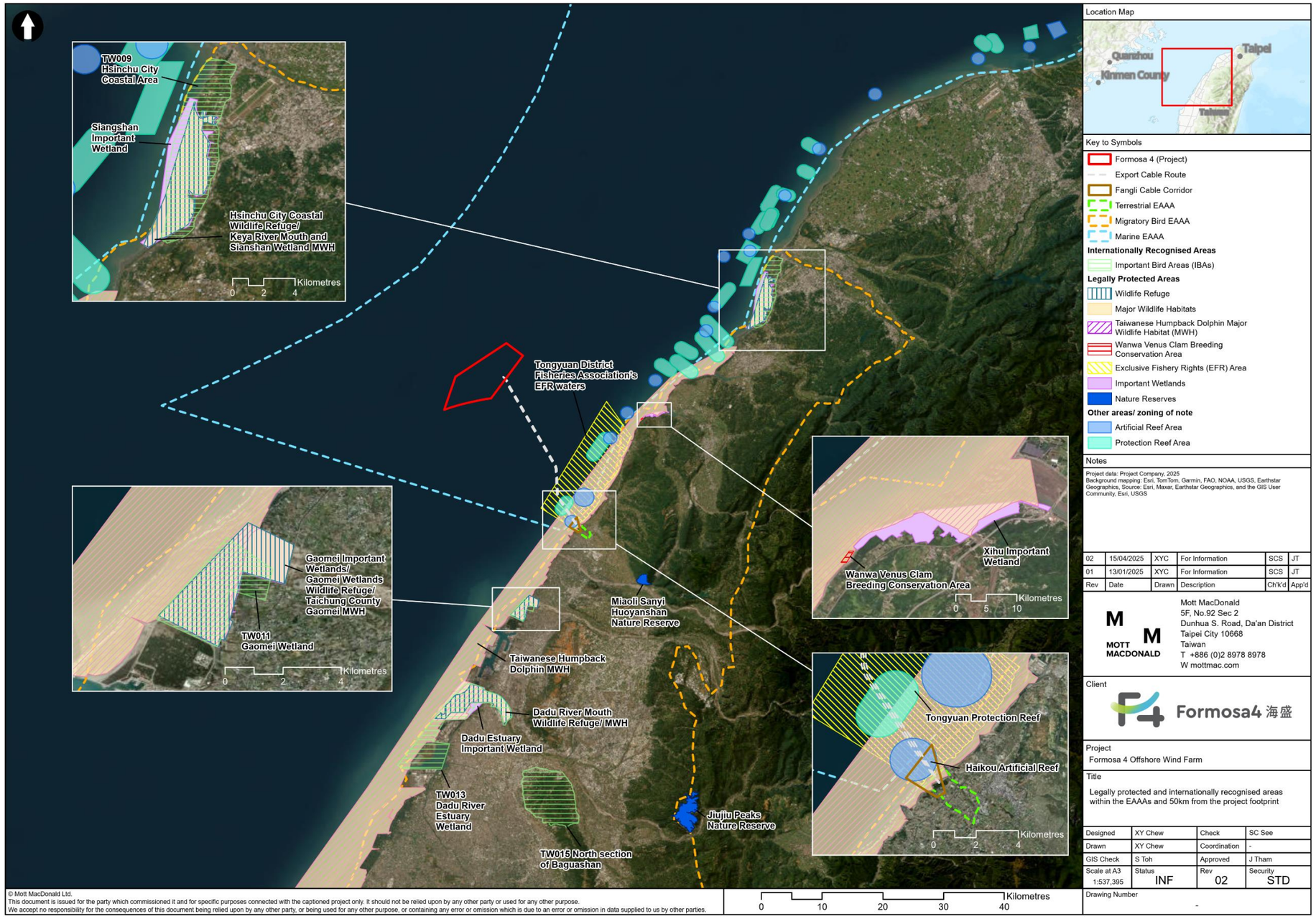
Within the EAAAs, all internationally recognised areas that are less than 50km from the project footprint are summarised in Table 3.2 below, and the locations of each are shown in Figure 3.1. Further details of each internationally recognised area are also provided in Table 3.2. The full list of internationally recognised areas in the EAAAs can be referred to in Appendix A, Table A.2.

Table 3.2: Internationally recognised areas within the Project's EAAAs

Site name	Designation	Distance from the Project	Significant Biodiversity Values
Hsinchu City Coastal Area (TW009)	Wetland of National Importance, Wildlife Refuge, Major Wildlife Habitat, IBA and KBA	Approximately 42km north of the export cables of the Project	Covers 2591 ha The intertidal zone of the Hsinchu City coast is reclaimed coastal land west of Hsinchu City. The full length of the coastline is 16.8 km. the intertidal zone south of the Keya River Estuary has become an extensive flat area nurturing abundant fish, crustaceans, and shellfish, which attract over a hundred bird species that reside or transit through on migration. The intertidal zone south of the Keya River Estuary has become an extensive flat area nurturing abundant fish, crustaceans, and shellfish, which attract over a hundred bird species that reside or transit through on migration. The area is designated as an IBA and KBA due to the presence of Black-faced Spoonbill (EN), Chinese Egret (VU), Great Knot (EN) and Kentish Plover (LC)
Gaomei Wetland, Taichung City (TW011)	Wetland of National Importance, Wildlife Refuge, Major Wildlife Habitat, IBA and KBA	Approximately 14km south of the export cables of the Project	Covers 701.3ha Categorised by the characteristics of soil texture, vegetation cover, and freshwater inputs, the region can be divided into tidal riparian, grassy marsh, sand, cobble, and mudflat areas. This site contains the largest known population of *Bolboschoenus planiculmis* in Taiwan. The area is designated as an IBA and KBA due to the presence of Black-faced Spoonbill (EN), Chinese Egret (VU), Saunders's Gull (VU) and Kentish Plover (LC)
Dadu River Estuary Wetland IBA (TW013)	Wetland of National Importance, Wildlife Refuge, Major Wildlife Habitat, IBA and KBA	Approximately 30km south of the export cables of the Project	Covers 2668ha , largest waterbird habitat in Central Taiwan Over 200 bird species, including 22 protected species, have been recorded **Invalid source specified.** Designated as Wetland of National Importance, Wildlife Refuge, Major Wildlife Habitat, IBA and KBA The area is designated as an IBA and KBA due to the presence of significant populations of globally threatened species (Black-faced Spoonbill and Saunders's Gull) and significant congregations of Saunders's Gull.
North Section of Baguashan, Changhua County (TW015)	IBA / KBA	Approximately 39km south of the export cables of the Project	Covers 6316 ha The Baguashan Plateau consists of red clay; both the eastern and western slopes are incised with erosion gullies, but the terrain is generally flat. The forest cover at the Baguashan area is low-elevation secondary growth. This area has records of at least 100 bird species. Triggered as IBA site based on presence of Gray-faced buzzard (LC)

Source: Mott MacDonald, 2025

Figure 3.1: Legally protected and internationally recognised areas within the EAAAs (within 50km of the project footprint)



Source: Mott MacDonald, 2025

3.3 Natural and modified habitats

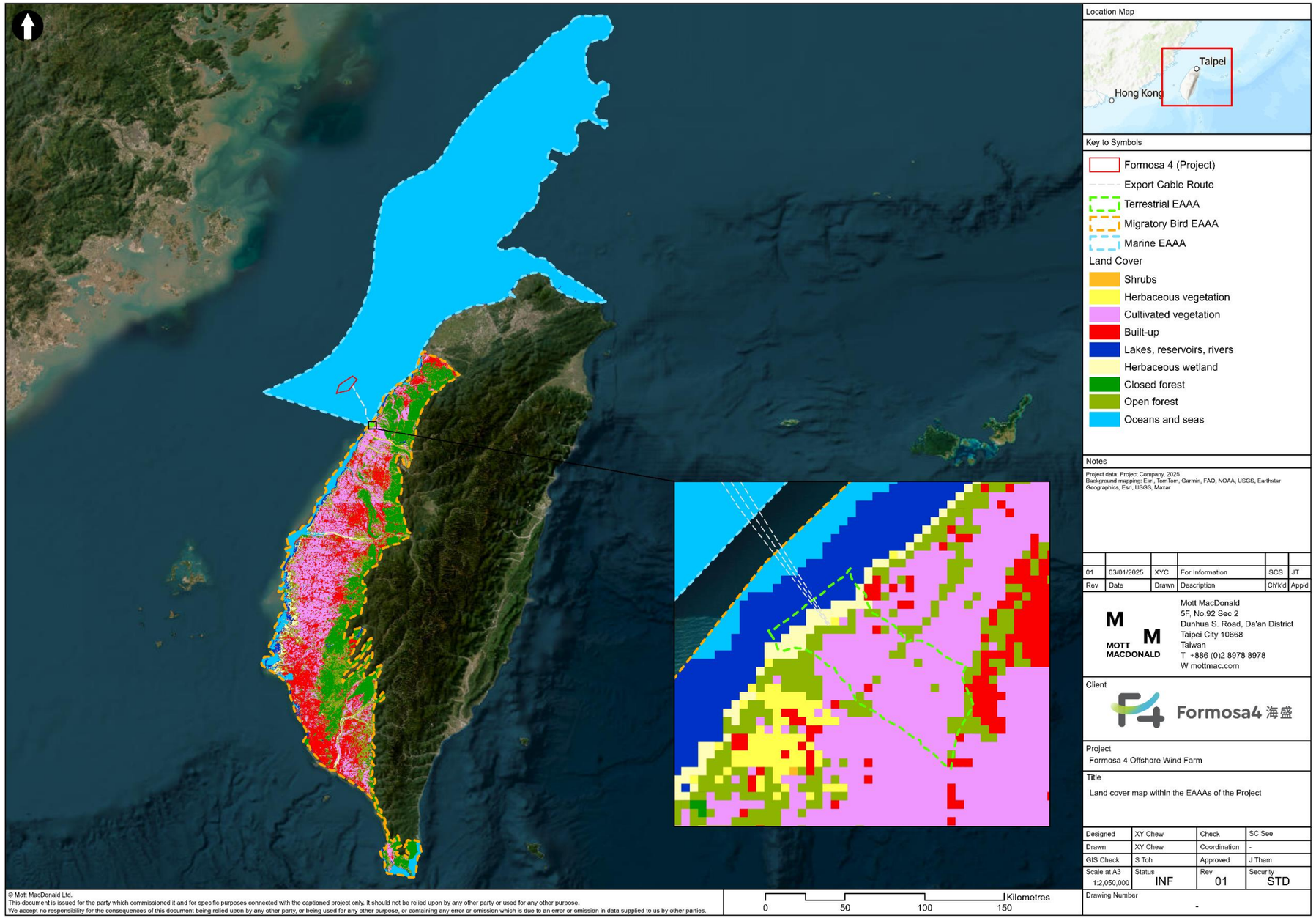
The habitats present in the EAAAs are described in the following sections using Copernicus Global Land Service (CGLS, 2019) and consolidated via ground truthing, literature and survey data from the Miaoli Offshore Windfarm 3 EIA. Habitats found within the EAAAs have also been further categorised into modified or natural habitat as per IFC PS6 where:

- Modified habitats are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition. Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones and reclaimed wetlands.
- Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

Figure 3.2 below shows the delineation of the natural and modified habitats within the three EAAAs. As based on the land cover types in the Copernicus Global Land Service (100m global resolution), natural habitats include shrubs, herbaceous vegetation, closed forest, open forest, herbaceous wetland, lakes, rivers, reservoirs, oceans, and seas. Modified habitats include cultivated vegetation and built-up areas.

Table 3.3 provides a quantified breakdown of land cover area within each EAAA, while further descriptions of the dominant habitats are presented in Sections 3.3.1 to 3.3.3. It is noted that the entire EAAAs has not been ground-truthed.

Figure 3.2: Land cover map within the EAAAs of the Project



Source: Mott MacDonald, 2025

Table 3.3: Breakdown of land cover area within each EAAA

Land cover type	Coverage within Terrestrial EAAA (km^2)	Percentage coverage of Terrestrial EAAA (%)	Coverage within Marine EAAA (km^2)	Percentage coverage of Marine EAAA (%)	Coverage within Migratory Bird EAAA (km^2)	Percentage coverage of Migratory Bird EAAA (%)
Natural habitat						
Shrubs	0.01	0.43	0.03	<0.001	17.88	0.15
Herbaceous vegetation	0.00	0.00	0.05	<0.001	87.69	0.76
Closed forest	0.00	0.00	0.73	0.004	2519.49	21.90
Open forest	0.31	12.29	0.98	0.006	1785.33	15.52
Herbaceous wetland	0.25	9.85	0.78	0.004	291.40	2.53
Lakes, rivers, reservoirs	0.21	8.34	16.40	0.10	289.86	2.51
Oceans and seas	0.00	0.00	16,063.03	99.87	620.76	5.39
Modified habitat						
Cultivated vegetation	1.73	67.72	0.03	<0.001	3099.82	26.94
Built-up areas	0.03	1.36	1.50	<0.001	2790.63	24.26
Total area / % coverage						
Total	2.55	100.00	16,083.56	100.00	11,502.90	100.00

Source: CGLS, 2019

3.3.1 Habitats within the terrestrial EAAA

The terrestrial flora and fauna EAAA is located in Fangli village, Yuanli Township. According to CGLS (2019), the EAAA consists of 30.91% natural habitat and 69.08% modified habitat. The dominant natural habitats within this area include open forests (12.29% of EAAA), while dominant modified habitat is cultivated vegetation (67.72%). As the terrestrial flora and fauna EAAA is situated within open forests, agricultural fields and built-up areas, this area is considered to be a mix of natural and modified habitat.

3.3.2 Habitats within the marine EAAA

The marine EAAA is situated in the western to north-western marine waters of Taiwan, as mentioned in Section 2.3.1. According to CGLS land cover data (CGLS, 2019), the EAAA consists of 100% natural habitat. The dominant natural habitat within this area is oceans and seas (99.87% of EAAA). As the marine EAAA consists of mostly open water habitats, this area is considered to be a natural habitat.

3.3.3 Habitats within the migratory bird EAAA

The migratory bird EAAA includes the IBAs in the south-western region of Taiwan and the corresponding areas of connectivity between the IBAs, largely based upon the migratory route maps detected during radar surveys (Section 2.3.1). According to land cover data from the Copernicus Global Land Service (CGLS, 2019), the migratory bird EAAA consists of 48.76% natural habitat and 51.2% modified habitat. The dominant natural habitats within this area include closed forest (21.9% of EAAA) and open forest (15.52% of EAAA), while dominant modified habitat is cultivated vegetation (26.94% of EAAA) and built-up areas (24.26% of EAAA). As the migratory bird EAAA encompasses built-up areas along the inland and coastal regions of Taiwan, as well as IBAs and natural areas, this area is considered to be a mix of natural and modified habitat.

3.4 Flora and fauna within the EAAAs

Species that are likely to be regularly occurring within the Project's EAAA were identified from the sources listed in Section 2.3.2, including data taken from the EIA report baseline[22]. Further details regarding the locations and abundance of species encountered can be found in Section 6.3 of the EIA baseline chapter. The section below highlights the number of species identified through primary and secondary data collection in the EAAA and their IUCN conservation status.

3.4.1 Terrestrial flora and fauna

It is considered that a total of 513 species of terrestrial flora and fauna were likely to be present within the EAAA. Terrestrial flora and fauna within the EAAA are assigned to the following IUCN conservation status categories:

- Critically Endangered: 4
- Endangered: 9
- Vulnerable: 23
- Near Threatened: 18
- Least Concern: 455
- Data Deficient: 4

[22] Note that numbers from the EIA baseline is based on the survey season with the highest number

3.4.2 Marine flora and fauna

Given the relatively broad seascape and the wide-ranging behaviour of many marine species it was considered that 3103 species of marine fauna and flora were likely to be present within the EAAA. Marine flora and fauna within the EAAA are assigned to the following IUCN conservation status categories:

- Critically Endangered: 22
- Endangered: 207
- Vulnerable: 103
- Near Threatened: 57
- Least Concern: 2529
- Data Deficient: 185

3.4.3 Migratory birds (including seabirds at sea)

Given the wide-ranging behaviour of migratory birds and seabirds at sea, it was considered that 22 internationally threatened (ie CR, EN and VU) species and a total of 232 species were likely to be present within the migratory bird EAAA. Migratory birds and seabirds at sea within the EAAA are assigned to the following IUCN conservation status categories:

- Critically Endangered: 2
- Endangered: 7
- Vulnerable: 13
- Near Threatened: 12
- Least Concern: 198

4 Critical habitat determination

4.1 Overview

Species were screened against the relevant criteria in Section 2.2 to determine if they are considered to be significant biodiversity values that may cause critical habitat requirements to be applied. Species that met the criteria were further assessed in this chapter against the thresholds specified in Section 2.2. The results of the assessment against C4 and C5 are also presented in this chapter. A summary of biodiversity values that meet critical habitat thresholds is presented in Section 4.7.

4.2 Criterion 1: Critically endangered and/or endangered species

A total of 366 species were found to be listed as Critically Endangered, Endangered on the IUCN Red List or National Red List, or Vulnerable on the IUCN Red List that possess an overlap of its species range with the EAAA. This consists of 172 marine invertebrates, 32 birds, 30 fishes, 104 shark species, 12 mammals, 11 reptiles, 1 horseshoe crab and 4 plants. Of these, six species (one marine mammal, five birds, and three fish) are Critical Habitat species as per Criterion 1. These species are presented in Table 4.1 below.

Table 4.1: Criterion 1 Assessment Outcomes for Significant Biodiversity Values in the EAAAs

Scientific Name	Common Name	IUCN Status	Relevant EAAA	Relevant criterion
Mammal				
Sousa chinensis ssp. Taiwanensis	Taiwanese Humpback Dolphin	CR	Marine EAAA	C1 (a)
Fish				
Rhynchobatus immaculatus	Taiwanese Wedgefish	CR	Marine EAAA	C1 (a)
Rhinobatos schlegelii	Brown Guitarfish	CR	Marine EAAA	C1 (a)
Rhinobatos hynnicephalus	Ringed Guitarfish	CR	Marine EAAA	C1 (a)
Bird				
Platalea minor	Black-faced Spoonbill	EN [2]	Migratory bird EAAA	C1 (a)
Ciconia boyciana	Oriental Stork	EN [2]	Migratory bird EAAA	C1 (a) and C1 (c)
Thalasseus bernsteini	Chinese Crested Tern	CR [1]	Migratory bird EAAA	C1 (a) and C1 (c)
Aythya baeri	Baer's Pochard	CR [1]	Migratory bird EAAA	C1 (a) and C1 (c)

Note: [1] CR on National Red List], [2] EN on National Red List

Source: Mott MacDonald, 2025

4.2.1 Marine flora and fauna

4.2.1.1 Taiwanese Humpback Dolphin

It is determined that four marine species are critical habitat species under C1 (a) (Table 4.1). The first species is the Taiwanese Humpback Dolphin (Sousa chinensis ssp. taiwanesis) which

is Critically Endangered and has over 0.5% of its global population within the EAAA. Taiwanese Humpback Dolphin (Sousa chinensis ssp. taiwanesis) is listed as Critically Endangered under the IUCN Red List and was recognised by Taiwan's Coast Guard Administration, Executive Yuan via public notice No. 10800000721, dated 9 January 2019, as a Category I Endangered species (ie the most critical species). The population of the subspecies is considered to be 37–44 mature individuals (IUCN, 2022) and its known range is largely within the EAAA. 20 cetacean surveys were undertaken during the EIA surveys and 10 cetacean surveys were undertaken during the Taiwanese Humpback Dolphin MWH surveys. No Taiwanese Humpback Dolphin was observed during the EIA surveys. While one observation was recorded during the Taiwanese Humpback Dolphin MWH surveys at the Houlong area. There were also reports by boats near that they observed two Humpback dolphins at the Houlong area, and one at the Tong Xiao area. It should be noted that it is not specified in the Taiwanese Humpback Dolphin MWH report if these sightings were of Taiwanese Humpback Dolphins or Indo-Pacific Humpback Dolphins (Sousa chinensis). Given the proximity of these sightings to the primary range of the Taiwanese Humpback Dolphin, it is plausible that these observations pertain to this subspecies. Thus, the population in the EAAA therefore exceeds the threshold for C1(a) with respect to the Taiwanese Humpback Dolphin.

4.2.1.2 Taiwanese Wedgefish

The second species is the Taiwanese Wedgefish (*Rhynchobatus immaculatus*) which is also Critically Endangered. It is a poorly known shark-like ray with a restricted distribution around northern Taiwan in the Northwest Pacific[23]. There is a high level of fisheries resource use and increasing fishing pressure across the range of wedgefishes, and as a result, targeted and incidental fishing effort is placing significant pressure on the wedgefish species in the Indo-West Pacific. While there is no specific population data available, its known range has a significant 40.9% overlap with the marine EAAA. Given these conditions, the Taiwanese wedgefish is considered likely to be a critical habitat species under C1(a).

4.2.1.3 Brown Guitarfish

The Brown Guitarfish (*Rhinobatos schlegelii*) is listed as Critically Endangered under the IUCN Red List. It is endemic to the Northwest Pacific where it occurs from Japan to Taiwan, including Republic of Korea and China. The Brown Guitarfish is demersal on the continental shelf at depths of 1 to 230m, which coincides with the depth at which the WTGs are installed. However, this species was not recorded during the baseline surveys of the EIA reports. Taking a precautionary approach using spatial data, the global range of the Brown Guitarfish overlaps with the EAAA by 3.59%. Thus, the marine EAAA may support a globally important population of this species under Criterion 1a (ie $\geqslant$0.5% of the global population AND $\geqslant$5 reproductive units of a CR or EN species).

4.2.1.4 Ringed Guitarfish

The Ringed Guitarfish (*Rhinobatos hynnicephalus*) is listed as Endangered under the IUCN Red List. It is endemic to the Northwest Pacific where it occurs from Japan to Taiwan, including Republic of Korea and China. The Ringed Guitarfish is demersal on the continental shelf at depths of 20 to 100m, which coincides with the depth at which the WTGs are installed. However, this species was not recorded during the baseline surveys of the EIA reports. Taking a precautionary approach using spatial data, the global range of the Ringed Guitarfish overlaps with the EAAA by 3.36%. Thus, the marine EAAA may support a globally important population

[23] The reliability of information on the Taiwanese Wedgefish is uncertain due to the outdated nature of literature utilised in the IUCN assessment

of this species under Criterion 1a (ie ⩾0.5% of the global population AND ⩾5 reproductive units of a CR or EN species).

4.2.2 Migratory birds (including seabirds at sea)

The coastal plain of Taiwan is an important area for migratory wetland birds. The wetland areas that support these species are almost entirely located within the coastal plain. Taking into account the mobility of migratory wetland birds, these wetlands are considered to be interconnected. Due to this connectivity, the EAAA encompasses the entire south-western region coast of Taiwan including the IBAs and connectivity between them.

A list of migratory and seabird species with ranges that overlap with the EAAA was produced using IBAT data. As the National Red List of Taiwan follows global IUCN assessment criteria, the National Red List criteria in addition to the IUCN Red List was applied to the species and used for assessment against C1 thresholds. As a precautionary approach, where threatened status between National Red List and the IUCN Red List differs for a species, a precautionary approach was undertaken and the higher threatened status was used.

4.2.2.1 Black-faced Spoonbill

Black-faced Spoonbill is listed as Endangered under the IUCN Red List, and Near Threatened under the National Red List. It is also listed in Appendix I of the CMS. This species currently breeds only on a few small rocky islands off the west coast of North Korea, with four wintering sites at Macau, Hong Kong, Taiwan and Vietnam, as well as other places where they have been observed in migration. In the 2024 global census, the black-faced spoonbill population was recorded at 6988 individuals, of which 4135 were recorded in Taiwan, accounting for 59.2% of the population worldwide. While no observations of Black-faced Spoonbill were recorded during the baseline surveys of the EIA report, there was a sighting of 100 individuals at Zhoushui River Estuary (within migratory bird EAAA) in December 2024. In addition, the global range of the Black-faced Spoonbill overlaps with the EAAA by 4.72 %. Thus, the migratory bird EAAA is likely to support a globally important population of this species under Criterion 1a (ie ⩾0.5% of the global population AND ⩾5 reproductive units of a CR or EN species).

4.2.2.2 Oriental Stork

Oriental Stork is listed as Endangered under both the IUCN Red List and National Red List. It is also listed in Appendix I of the CMS. It is an IBA trigger species (A1) for Zhuoshui River Estuary Wetland IBA (also known as Tacheng Wetland IBA), whereby the site is known or thought regularly to hold significant numbers of Oriental Storks. In recent years, the Oriental Stork has been recorded regularly, numbering approximately 1-2 individuals at the Zhuoshui River Estuary Wetland IBA. According to eBird, there was a peak sighting of 10 individuals at the Zhuoshui River estuary (within the migratory bird EAAA) in November 2024. Considering that the number of mature individuals globally are estimated to be 1000-2499 individuals, it is likely to result in the migratory bird EAAA supporting a globally important concentration of this species. Thus, this meets critical habitat thresholds under C1(a) (ie 0.5% of the global population) and C1(c) (ie areas containing important concentrations of a nationally or regionally listed CR/EN species).

4.2.2.3 Chinese Crested Tern

The Chinese Crested Tern is listed as Critically Endangered under the IUCN Red List and National Red List. The global population of the Chinese Crested Tern is approximately 30 to 49 mature individuals. The IUCN does not present the Chinese crested tern global range. However, according to eBird, the species has been spotted several times in 2023 just south of Chiayi county (within the migratory bird EAAA), numbering between 1-2 individuals each time (eBird,2024b). As this already constitutes >1% of the global population given its small

population size (ie approximately 30 to 49 mature individuals), this species meets critical habitat thresholds under C1(a) and C1(c) (ie 0.5% of the global population and areas containing important concentrations of a nationally or regionally listed CR/EN species).

4.2.2.4 Baer's Pochard

The Baer's Pochard is listed as Critically Endangered under the IUCN Red List and National Red List. The global population of the Baer's Pochard is approximately 150 to 700 mature individuals. Whilst there is suitable habitat within the migratory bird EAAA, there is limited overlap (0.12%) between this species global range with the migratory bird EAAA. However, according to eBird, the species has been spotted several times in 2021 at Xiangshan wetlands (within the migratory bird EAAA), numbering between 1-2 individuals each time. As this already constitutes >1% of the global population given its small population size (ie approximately 150 to 700 mature individuals), this species meets critical habitat thresholds under C1(a) and C1(c) (ie 0.5% of the global population and areas containing important concentrations of a nationally or regionally listed CR/EN species).

4.2.2.5 Summary

The Black-faced Spoonbill and Oriental Stork are designating species for 14 IBAs within the migratory birds (including seabirds at sea) EAAA, including:

- Hsinchu City Coastal Area (TW009) [a]
- Gaomei Wetland, Taichung City (TW011) [a,]
- Dadu River Estuary Wetland (TW013) [a]
- Zhuoshui River Estuary Wetland (TW016) [a]
- Aogu Wetlands (TW021) [a, b]
- Budai Wetland (TW023) [a]
- Beimen (TW025) [a, b]
- Qingkunshen (TW026) [a, b]
- Qigu (TW027) [a, b]
- Sitsao Wildlife Refuge (TW029) [a, b]
- Yungan (TW030) [a, b]
- Kaoping River (TW037) [a]
- Qieding Wetland (TW054) [a, b]
- Fangyuan Wetland, Changhua County (TW056) (prospective) [a]
- [a] Sites which are designated as IBAs due to the presence of significant numbers of Black-faced Spoonbill and/or Oriental Stork
- [b] Sites which are designated as IBAs as they are known or thought to hold, on a regular basis, >1% of the biogeographic population of Black-faced Spoonbill and/or Oriental Stork

The Chinese Crested Tern and Baer's Pochard is not a designating species for any IBAs within the migratory birds (including seabirds at sea) EAAA.

Therefore, the following species have been identified as critical habitat species within the migratory bird EAAA (Figure 2.3) under the following criteria:

- Black-faced Spoonbill: C1(a)
- Oriental Stork: C1(a) and C1(c)
- Chinese Crested Tern: C1(a) and C1(c)
- Baer's Pochard: C1(a) and C1(c)

4.2.3 Terrestrial flora and fauna

A total of 49 species are listed as CR or EN by National Red List or IUCN Red List, or VU on the IUCN Red List that possess an overlap of its species range with EAAA. This would potentially trigger C1 as the threshold is that the terrestrial EAAA contains important concentrations of an IUCN listed or nationally listed CR or EN or VU species. However, there are no exceedance of global population of more than 0.5%, so it is unlikely that the EAAA presents a large enough area of suitable habitat to exceed the threshold for regularly holding >0.5% of the global population AND >5% reproductive units of a CR or EN species. Thus, none of the terrestrial species, which are either widespread or upland habitat specialists, have exceeded the criterion threshold for C1.

4.3 Criterion 2: Endemic and/or range-restricted species

Spatial information from IBAT and the IUCN was used to estimate the total geographical range of species. A total of 42 species were assessed against the relevant C2 thresholds to determine if they may exceed critical habitat thresholds. The majority of the species were screened out based on the extent of occurrence (EOO) or area of occurrence (AOO) which covers the whole or the majority of Taiwan's main island for terrestrial species and is not confined within the coastal waters of Taiwan for marine species. Of these, four species (one marine mammal and three fish) are considered critical habitat species under Critical Habitat Criterion 2. These species are presented in Table 4.2 below.

Table 4.2: Criterion 2 Assessment Outcomes for Significant Biodiversity Values in the EAAAs

Scientific Name	Common Name	IUCN Status	Relevant EAAA	Justification for Critical Habitat Determination (EOO/ AOO)	Relevant criterion
Mammal					
Sousa chinensis ssp. taiwanesis	Taiwanese Humpback Dolphin	CR	Marine EAAA	750km^2	C2
Fish					
Rhynchobatus immaculatus	Taiwanese Wedgefish	CR	Marine EAAA	7839km^2	C2
Acanthopagrus taiwanensis	Taiwan Picnic Seabream	DD	Marine EAAA	40,288km^2	C2
Bothus assimilis	-	DD	Marine EAAA	8899km^2	C2

Source: Mott MacDonald, 2025

4.3.1 Marine flora and fauna

Using the species distribution information from IBAT, geographical ranges of four marine fauna species (including one cetacean and three fish) are found to be less than 100,000km^2, which is the threshold that defines a range-restricted species. The EAAA is considered to regularly hold ⩾10% of the global population size and ⩾10 reproductive units for each of the listed species.

4.3.1.1 Taiwanese Humpback Dolphin

As mentioned in Section 4.2.1.1, Taiwanese Humpback Dolphin (*Sousa chinensis ssp. taiwanesis*) is IUCN Critically Endangered and listed as a Category I Endangered species. This subspecies is only known from the coastal waters of western Taiwan and its known range is largely within the EAAA (IUCN, 2022).

4.3.1.2 Taiwanese Wedgefish

Another marine fish, ie Taiwanese Wedgefish (*Rhynchobatus immaculatus*), is listed as Critically Endangered in the IUCN Red List. It is a poorly known shark-like ray with a restricted distribution around northern Taiwan in the Northwest Pacific. There is a high level of fisheries resource use and increasing fishing pressure across the range of wedgefishes, and as a result, targeted and incidental fishing effort is placing significant pressure on the wedgefish species in the Indo-West Pacific. While there is no specific population data available, its known range has a significant 40% overlap with the marine EAAA.

4.3.1.3 Taiwan Picnic Seabream

The marine fish, ie Taiwan Picnic Seabream (*Acanthopagrus taiwanensis*), is listed as Data Deficient in the IUCN Red List. It is a demersal fish (Froese & Pauly, 2019). while there is little information on the depth range of the species. The known geographic ranges are restricted to the Taiwan waters and the marine EAAA has a significant overlap (12.1%) with their geographic ranges.

4.3.1.4 *Bothus assimilis*

This species is a demersal species that is poorly understood with information relating to its life history and ecology being limited. This species was not observed within or around the project area, and there has also been no information on recent sightings in Taiwan according to TaiBIF. However, there may be suitable habitats for this species within the marine EAAA and there is also significant overlap (37.8%) of this species' distribution range and the marine EAAA. Therefore, it is likely that the EAAA supports a globally important concentration ($\geqslant$10% of the global population size AND $\geqslant$10 reproductive units of a species).

These four species are therefore considered critical habitat species under C2 in accordance with the EOO/AOO of the species listed above (Table 4.3)

4.3.2 Terrestrial flora and fauna

A total of 30 species of terrestrial fauna and flora species are likely to be present within the EAAA that are considered to be 'range-restricted', in accordance with the definition presented in IFC PS6 (ie have an EOO <50,000km^2). All species identified are largely confined to the island of Taiwan which has an area of approximately 36,000km^2. The EAAA for terrestrial flora and fauna (shown in Figure 2.2) is 2.55 km^2 and largely modified habitat. Therefore, it is unlikely that the EAAA presents a large enough area of suitable habitat for the species listed below to exceed the threshold for regularly holding $\geqslant$10% of the global population size AND $\geqslant$10 reproductive units of a species. Hence, no terrestrial species are considered critical habitat species under C2.

4.4 Criterion 3: Migratory and/or congregatory species

A total of 367 species in the EAAAs were screened in as having the potential to qualify as critical habitat triggers under Criterion 3 as they are migratory or congregatory species. The screened in species includes 240 birds, 5 reptiles, 109 fishes, 2 shark species, 1 horseshoe crab, 2 cephalopod, 2 mammals and 6 insects. For majority of the species, none of the EAAAs are known to sustain 1% of the global population, except for five species of birds that meets or exceeds the critical habitat thresholds (Table 4.3)

Table 4.3: Criterion 3 Assessment Outcomes for Significant Biodiversity Values in the EAAAs

Scientific Name	Common Name	IUCN Status	Relevant EAAA	Relevant criterion
Platalea minor	Black-faced Spoonbill	Endangered	Migratory bird EAAA	C3 (a)
Charadrius alexandrinus	Kentish Plover	Least Concern	Migratory bird EAAA	C3 (a)
Ciconia boyciana	Oriental Stork	Endangered	Migratory bird EAAA	C3 (a)
Thalasseus bernsteini	Chinese Crested Tern	Critically Endangered	Migratory bird EAAA	C3 (a)

Source: Mott MacDonald, 2025

4.4.1 Marine flora and fauna

A total of 116 species are likely to be present in the EAAA and considered to be migratory. This includes 106 marine fishes, two shark species, one horseshoe crab, two marine mammals (cetaceans), and five marine turtles. Using IBAT spatial data, none of the species listed are found to have at least 1% of their global population within the EAAA at any stages of their lifecycle.

4.4.2 Migratory birds (including seabirds at sea)

4.4.2.1 Black-faced Spoonbill

The black-faced spoonbill is listed as Endangered under the IUCN Red List and Near Threatened under the National Red List. It is also listed in Appendix I of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), indicating that it is a threatened migratory species. This species is found in eastern Asia including Taiwan. It feeds on intertidal mudflats and rests at a variety of sites (such as trees, man-made structures, shallow water) around the feeding areas (IUCN, 2023b). The International Black-faced Spoonbill Census was conducted in January 2024 recorded a high record of global population of 6,988, a rise of 5.4% (ie 335 individuals) from 2023. Taiwan remains the largest congregation site with 4,135 individuals comprising 59.2% of the global population. Although this species was not recorded during the baseline surveys of the EIA, 100 individuals were observed in December 2024 at Zhoushui River Estuary (within migratory bird EAAA). In addition, the global range of the Black-faced Spoonbill overlaps with the EAAA by 4.72 %. Thus, the migratory bird EAAA is likely to support a globally important population of this species under Criterion 3a (ie $\geqslant$1% of the global population of a migratory or congregatory species at any point of the species' lifecycle).

4.4.2.2 Oriental Stork

The Oriental Stork is listed as Endangered under the IUCN Red List. In recent years, the Oriental Stork has been recorded regularly, numbering approximately 1-2 individuals at the Zhuoshui River Estuary Wetland IBA. According to eBird, there was a sighting of 10 individuals at the Zhuoshui River estuary (within the migratory bird EAAA) in November 2024. Considering that the number of mature individuals globally are estimated to be 1000-2499 individuals, it is likely that >1% of the global population of oriental storks could be present within this area.

4.4.2.3 Chinese Crested Tern

The Chinese Crested Tern is listed as Critically Endangered under the IUCN Red List. There is no overlap between the Chinese Crested tern global range with the migratory bird EAAA. However, according to eBird, the species has been spotted several times in 2023 just south of Chiayi County (within the migratory bird EAAA), numbering between 1-2 individuals each time

(eBird, 2024b). As this already constitutes >1% of the global population (30-49 individuals) given its small population number, this species triggers critical habitat under C3.

4.4.2.4 Kentish Plover

The Kentish Plover is listed as Least Concern under the IUCN Red List. It is also an IBA qualifying species for multiple IBAs within the migratory bird EAAA. This includes the Pohtzi River Estuary IBA, Hsinchu City Coastal Area IBA, Kaomei Wetlands IBA, Dadu Rivermouth Wildlife Refuge IBA, Hanbao Wetlands IBA, Tacheng Wetlands IBA, Aogu Wetlands IBA, Budai Wetlands IBA, Chiku IBA, Sitsao Wildlife Refuge IBA, Yungan IBA and Qieding Wetland IBA. Although the global range of the Kentish Plover overlaps with the EAAA by only 0.04%, count surveys conducted in qualifying IBAs of the Kentish Plover show that the area is known to sustain significant concentrations of the global population (Table 4.4). While 62 observations of the Kentish Plover were recorded during the baseline surveys of the EIA report, there was a sighting of 1105 individuals at Hanbao wetlands (within migratory bird EAAA) in January 2025. Considering that the global population of Kentish Plovers is 100,000-499,999 mature individuals, it is likely that >1% of global population of Kentish Plovers could be present within this area.

Table 4.4: Number of Black-faced Spoonbill, Kentish Plovers and Oriental Storks recorded in IBAs within the migratory birds EAAA

IBAs within migratory birds EAAA	Number of Black-faced Spoonbill	Number of Kentish Plovers	Number of Oriental Storks
Dadu Rivermouth Wildlife Refuge	4 [a]	1520[a]	0
Hanbao Wetlands	0	5752[b]	0
Zhuoshui River Estuary Wetland	0	5071 [b]	2 [a]
Huben	0	0	0
Aogu Wetlands	134 [a, b]	2000 [b]	0
Puzi River Estuary	0	5182 *	0
Budai Wetlands	121 [a]	120 [b]	0
Beimen	228 [a]	0	0
Qingkunshen	174 [a, b]	0	0
Qigu	197 [a, b]	1850 [b]	0
Sitsao Wildlife Refuge	349 [a, b]	20000 [b]	0
Yungan	131 [a, b]	204 [b]	0
Yellow Butterfly Valley	0	0	0
Kaoping River	18 [a]	0	0
Qieding Wetland	285 [a, b]	398[b]	0

Note: Maximum counts in 2001 – 2014

- [a] Sites which are designated as IBAs due to the presence of significant numbers of Black-faced Spoonbill and/or Oriental Stork
- [b] Sites which are designated as IBAs as they are known or thought to hold, on a regular basis, >1% of the biogeographic population of Black-faced Spoonbill and/or Oriental Stork.

*Potential IBA trigger species
Source: Important Bird Areas in Taiwan (Second Edition), 2014

4.4.3 Terrestrial flora and fauna

A total of 6 terrestrial species are considered to be migratory that possess an overlap of its species range with EAAA. This would potentially trigger C3 as the threshold is that the terrestrial EAAA maybe sustain, on a cyclical or otherwise regular basis, ⩾ 1 percent of the global

population of a migratory or congregatory species at any point of the species' lifecycle. However, there are no exceedance of global population of more than 1%, so it is unlikely that the EAAA presents a large enough area of suitable habitat to exceed the threshold. Thus, none of the terrestrial species have exceeded the criterion threshold for C3.

4.5 Criterion 4: Highly threatened and/or unique ecosystems

The IUCN Red List of Ecosystems (RLE) categories and criteria are a global standard for assessing the status of ecosystems. It is applicable at the local, national, regional and global levels, and determines whether ecosystems are Vulnerable, Endangered, or Critically Endangered. This is measured by assessing losses in area, degradation or other major changes such as land conversion. There are no IUCN Red List assessed ecosystems in Taiwan and no national level assessments have been conducted using IUCN criteria. Therefore, the thresholds for C4 cannot be applied to the EAAAs.

4.6 Criterion 5: Key evolutionary processes

Critical habitat can be triggered through the qualitative identification of areas associated with key evolutionary processes. Various project documents and published literature reviewed as part of the assessment presented above highlighted that the marine flora and fauna EAAA (Section 3) is part of the Kuroshio Triangle, the coral ecosystems influenced by an ocean current from the tropical Philippines, subtropical Taiwan and Okinawa, and the high latitudinal coral communities off Shikoku Island, Japan (Chen & Shashank, 2009). Taiwan is a steppingstone situated in the midway corridor of the Kuroshio Triangle and provides connectivity between distant coral ecosystems. There is limited evidence as to the overall importance of Taiwanese reefs in terms of gene flow and climate change adaptation and further research is needed (Chen & Shashank, 2009). On a conservative approach it is considered that the marine flora and fauna EAAA meets the requirements of Criterion 5.

4.7 Summary of critical habitat findings

Based on the application of the thresholds for C1 to C3, critical habitat has been identified within the Marine EAAA and the Migratory bird EAAA and are listed in Table 4.5.

- C1: Critically Endangered and/or Endangered species
- C2: Endemic and/or restricted range species
- C3: Concentrations of migratory and congregatory species

There is no IUCN Red List assessed ecosystems in Taiwan and no national assessment using IUCN criteria to support the determination of critical habitat in relation to C4 (highly threatened and/or unique ecosystems).

The EAAA for marine flora and fauna can be defined as a critical habitat based on the presence of key evolutionary processes (C5).

Table 4.5: Critical Habitat Assessment (Criteria C1 to C3)

Scientific Name	Common Name	IUCN Status	C1	C2	C3
Marine fauna and fauna					
Sousa chinensis ssp. taiwanesis	Taiwanese Humpback Dolphin	CR	✓	✓	-
Rhynchobatus immaculatus	Taiwanese Wedgefish	CR	✓	✓	-

Scientific Name	Common Name	IUCN Status	C1	C2	C3
Marine fauna and fauna					
Rhinobatos schlegelii	Brown Guitarfish	CR	✓	-	-
Rhinobatos hynnicephalus	Ringed Guitarfish	CR	✓	-	-
Acanthopagrus taiwanensis	Taiwan picnic seabream	DD	-	✓	-
Bothus assimilis	-	DD	-	✓	-
Migratory birds					
Platalea minor	Black-faced Spoonbill	EN	✓	-	✓
Ciconia boyciana	Oriental Stork	EN	✓	-	✓
Thalasseus bernsteini	Chinese Crested Tern	CR	✓	-	✓
Aythya baeri	Baer's Pochard	CR	✓	-	-
Charadrius alexandrinus	Kentish Plover	LC	-	-	✓

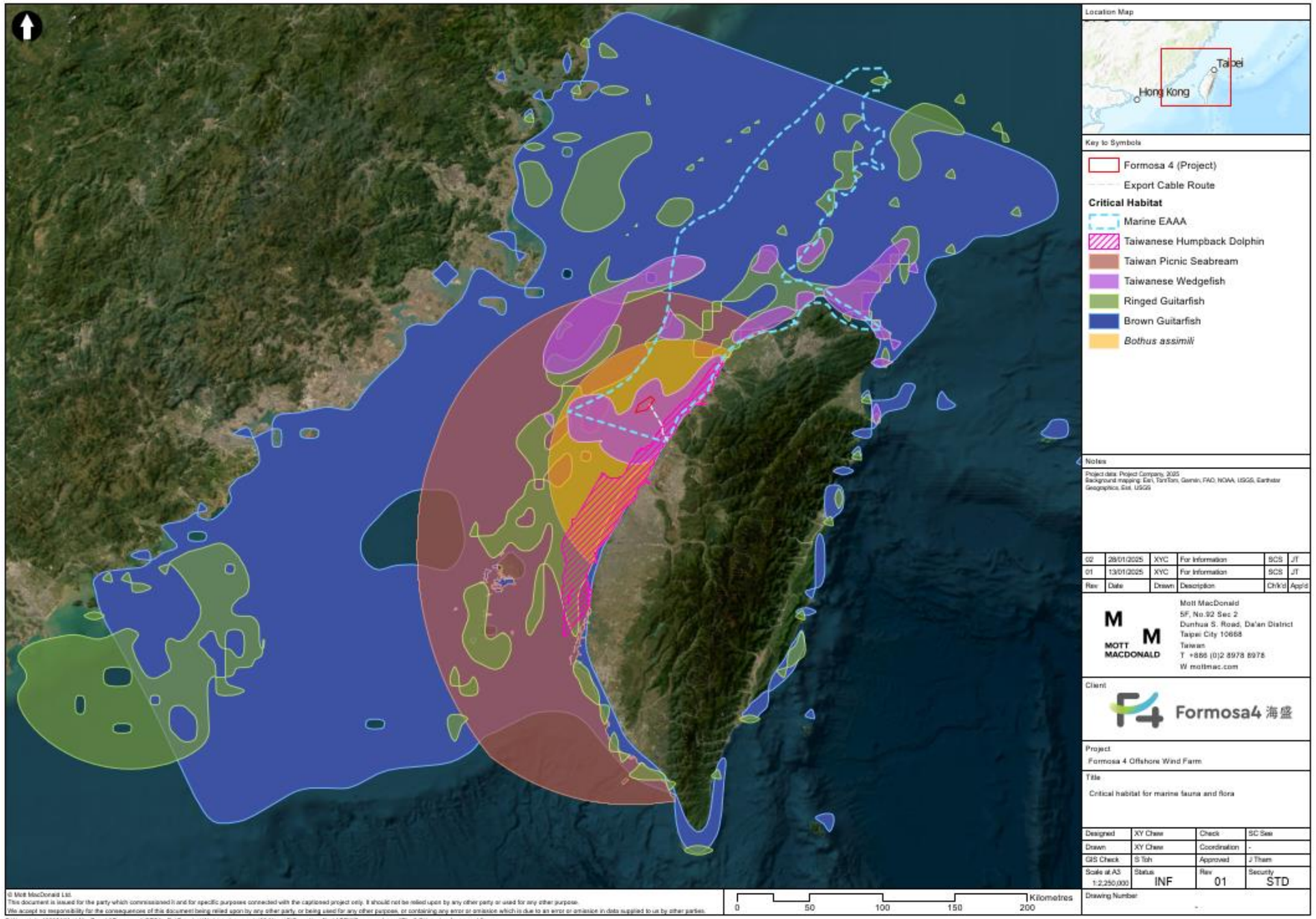
Source: Mott MacDonald, 2025

Critical habitat areas for marine fauna species and migratory birds (including seabirds) are shown in Figure 4.1 and Figure 4.2 respectively. These critical habitat maps delineate the critical habitats for each biodiversity feature identified in Table 4.5 above.

Figure 4.1 shows the critical habitats for marine fauna critical habitat features, which include the extent of the distribution of each marine fauna species off the west coast of Taiwan. Figure 4.2 shows the critical habitats for migratory bird critical habitat features, defined by the IBAs for which each of the migratory birds are qualifying species. With regards to the Chinese Crested Tern and Baer's Pochard, both bird species are not a designating species for any IBAs within the migratory birds (including seabirds at sea) EAAA. Thus, the critical habitats for the Chinese Crested Tern and Baer's Pochard are defined by the IBAs for which significant observations have been recorded.

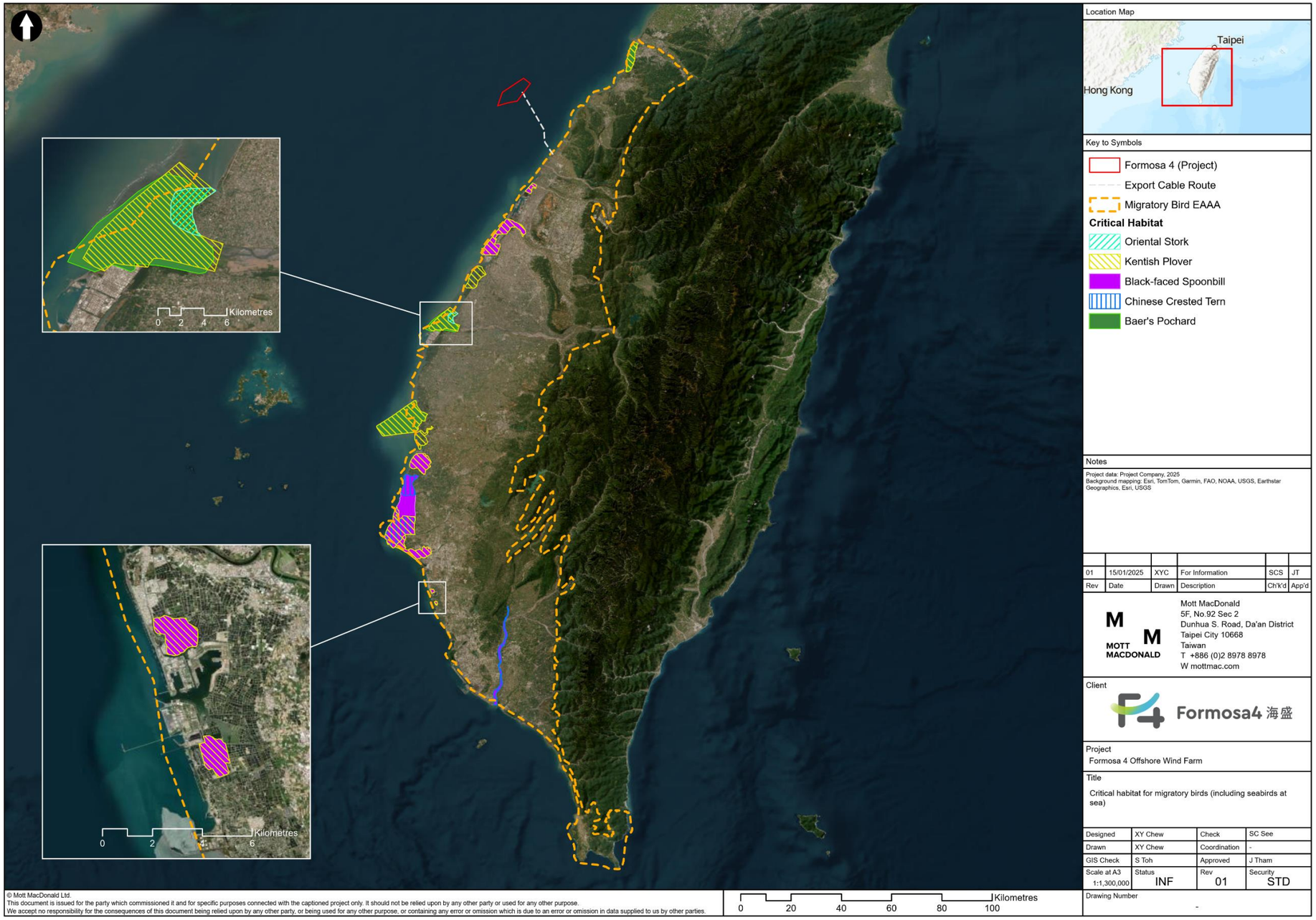
It is noted Figure 4.1 and Figure 4.2 differ from the EAAAs presented in Figure 2.2. Figure 2.2 presents the initial study area (ie the EAAAs) for the CHA, while Figure 4.1 and Figure 4.2 present the critical habitat areas for the critical habitat features that have been identified as a result of the CHA. For the purpose of developing the BAP, the initial study area used in the CHA (ie the EAAAs) has been refined to identify more specific critical habitat areas for the critical habitat features identified, with results presented in Figure 4.1 and Figure 4.2.

Figure 4.1: Critical habitat for marine fauna and flora



Source: Mott MacDonald, 2025; IBAT, 2024

Figure 4.2: Critical habitat for migratory birds (including seabirds at sea)



Source: Mott MacDonald, 2025

5 Likely Project impacts and mitigation

5.1 IFC PS6 requirements for developing in critical habitats

According to IFC PS6 Guidance Note 2019, in areas of critical habitat, project activities may be implemented provided that all of the following requirements are demonstrated:

- "No other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical.
- The project does not lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values
- The project does not lead to a net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time; and
- A robust, appropriately designed, and long-term biodiversity monitoring and evaluation program is integrated into the client's management program.

Where it can be demonstrated that the requirements defined above can be met by the project company, "*the project's mitigation strategy will be described in a Biodiversity Action Plan and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated*".

5.2 Impact significance definitions

With reference to the aforementioned Project requirements, the following subsections build on the biodiversity impact assessment which was conducted as part of the local EIA with a focus on the Project impacts on those biodiversity values for which the critical habitat was designated (see Section 4). Mitigation and monitoring measures proposed as part of the EIA, EIA addendum and Taiwanese Humpback Dolphin MWH reports had been approved by the MoEnv are in line with good international industry practice (GIIP) and are common across projects of similar nature across the globe, hence are deemed reasonably adequate. Mitigation and monitoring measures are evaluated in order to determine the residual Project impacts in the following section.

The definitions of impact significance used in this assessment are aligned with the requirements of IFC PS6 (Table 5.1)

Table 5.1: Impact significance definitions

Project impact significance	Definition of impact significance
Adverse significant	A measurable adverse impact on those biodiversity values for which the critical habitat was designated and on the ecological processes supporting those biodiversity values. A net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time
Adverse not significant	No measurable impact on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values
No adverse impact	No adverse impact on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values

Project impact significance	Definition of impact significance
Positive impact	Any positive impact on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values

Source: Mott MacDonald, 2025

5.3 Assessment of Project impacts on critical habitat

The impact of the Project from construction and operation is considered below in relation to the biodiversity values for which critical habitat has been designated. Decommissioning is considered to be the reverse process of construction where the magnitude of the impacts is similar. In the assessment below, the impacts of construction are considered to be the same for decommissioning.

The ecological mitigation for this project is included in the local EIA, EIA addendum and Taiwanese Humpback Dolphin MWH report. Although the Project is unlikely to have significant or measurable impacts on the species that trigger Critical Habitat (see Section 4), mitigation is still required to comply with IFC PS6 and to follow good international industry practice (GIIP).

The Project will implement the mitigation hierarchy (avoid, minimise, restore and offset) as part of the EIA and associated plans. It is likely that standard and tested measures can be identified and implemented to achieve no net loss for Natural Habitat and net gain for Critical Habitat (as required under IFC PS6).

5.3.1 Terrestrial flora and fauna

A total of 30 species were found to be restricted-range but do not meet or exceed the thresholds of criterion C2 (as discussed in Section 4.3.2).

Project impacts to terrestrial fauna and flora, including the residual impacts after consideration of the proposed mitigation measures, are summarised in Table 5.2 below.

Impact to reptile and amphibian during construction phase may be significantly minimised with the implementation of the proposed measures described below. Additional measures such as clear demarcation of work areas and progressive construction works are also recommended to reduce disturbance to species.

Similar to reptiles and amphibians, vegetation clearance during the construction phase is expected to have a temporary impact on all terrestrial animals. The movement of construction vehicles may also cause disturbance to animals in the vicinity. No significant impacts on terrestrial fauna and flora are expected during the operational phase of the Project. Mitigation measures proposed for the reptiles and amphibians are also applicable to the mammals, ie demarcation of work areas, progressive construction works, use of low-noise construction machinery, training of Project staff and contractors on prohibition of capture, disturb or abuse of wildlife. Project impacts to bats are likely to be limited to impacts related to the removal of trees that are potential roost sites. Impacts can be avoided and minimised through the implementation of the aforementioned mitigation measures and the project's cable-laying will be prioritised along existing roads to minimise disturbance to terrestrial habitats. It is expected that invertebrate density diminishes with distance from the land and at approximately 20km from the coast, the lower availability of prey will result in bats spending less time in high-speed chases and complex aerial manoeuvres that increase collision risks (Williams, et al., 2024). Therefore, it is not anticipated that the Project will have a significant collision impact on foraging bats. In addition, there is limited evidence of bats foraging at sea and these are limited to bats on migration rather than from central place foragers (Bach, et al., 2022; Ahlen, Baagoe, & Bach, 2009). It is therefore expected that the Project will not have a significant impact on bats in coastal or marine waters.

Vegetation clearance during the construction phase is expected to have a temporary impact on terrestrial animals. The movement of construction vehicles may also cause disturbance to animals in the vicinity. No significant impacts on terrestrial animals are expected during the operational phase of the Project. Mitigations measures proposed for the reptiles and amphibians are also applicable to terrestrial birds and bats, ie demarcation of work areas, progressive construction works, minimising vegetation removal, use of low-noise construction machinery, training of Project staff and contractors on prohibition of capture, disturb or abuse of wildlife

Table 5.2: Impacts and mitigation measures for terrestrial fauna

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
Construction phase				
Habitat loss and disturbance Some vegetation clearance is expected during the construction of onshore Project components (ie land cables and sub-station)	**Permanent**	**Adverse not significant** The total length of the land cable is estimated at maximum 4 km. The substation is planned to have a temporary footprint of 7000m^2 and a permanent footprint of 400m^2.	**Project design** Before the construction of substation and cables, comprehensive planning and control on land are needed to avoid extensive vegetation removal works. **Construction method/procedures** ● Low-noise construction machinery will be used to reduce disturbances to wildlife. ● Cable-laying will be prioritised along existing roads to minimise disturbance to terrestrial habitats. ● To minimise disturbance to aquatic habitats during cable-laying activities intersecting Fangli Creek, pipe jacking will be employed. Additionally, the Project has secured all necessary approvals from relevant authorities, including the Miaoli County Government, prior to commencing construction. ● Strict site occupation control will be employed, whereby construction activities must remain within designated impact zones. Photographic evidence and measurement records will also be utilised. ● No damage to the terrain, water pollution, or illegal dumping of waste is allowed except in designated work areas. ● If the construction of onshore project components requires the removal of trees, the replanting of native trees will be conducted in a 2:1 ratio (ie for every tree removed, two native trees will be replanted) ● Training will be conducted for Project staff and contractors on habitats and enforcement of no poaching of wildlife. **Construction monitoring** ● Terrestrial fauna monitoring will be conducted quarterly throughout construction around the power transmission and distribution system (ie substations, land cables and their surroundings).	**No adverse impact** Project components will avoid unnecessary clearance of vegetation to minimise potential impacts to terrestrial fauna. Measures are also in place to reduce disturbances to terrestrial and aquatic fauna

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
Accidental pollution events/ contaminant release Pollutants may be accidentally released into the environment as a result of accidents or natural disasters.	**Temporary**	**Adverse not significant** Accidental release of pollutants has the potential to affect the terrestrial habitat and may be difficult to remediate depending on the extent of pollution.	**Construction method/procedures** ● Wastewater and excavated material will not be discharged to the environment. Wastewater will be collected on-site and disposed of by a licensed third-party water waste disposal company. ● An emergency preparedness and response plan (EPRP) with overall procedure outline, communication channels and general team structure is in place to guide the Project Company in the event of an emergency (eg fires and natural disasters). ● Refrain from discharging sewage, waste, or soil during construction in the intertidal zone and all waste is centrally managed to prevent disruption of the original ecological function. **Construction monitoring** ● Environmental monitoring of air quality, noise and vibration will be carried out quarterly.	**No adverse impact** ● Monitoring is in place to identify potential pollution/ contaminant release ● The EPRP will have to be updated with Project specific details (eg names of the EPRP team), and emergency preparedness drills will have to be conducted to ensure that the Project team is trained to react in the event of an emergency. Equipment to handle accidental pollution events (eg spill response kit) will also need to be provided as part of the EPRP.
Road traffic collisions Use of construction vehicles may result in collisions with terrestrial fauna and lead to injury or death	**Temporary**	**Adverse not significant** Construction vehicle fleet is estimated to have a traffic flow of 44 PCU (one-way) per hour. The local EIA assessed that there will be minimal impacts to terrestrial animals in terms of roadkill.	**Construction method/procedures** ● Appropriate signage and warnings will be installed at roads and traffic intersections. ● Construction vehicles must comply with the designated transportation route. ● Drivers of construction vehicles receive relevant traffic education before commencing work and adhere to all traffic regulations.	**No adverse impact** Limitation of vehicle speeds is expected to reduce the risk of collisions with terrestrial fauna.
Operation phase				
Road traffic collisions Use of maintenance vehicles may result in collisions with terrestrial fauna and lead to injury or death.	**Temporary**	**Adverse not significant** The number of vehicles required for operation maintenance is not expected to be significant	**None proposed.**	**No adverse impact** As described under construction phase, limitation of vehicle speeds expected to reduce the risk of collisions with terrestrial fauna.

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
Accidental pollution events/contaminant release Pollutants may be accidentally released into the environment as a result of accidents or natural disasters.	**Temporary**	**Adverse not significant** Impact to terrestrial environment is envisaged to be minor or negligible during operations of an offshore wind farm due to the nature of the development.	**Operation method/procedures** ● Waste generated (if any) will not be discharged to the environment. Wastewater will be collected on-site and disposed of by a licensed third-party water waste disposal company. ● An emergency preparedness and response plan (EPRP) with overall procedure outline, communication channels and general team structure is in place to guide the Project Company in the event of an emergency (eg fires and natural disasters).	**No adverse Impact** The EPRP will have to be updated with Project specific details (eg names of the EPRP team), and emergency preparedness drills will have to be conducted to ensure that the Project team is trained to react in the event of an emergency. Equipment to handle accidental pollution events (eg spill response kit) will also need to be provided as part of the EPRP.

Source: EIA, 2023; EIA Addendum, 2024

5.3.2 Marine flora and fauna

The Project impacts on the marine fauna and flora for which critical habitat was designated (ie six species; Taiwanese Humpback Dolphin, Taiwan Picnic Seabream, Taiwanese Wedgefish, Brown Guitarfish, Ringed Guitarfish and *Bothus assimilis*), as well as the residual impacts after consideration of the proposed mitigation measures, are summarised in Table 5.3 below.

Most residual impacts of the Project on the marine fauna and flora (especially marine mammals) for which critical habitat was designated are deemed adverse not significant. The Project will need to describe in full its marine mammal mitigation strategy in a BAP. This strategy will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated.

Table 5.3: Project impacts and mitigation measures for marine fauna and flora

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
Construction phase				
Habitat loss Footprint of WTGs foundations underwater will result in the loss of benthic habitats.	**Permanent**	**Adverse not significant** The construction of offshore WTGs and submarine cables will avoid existing man-made reef structures and take up a small footprint offshore	**Construction monitoring** ● Underwater photography will be conducted quarterly during the pre-construction phase, once after pilling works have concluded and quarterly during the operation phase. ● Fish surveys will be conducted once every quarter	**Adverse not significant** The total Project's seabed footprint is approximately 0.0005% (0.08km^2) of the marine environment available within the EAAA.
Habitat change and loss Laying and burying of submarine cables will result in loss of habitat within the nearshore environment, which is within the proposed Taiwanese Humpback Dolphin MWH Laying and burying of submarine cables will result in loss of benthic habitats within the marine environment.	**Temporary**	**Adverse significant** The total length of each of the two submarine cables is estimated at 27km. Around 4km of the cable will overlap with the MWH, the remaining 23km of the cable will be laid within the marine environment between the MWH boundary to the offshore windfarm area.	**Project design** ● The submarine cable route from the WTG to landfall will take the shortest distance feasible. ● The Project footprint avoids Marine Protected Areas, including Fisheries Resources Conservation Areas. ● As the submarine cable may potentially intersect with Protection Reef Areas and Artificial Reef Areas (ie man-made structures for coastal protection), the Project has actively communicated with relevant stakeholders and has obtained consensus and approvals from the relevant authorities (ie Miaoli County Government, Tongyuan Fisheries Association, Taiwan Fisheries Agency) prior to construction activities ● As reef structures do not encompass the entirety of the designated Protection Reef Area and Artificial Reef Area, the submarine cable route will utilise corridors between these man-made reef structures for the submarine cable route, ensuring no intersections with existing reef structures. ● Silt screens will be deployed around the intertidal area during the laying of submarine cables to minimise the dispersion of suspended sediments while preventing the access of marine organisms into the construction boundary. **Construction method/procedures**	**Adverse not significant** Mitigation measures are proposed to avoid intertidal and benthic habitats and minimise the total and cumulative habitat footprint and recovery time. The total submarine cable's seabed footprint is approximately 0.0001% (0.02km^2) of the marine environment available within the EAAA. The total area affected is not considered to be a significant proportion of the total habitat available. The duration of disturbance (ie to the above area) is also only limited to be during the construction period. This is whereby the cable alignment is then reinstated (ie due to use of jet trencher) for long-term rehabilitation/restoration of the habitat to take place.

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
			● Use of horizontal directional drilling (HDD) for cable laying in the whole intertidal area to minimise impact to the natural coast. ● Submarine cables in the marine environment will be installed via a cable laying vessel and buried by a remotely operated jet trencher. Jetting methods allow for quicker recovery of bottom topography, as the trench is filled with displaced and re-suspended material immediately after digging and cable laying. ● The submarine cables are to be buried at a target depth of 1.5m. ● Contractors shall be prohibited from discharging, spilling, leaking, or dumping wastewater, oil, waste, hazardous substances, or any other pollutants announced by the central competent authority into the marine environment. **Construction monitoring** ● Intertidal and subtidal surveys will be conducted once every quarter during pre-construction, construction and post-construction.	
Underwater noise Offshore trenching, dredging, filling and foundation installation activities and the use of construction vessels would generate underwater noise and sound pressure which can impact marine fauna (especially marine mammals) in the following ways: ● Temporary/ permanent hearing loss ● Behavioural change / reactions, eg temporary loss of feeding / breeding habitats resulting in habitat displacement	**Temporary**	**Adverse significant**	**Construction method/procedures** ● No acoustic deterrent devices (ADD) will be utilised. ● A “stop work” warning zone of 750m and pre-warning zone of 750-1500m radius from the foundation will be established and maintained during installation, with the deployment of at least three qualified Taiwan cetacean observers (TCOs) on board conducting visual searches at four different directions of the warning zone and pre-warning zone. ● A stop work notice will be implemented when marine mammals enter the warning zone (ie 750m radius from foundation location). ● Foundation installation can only commence if no cetacean activities are observed for at least 30 minutes in the warning zone of 750m. ● Continuous acoustic and visual cetacean monitoring will be conducted during foundation installation to monitor	**Adverse not significant** Noise reduction mitigation techniques are expected to reduce installation sound pressure level, such that it will meet the regulatory requirements (ie 160 dB at 750m from the foundation location). Measures are also in place to monitor underwater noise levels so that adaptive management strategies can be employed if required.

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
• Interference with communication between individuals due to masking effects (ie in terms of audibility and frequency).			cetacean activity as well as monitor sound exposure levels (SEL). • Visual cetacean monitoring can only be conducted when visual visibility is deemed satisfactory, which includes the following conditions: visibility of at least 500 meters, wave height of 1 meter or less, absence of rain, fog, and strong backlighting • Overall, 95% of underwater SEL must not exceed 160dB and peak sound pressure levels (SPL_{peak}) must not exceed 190dB at a distance of 750m from the foundation center. • The warning SEL threshold of a single piling event is noted to be 158dB during a single foundation installation event (30sec average). If the warning threshold is exceeded, additional response measures will be undertaken to reduce underwater noise. • Foundation installation works will only recommence 30 minutes after ensuring no cetacean activity within the warning zone. • No start of new foundation installation activity during the period of 1 hour before sunset until before sunrise. • All video records of foundation installation works must be with date and time, and the recording must remain for at least five years. • Noise reduction mitigation techniques (eg bubble curtain) will be used during pilling works to minimise underwater noise. • Soft start (ramp-up) foundation installation method for at least 30 minutes will be used. • Offshore construction activities will be coordinated between the windfarms of the Project Company to ensure pile driving of only one WTG will be conducted at any one time. **Construction monitoring** • Four underwater microphones will be deployed 750m away from each WTG foundation location in four directions during installation works to monitor any cetacean presence.	

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
			● Cetacean monitoring will be conducted as boat survey with at least 20 times per year to monitor the cetacean activity and understand the impact significance. ● Fish and benthos surveys will be conducted once every quarter to understand the impact significance.	
Vessel strikes Use of construction vessels may increase potential collision risks with marine mammals leading to injury or death. In addition, marine species which are unable to swim, or crawl would be less able to escape collision from vessels, increasing risks of injury or death.	**Temporary**	**Adverse significant**	**Construction method/procedures** ● An observation zone of 750m will be established during submarine cable laying, whereby visual monitoring for cetaceans will be conducted by a TCO. ● Submarine cable-laying vessel speeds can only return to original levels if no cetacean activities are observed in the observation zone of 750m. ● Vessel speeds will be limited to a maximum of 6 knots within 1.5km from the proposed Taiwanese Humpback Dolphin MWH. **Construction monitoring** ● Four monitoring stations will be set up 750m away from each WTG foundation location during installation works to monitor marine mammal activity as well as sound exposure levels.	**Adverse not significant** Limitation of vessel speeds to 6 knots, proper design of navigation routes and minimising transit routes are expected to reduce the risk of collisions with marine mammals. Measures are also in place to monitor the presence of marine mammals during construction
Decreased water quality SBJ foundation installation works and laying of submarine cables will result in an increase of suspended solids, and as such increased turbidity levels in the water column. This will adversely affect water quality, thereby indirectly impacting the marine organisms. However, concentration of the suspended solids will not be high, and	**Temporary**	**Adverse not significant** As presented in the EIA addendum report, baseline levels of suspended solids (SS) for marine water quality were found to range from 1.3 to 3.2 mg/L. Foundation installation works[24] and laying of submarine cables[25] are conservatively estimated	**Construction method/procedures** ● Silt screens will be deployed around the intertidal area during the laying of submarine cables to minimise the dispersion of suspended sediments while preventing the access of marine organisms into the construction boundary. ● Wastewater and excavated material will not be discharged to the intertidal zone. Wastewater will be collected on-site and disposed of by a licensed third-party water waste disposal company. **Construction monitoring**	**Adverse not significant** Increase in turbidity levels are expected to be minimised with the implementation of good practice construction procedures. In any event, increased suspended sediment levels are likely to fall within natural variations due to waves and tides for shallow water sites (Cooper et al., 2008).

[24] Under rock dumping rate of 270m^3/hr

[25] Under maximum scouring rate of 450m^3/hr

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
suspension will be of a short duration.		to increase suspended solid (SS) levels by >0.005 to 0.25 mg/L and 0.63 to 1.68 mg/L respectively.	● Environmental monitoring of sea water quality (particularly turbidity) will be carried out during offshore works (ie WTG foundation, and submarine cable laying). ● At least 10 monitoring stations around the Project's offshore WTG footprint will be set up quarterly. ● Underwater photography will be conducted quarterly during the pre-construction phase, once after pilling works have concluded and quarterly during the operation phase.	
Physical processes from the presence of new structures The presence of new subsurface structures may affect local water movements which may in turn influence sediment transport and behaviour of some aquatic species.	**Temporary**	**Adverse not significant** While water currents may play a significant role in the dispersal of pelagic marine larvae the direct impact on larger marine mammals are expected to be insignificant.	**Construction monitoring** ● Four underwater microphones will be deployed 750m way from each WTG foundation location during installation works to monitor any cetacean presence. ● Four monitoring stations will be set up 750m away from each WTG foundation location during installation works to monitor marine mammal activity as well as sound exposure levels. ● Underwater photography will be conducted quarterly during the pre-construction phase, once after pilling works have concluded and quarterly during the operation phase.	**Adverse not significant** Measures are in place to monitor marine mammal activity during construction so that adaptive management strategies can be employed if required.
Accidental pollution events/ contaminant release Pollutants may be unintentionally released into the environment as a result accidents or natural disasters.	**Temporary**	**Adverse significant**	**Construction method/procedures** ● All vessels shall use the least sulfur containing oil (<0.5%) available in Taiwan at the time. ● Wastewater and excavated material will not be discharged to the intertidal zone. Wastewater will be collected on-site and disposed of licensed third-party water waste disposal company. ● Silt screens which will be deployed around the intertidal area during laying of submarine cables to minimise the spread of suspended sediments may also help to control the spread of other pollutants in the event of an accidental release. ● An emergency preparedness and response plan (EPRP) with overall procedure outline, communication channels and general team structure will be developed to guide the Project Company in the event of an emergency (eg vessel collision, fires and natural disasters).	**Adverse not significant** The EPRP will have to be developed with Project specific details. Emergency preparedness drills will have to be conducted to ensure that the Project team is trained to react in the event of an emergency. Equipment to handle accidental pollution events (eg spill response kit) will also need to be provided as part of the EPRP.

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
			Construction monitoring ● Environmental monitoring of sea water quality will be carried out during offshore works (ie WTG foundation, and submarine cable laying). ● At least 10 monitoring stations around the Project's offshore WTG footprint will be set up quarterly.	
Operation phase				
Underwater noise Operational wind turbines will generate a constant, low, basal level of underwater noise which may affect the behaviour of marine fauna.	**Permanent**	**Adverse not significant**	**Operational monitoring** ● Two underwater microphones will be deployed quarterly to monitor underwater noise. ● 20 visual survey trips will be conducted each year to monitor the cetacean activity to understand the impact significance. ● Fish and benthos surveys will be conducted once every quarter to understand the impact significance.	**Adverse not significant** Measures are in place to monitor any potential underwater noise impacts to marine fauna and enable adaptive management strategies if required.
Vessel strikes Use of maintenance vessels may increase potential collision risks with marine mammals leading to injury or death. In addition, marine species which are unable to swim, or crawl would be less able to escape collision from vessels, increasing risks of injury or death.	**Temporary**	**Adverse not significant**	**Operation monitoring** ● Vessel speeds will be limited to a maximum of 6 knots within 1.5km from the proposed Taiwanese Humpback Dolphin MWH.	**Adverse not significant** If recommendations for mitigation are applied, then the impact would be considered not significant.
Electromagnetic field (EMF) Electric currents in the inter-array submarine cables and submarine cables connecting the WTGs to the cable landing point may induce electromagnetic fields, influencing the behaviour of marine ecology.	**Permanent**	**Adverse not significant**	**Operational monitoring** ● 20 visual survey trips will be conducted each year to monitor the cetacean activity to understand the impact significance.	**Adverse not significant** There have been no conclusive assessments to date to show that EMF affects marine fishes, and it is unlikely that EMF would affect larger marine mammals. Measures are in place to monitor marine mammal activity during operation so that adaptive management

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
				strategies can be employed if required.
Heat emission When electrical energy is being transmitted, a small amount is lost as heat due to the Joule effect This leadsg to an increase in temperature at the cable surface and a subsequent warming of the immediate surrounding environment.	**Permanent**	**Adverse not significant**	● The submarine cables are to be buried at a target depth of 1.5m. This increases the physical distance/insulation between marine fauna and submarine cables, effectively reducing exposure to heat emissions. **Operational monitoring** ● Fish and benthos surveys will be conducted once every quarter to understand the impact significance.	**Adverse not significant** The narrowness of the submarine cable corridor and the expected weakness of thermal radiation, impacts are not considered to be significant.
Barrier effect The presence of marine structure may initiate avoidance behaviour and result in marine mammals having to swim around the WTG area.	**Permanent**	**Adverse not significant** The Project's offshore WTG footprints have been located at least 14km outside the proposed Taiwanese Humpback Dolphin MWH. The added distance that marine mammals have to swim around the wind farm array and adjacent projects is relatively small compared to the total distance travelled by marine mammals.	**None proposed**	**Adverse not significant** The total Project's seabed footprint is approximately 0.0005% (0.08km^2) of the marine environment available within the EAAA.
Accidental pollution events/ contaminant release Pollutants may be unintentionally released into the environment as a result accidents or natural disasters.	**Temporary**	**Adverse not significant**	● An emergency preparedness and response plan (EPRP) with overall procedure outline, communication channels and general team structure will be developed to guide the Project Company in the event of an emergency (eg vessel collision, fires and natural disasters).	**No adverse impact** ● Impacts to sea water quality is envisaged to be minor or negligible during operations of a offshore wind farm due to the nature of the development. ● The EPRP will have to be updated with Project specific details (eg names of the EPRP

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
				team), and emergency preparedness drills will have to be conducted to ensure that the Project team is trained to react in the event of an emergency. Equipment to handle accidental pollution events (eg spill response kit) will also need to be provided as part of the EPRP.
Reef effect The presence of turbine foundations in marine waters will result in the development of a reef community. This includes an increase of reef-dwelling fishes surrounding the Project.	**Permanent**	**No adverse impact** The effects of the development artificial reefs is not considered likely to have a significant adverse effect because the development would represent a positive contribution to biodiversity and ecosystem function	**Operational monitoring** ● Fish and benthos surveys will be conducted once every quarter to understand the impact significance.	**Positive impact** The development of artificial reefs is considered to represent a positive contribution to biodiversity and ecosystem function.

Source: EIA, 2023; EIA Addendum, 2024

5.3.3 Migratory birds (including seabirds at sea)

Critical habitat is designated for five migratory birds and seabirds at sea (ie Black-faced Spoonbill, Kentish Plover, Oriental Stork, Chinese Crested Tern and Baer's Pochard) are likely to be present within the EAAA and the Project's area of influence.

Project impacts to these migratory birds, prior to and after the implementation of the proposed mitigation measures, are summarised in Table 5.4 below.

All of the residual impacts of the Project on the migratory birds and seabirds at sea for which critical habitat was designated are considered as adverse not significant. As described above, the project design itself will implement various WTG design considerations to minimise the risk of bird collisions.

Table 5.4: Impacts and mitigation measures for migratory birds and seabirds at sea

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
Construction phase				
Habitat loss, disturbance and displacement Laying of submarine cables and above-ground cables would result in the temporary loss of habitat within the nearshore environment and intertidal environment. This may potentially affect the behaviour of birds (eg daily movement and loss of feeding/foraging grounds).	**Temporary**	**Adverse significant** The density and abundance of seabirds at sea is considered to be low. Furthermore, the presence of seabirds such as divers (Gaviiformes) and sea ducks, typically the most sensitive species, are not recorded in the Project area of influence.	**Construction method/procedures** ● Horizontal directional drilling (HDD) will be used for all cable laying that falls within the intertidal area to minimise impact to the natural coast ● Wastewater and excavated material will not be discharged to the intertidal zone. Wastewater will be collected on-site and disposed of licensed third-party water waste disposal company ● Silt screens will be deployed around the intertidal area during the laying of submarine cables to minimise the dispersion of suspended sediments while preventing the access of marine organisms into the construction boundary. **Pre-construction monitoring** ● Radar survey will be conducted for a one year (ie 3 surveys in spring, summer, autumn and 1 survey in winter) to monitor bird migratory flightpaths. **Construction monitoring** ● Marine and coastal bird surveys will be conducted quarterly (ie 3 surveys in spring, summer, autumn and 1 survey in winter) during the construction phase ● Intertidal surveys will be conducted once every quarter	**Adverse not significant** Mitigation measures are in place to limit the temporary habitat loss during construction phase.
Operation phase				
Collision with wind turbine blades Bird injury and fatalities may result due to collision with rotating wind turbine. Frequency and likelihood of such event is dependent on the bird species, and their flight altitude. Migratory waterbirds and	**Permanent**	**Adverse significant** The number of bird collisions have been estimated at 33.7 birds/year[26]	**Project design** ● According to European experience, if too many lights are installed on the turbine, it may have risk of attracting birds to fly close to it. The Project will follow Article 17 of the Aviation obstacle sign and obstacle light setting standard which the electric generator structure will use Type A obstructing light. Its implementing method will follow horizontal direction intervals not exceeding 900m and be implemented on the	**Adverse not significant** An updated Collision Risk Modelling (CRM) assessment was conducted for the Project's critical habitat bird species. Comparing the estimated collision-related mortality against the natural mortality rates of these species,

[26] Based on a worst-case scenario from the bird collision modelling which assumes an individual WTG capacity of 9.5MW and 98% avoidance rate of birds.

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
breeding seabirds are most likely to collide with the wind turbines.			corners or most outer row. The number of warning lights installed on the turbines will hence be based on the wind farm layout configuration. **Operation phase monitoring** ● Surveillance devices (ie thermal imaging, acoustic microphone, radar) will be installed within the windfarm to allow continuous monitoring of bird activities. ● Radar survey will be conducted to monitor bird migratory flightpaths. ● Visual surveys will be conducted for a one year (ie 3 surveys in spring, summer, autumn and 1 survey in winter) throughout operation in the vicinity of Project's offshore WTG footprint	the estimated annual collision rate remains within the recognised negligible effect criterion[27]. It should also be noted that inputs (ie presence of birds) for the CRM are already conservatively theoretically assumed (ie, other than the kentish plover, no other critical habitat bird species were observed during bird surveys conducted). Hence, the residual impact of the critical habitat bird species can be considered adverse but not significant. In addition, various design considerations have been incorporated to minimise risk of bird collusions. Measures are also in place to monitor any potential bird mortalities and enable adaptive management strategies if required. Through successful implementation of the BAP actions, a net gain in species populations is also anticipated. Further details are available within the Biodiversity Action Plan (BAP).
Barrier effect The presence of WTG may initiate avoidance behaviour and result in birds having to fly around the array area.	**Permanent**	**Adverse not significant** The added distance to fly around the wind farm array and adjacent projects is relatively small compared to the	**Project design** ● WTG placement will be designed to ensure sufficient distance (ie 750m) between WTGs to allow for birds flying through the Project's offshore WTG footprint. The turbine layout is based on the parallel prevailing wind direction of at least 1,300 m and the vertical prevailing wind direction of at	**Adverse not significant** Project design and monitoring are in place to minimise avoidance behaviour, and the distance required for birds to fly around the array area.

[27] According to the *Second report on the Application of Directive No 79/409/EEC on the Conservation of Wild Birds* by the Commission of the European Communities, the removal of birds amounting to 1% of the total annual mortality of a bird population is considered to have a negligible effect on the population dynamics of the species concerned.

Project impact	Impact duration	Impact significance	Mitigation and monitoring measures	Residual impact significance
		total distance flown by migratory birds and seabirds at sea. Radar surveys were conducted as part of the baseline studies, and the EIA suggested that there would be minimal impact to the flight path of migratory birds	least 750 m. The tip-to-tip distance of the turbine blades are at least 400m. ● A "flight corridor" of at least 2 km wide within the Project's offshore WTG footprint and nearby offshore WTG footprint from other projects will be set aside for birds passing through. At the time of writing, there are currently no other windfarm projects in close proximity to the Project's offshore WTG location. **Operation phase monitoring** ● Surveillance devices (ie thermal imaging, acoustic microphone, radar) will be installed within the windfarm to allow continuous monitoring of bird activities. ● Radar survey will be conducted to monitor bird migratory flightpaths. ● Visual surveys will be conducted for a one year (ie 3 surveys in spring, summer, autumn and 1 survey in winter) throughout operation in the vicinity of Project's offshore WTG footprint	

Source: EIA, 2023; EIA Addendum, 2024

5.4 Highly threatened and/or unique ecosystems

It is considered that the EAAAs are not critical habitat for highly threatened and/or unique ecosystems.

5.5 Key evolutionary processes

It was identified that the marine flora and fauna EAAA is critical habitat for key evolutionary processes in relation to coral reef ecosystems. The mitigation presented in Section 5.3.2 includes the relevant mitigation measures to avoid and minimise adverse impacts on coral reefs. Given the large spatial scale at which the ocean current operates within the Kuroshio Triangle it is not expected that the Project will influence the movement of genes or impede climate change adaption because the Project will not interfere with the main Kuroshio current located off the Pacific east coast of Taiwan and will likely have little measurable influence on the Kuroshio Branch current moving through the Taiwan Strait.

6 Ecosystem services assessment

IFC PS 6 (2019) defines ecosystem services as “the benefits that people, including businesses, obtain from ecosystems”, which accords with the definition provided by the Millennium Ecosystem Assessment (MEA). While there is no single system for categorising ecosystem services, the MEA framework is widely accepted and as acknowledged in IFC PS 6 (paragraph 2), provides a useful starting point.

The MEA identifies four broad categories of ecosystem services as follows:

- Provisioning services are the goods or products obtained from ecosystems, such as food, timber, medicines, fibre, and freshwater
- Regulating services are the benefits obtained from an ecosystem’s control of natural processes, such as climate regulation, disease control, erosion prevention, water flow regulation, and protection from natural hazards
- Cultural services are the nonmaterial benefits obtained from ecosystems, such as recreation, spiritual values, and aesthetic enjoyment
- Supporting services are the natural processes such as soil formation, nutrient cycling and primary productivity that maintain other ecosystem services

6.1 Ecosystems in the Project Area

Within the EIA terrestrial study area, vegetation is classified as open forest, grassy shrubs and agricultural land. Man-made coastal forest was afforested along the coast of Miaoli County, whereby the vegetation has gradually recovered after human disturbances. The species composition is in its early stages of succession, whereby it is dominated by *Casuarina equisetifolia*. Some roadside vegetation was also identified but were mostly composed of grassy shrubs. The area is pre-dominantly occupied by agricultural land and man-made structures, and hence, considered a modified habitat. The affected marine area of the project is open water habitat which is considered a natural habitat. Section 3.3 above describes the habitats that are found within the terrestrial, migratory birds and marine EAAA.

6.2 Key Project impacts likely to affect ecosystem services

The construction of offshore components such as the wind turbine foundations and export cables are likely to affect the existing marine and coastal habitats present, and in turn drive ecosystem change. This has the potential to lead to direct and indirect impacts on ecosystem services for communities reliant on marine and coastal resources. The major potential impacts from the construction of the offshore components include:

- Waterborne acoustic disturbances and vibrations from underwater construction activities such as piling works
- Increased sediment dispersal from the underwater construction works including pilling for foundation installation as well as the laying and burying of the export cables
- Increased shipping traffic for the transportation of materials and construction labour
- Limitations on access to fisheries due to the Project exclusion boundaries set up around working areas

During the operational phase, Project activities are likely to introduce new drivers of ecosystem change in addition to ongoing impacts from drivers that have been brought about during the

construction phase as described above. The major potential impacts from the operation of the wind farm include:

- Waterborne acoustic disturbances and vibrations from operation of the turbines
- Underwater electromagnetic fields from the underwater transmission cables
- Limitations on access to vessels (ie fisher folks) as established around the operating turbines
- Bird collision with wind turbine blades
- New biodiversity habitat creation/gain from wind turbine bases

6.3 Ecosystem services present in the area

Based on the existing ecosystems present in the area and the key impacts identified above, a list of ecosystem services that are present within the Project area has been identified in Table 6.1 below. The importance of the ecosystem services to the local communities are highlighted and the likely impact of the Project on each ecosystem services are described. Mitigation measures were identified where possible; however, most impacts have been addressed through mitigation measures from other plans, especially those related to biodiversity, hydrology and communities and references to those plans have been added into Table 6.1 below where relevant.

Table 6.1: Ecosystem services present and likely impacts due to the Project

Service	Phase	Description of current provision	Importance of the ecosystem services to local area	Impacts to the ecosystem service due to the Project	Mitigation measures
Provisioning services					
Food: Fisheries catch	Construction	Marine open water habitats that are used by locals for fishing as a livelihood activity. The Tongyuan District Fisheries Association have exclusive fishery rights in designated area within the Miaoli County.	The Project location is used by locals within the Miaoli County for fishing, which provides a source of income for the fishermen.	The offshore windfarm site for this Project does not overlap with the fishing ground under the Tongyuan District Fisheries Association, however, export cables of this Project will overlap with this area. However, as the construction of the cable trenches and laying of the export cables will only be limited to short periods, the impact is considered short term and localised and the area will be reinstated. Increased marine traffic, underwater noise from foundation installation and increased in sediment dispersal may cause disturbance to fish habitats and subsequent displacement of fish and interference with spawning activities, which may result in shift of productive fishing grounds and affect the livelihood of fishermen in the short term. Overall, the Project is expected to result in temporary loss of the marine open water habitat. However, as this is considered a short-term loss it is unlikely to significantly impact the provisioning service of this ecosystem.	Refer to relevant assessment and mitigation measures within associated documents such as the biodiversity action plan (BAP) and cumulative impact assessment (CIA).
	Operation			During the operation phase of the Project, significant loss in fisheries resources or fish ground is not expected as the WTG locations are outside of the exclusive fishing right area (ie expected to be the main fishery area). The WTGs are located approximately 20km from shore, which is outside the expected operating range (ie 12 nautical miles) of the fishing vessels (ie coastal fishing 沿岸漁業) registered with fishermen associations in Miaoli. Where there are fishing vessels that could possibly operate at beyond such offshore distance, this would imply that the vessel would have correspondingly a large operating range. The area of the fishing exclusion zone established around the operating WTGs would thus become a very minimal portion of the vessel's range. The foundations of the WTGs can serve the function as artificial reefs, providing substratum for colonisation of marine fauna. No adverse impact on marine open water habitat is identified during the operation phase of the Project and is therefore unlikely to significantly impact the provisioning service of this ecosystem.	

Service	Phase	Description of current provision	Importance of the ecosystem services to local area	Impacts to the ecosystem service due to the Project	Mitigation measures
Regulating services					
Regulation of local, regional and/or global climate	Construction	Coastal habitat and seabeds can act as sources of carbon storage which can reduce the amount of atmospheric carbon.	Storage of carbon serves as a form of climate regulation which can reduce risks to local communities from extreme temperatures.	The laying of submarine cables requires construction of cable trenches in seabeds which may release stored carbon in the process. Laying of the cable on land to the grid may cause accidental damage to coastal vegetation which can also release stored carbon. However, a common corridor for submarine cable installation (ie Fangli common corridor) has been identified which can minimise disturbance and carbon release. The proposed alignment of the onshore cables is not expected to remove large amount of vegetation Affected areas will also be reinstated. Horizontal directional drilling (HDD) for cable laying will also be utilised in the intertidal area to minimise impact to the natural coast The Project is expected to only result in temporary disturbance to coastal habitat and wetland habitat and is therefore unlikely to significantly impact the regulating service of this ecosystem.	Refer to mitigation measures in the EIA
	Construction	Windbreak forest along the western coast of Miaoli country	The Project location features a strategically planted windbreak forest along the western coast of Miaoli County, designed to mitigate wind erosion and protect the coastline from natural hazards	The majority of the Project's onshore components do not overlap with any forest habitats. However, the onshore cables of the Project will overlap with a windbreak forest, located along the western coast of Miaoli County. Vegetation clearance may cause disturbance to terrestrial habitats and interference with the natural mechanisms that stabilise and protect loose soil. Tree roots anchor the soil, preventing it from being easily washed or blown away, while the forest canopy intercepts rainfall, reducing its impact on the soil surface. However, the proposed alignment of the onshore cables is not expected to remove large amount of vegetation. The laying of the onshore cables is considered to be short term and localised and the area will be reinstated. Overall, the Project is expected to result in temporary loss of the windbreak forest. However, as this is considered a short-term loss and it is unlikely to significantly impact the regulating service of this ecosystem	Refer to mitigation measures in the EIA
Cultural services					

Service	Phase	Description of current provision	Importance of the ecosystem services to local area	Impacts to the ecosystem service due to the Project	Mitigation measures
Aesthetic enjoyment	Construction/ operation	Coastline of Miaoli county which can be used for aesthetic purposes	Local communities may use the coastline to enjoy the sunsets/sunrise and sea breeze and waves.	Construction machinery will obstruct the natural landscape view along the coast of Miaoli County but will be temporary and demobilised once construction is completed. Positioning of machinery and storage of construction materials need to take into consideration the impact on landscape and will be neatly placed. As assessed by the EIA, during the operation stage, the WTGs are far from the coast (ie approximately 20km) for the human eye to see. In addition, identified affected landscape observation points are not typically utilised by the general public and the WTGs are of very limited visibility even during good weather. The Project is expected to only result in temporary disturbance to the natural landscape during construction and has no significant adverse impact on landscape during operation. Hence, it is unlikely to significantly impact the cultural service that are provided by this area.	Refer to mitigation measures in the EIA.
Recreational value	Construction/ operation	Wetland habitat serves as recreational sites.	The Project site is located near to the Xihu Important Wetland which is used especially during peak migratory season for birds watching.	As mentioned above, the windfarm is of limited visibility from the coast. The construction/ operation of the windfarm is unlikely to result in any significant changes to the recreational value (ie bird watching) in the wildlife sanctuary. No adverse impact on the wildlife sanctuary is identified during the operation phase of the Project and is therefore unlikely to significantly impact the cultural services that are provided by this area.	Not applicable.
Supporting services			Supporting services are services that are necessary for the production of other ecosystem services, some examples include soil formation, nutrient cycling and primary productivity. These have not been assessed separately as they have been covered through the provisioning, regulating and cultural services that they support.		

Source: Mott MacDonald, 2025

Based on the assessment above, the Project is not expected to cause a significant loss of any natural capital stocks. The largest loss would be marine open water habitats, however, mitigation measures within the BAP and CIA are deemed sufficient to minimise these losses and/or impacts to the local communities. This applies also for other types of natural capital stock discussed above, where mitigation measures from existing plans are deemed sufficient. While there is no significant impacts identified, the Project should aim to avoid causing adverse impacts to natural capital stocks and its corresponding ecosystem services throughout the Project duration.

7 Recommendations

7.1 On-site restoration

Habitats affected temporarily by construction should be restored to their status before the Project, as much as possible. If appropriate, plans or measures for habitat removal and restoration should be produced, before the start of construction. These plans or measures will set out the minimum requirements in relation to the clearance and restoration of natural habitats (if any). Subsequently, these measures will form part of Construction Environmental and Social Management Plan (CESMP).

7.2 Offsetting and other forms of compensation

Biodiversity offset may be required to ensure overall net gain of Critical Habitat and no net loss for Natural Habitat, in line with IFC PS6. The guidance published by the Business and Biodiversity Offsets Programme (http://bbop.forest-trends.org/pages/guidelines) will be used to guide the biodiversity offset design steps.

7.3 Biodiversity management and action plans

Given that the Project is located in Critical Habitat (see Section 4), and irrespective of project impacts, a project-specific BAP has been developed. The aim of the BAP is to demonstrate net gain in Critical Habitats and no net loss in Natural Habitat, as required by IFC PS6.

The BAP has been developed and includes both onsite mitigation during construction and long-term conservation actions during project operation. The BAP uses the mitigation hierarchy and includes objectives, targets and indicators, responsibilities, programme, reporting and monitoring requirements. The scope of the BAP is commensurate with the biodiversity risks and impacts of the Project, as described in this CHA.

The BAP is prepared using international guidance and good practice (IPIECA, 2005; IFC, 2019).

8 Conclusions

The CHA determined that the Project is located in critical habitat for the following biodiversity values:

- Criterion 1 (C1) (a), (b) and (c): the presence of critically endangered, endangered and vulnerable (a global range overlapping with >0.5% of the EAAAs) species, namely:
  - Marine flora and fauna:
    - Taiwanese humpback dolphin (*Sousa chinensis ssp. Taiwanensis*) (C1a)
    - Taiwanese Wedgefish (*Rhynchobatus immaculatus*) (C1a)
    - Brown Guitarfish (*Rhinobatos schlegelii*) (C1a)
    - Ringed Guitarfish (*Rhinobatos hynnicephalus*) (C1a)
  - Migratory birds (including seabirds at sea):
    - Black-faced spoonbill (*Platalea minor*) (C1a)
    - Oriental stork (*Ciconia boyciana*) (C1a and C1c)
    - Chinese crested tern (*Thalasseus bernsteini*) (C1a and C1c)
    - Baer's Pochard (*Aythya baeri*) (C1a and C1c)
- Criterion 2 (C2): the presence of restricted-range species, namely:
  - Marine flora and fauna:
    - Taiwanese humpback dolphin (Sousa chinensis ssp. Taiwanensis)
    - Taiwanese Wedgefish (Rhynchobatus immaculatus)
    - Taiwan Picnic Seabream (*Acanthopagrus taiwanensis*)
    - *Bothus assimilis*
- Criterion 3 (C3) (a) and (b): the presence of migratory and congregatory species:
  - Migratory birds (including seabirds at sea)
    - Black-faced spoonbill (*Platalea minor*)
    - Oriental stork (*Ciconia boyciana*)
    - Chinese crested tern (*Thalasseus bernsteini*)
    - Kentish Plover (Charadrius alexandrinus)
- Criterion 5 (C5): the presence of key evolutionary processes
  - EAAA for marine fauna and flora

Therefore, as relevant to this Project, the biodiversity values considered to be Critical Habitat are:

- Marine species:
  - Taiwanese humpback dolphin (*Sousa chinensis ssp. Taiwanensis*) (C1a and C2)
  - Taiwanese Wedgefish (*Rhynchobatus immaculatus*) (C1a)
  - Brown Guitarfish (*Rhinobatos schlegelii*) (C1a)
  - Ringed Guitarfish (*Rhinobatos hynnicephalus*) (C1a)
  - Taiwan Picnic Seabream (*Acanthopagrus taiwanensis)* (C2)
  - Bothus assimilis (C2)
- Migratory birds:
  - Black-faced spoonbill (*Platalea minor*) (C1a and C3a)

  - Oriental stork (*Ciconia boyciana*) (C1a, C1c, and C3a)
  - Chinese crested tern (*Thalasseus bernsteini*) (C1a, C1c, and C3a)
  - Kentish Plover (*Charadrius alexandrinus*) (C3a)
  - Baer's Pochard (*Aythya baeri*) (C1a and C1c)
- EAAA for marine fauna and flora

During baseline surveys conducted for the EIA, EIA addendum and Taiwanese Humpback Dolphin MWH report, one direct observation and three reported observations of the Taiwanese Humpback Dolphin were noted. In addition, a peak count of 62 individual Kentish Plovers was recorded during the EIA baseline surveys. The remaining critical habitat species were not observed directly during these surveys, though the presence of these species were identified (ie fulfilling the CH criterions) within the marine flora and fauna EAAA and migratory bird EAAA respectively.

The proposed mitigation measures contained within the EIA must be implemented to avoid and minimise significant impacts to the biodiversity values for which critical habitat was designated and the supporting habitat, as well as avoidance of a net reduction in the global and/or national population of any Critically Endangered or Endangered species.

The residual project impact significance for the species groups that triggered critical habitat (ie marine fauna and migratory birds (including seabirds at sea) are summarised in Table 8.1. To address residual impacts on critical habitat features, a BAP containing additional recommendations (ie offset options and additional conservation actions) and further details on the actions required to achieve net gains for critical habitats and species is recommended for the Project.

Table 8.1: Residual impact significance for critical habitat features

Project impact	Residual impact significance
Marine fauna	
Construction phase	
Habitat loss	Adverse not significant
Habitat change and loss	Adverse not significant
Underwater noise	Adverse not significant
Vessel strikes	Adverse not significant
Decreased water quality	Adverse not significant
Physical processes from the presence of new structure	Adverse not significant
Accidental pollution events/ contaminant release	Adverse not significant
Operation phase	
Underwater noise	Adverse not significant
Vessel strikes	Adverse not significant
Electromagnetic field (EMF)	Adverse not significant
Accidental pollution events/ contaminant release	No adverse impact
Barrier effect	Adverse not significant
Reef effect	Positive impact
Migratory birds and seabirds at sea	
Construction phase	
Habitat loss, disturbance and displacement from cable laying	Adverse not significant
Operation phase	

Project impact	Residual impact significance
Collision with wind turbine blades	Adverse not significant
Barrier effect	Adverse not significant

Source: Mott MacDonald, 2025

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A. Legally protected and internationally recognised areas within the EAAA (more than 50km)

Within the EAAA, all legally protected areas that are more than 50km from the project footprint are summarised in Table A.1 below, and the locations of each legally protected area are shown in Figure A.1. Further details of each legally protected area are also provided in Table A.1 below.

Table A.1: Legally protected areas (and other areas/zoning of note) within the EAAAs (more than 50km from the project footprint)

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
Ecological Park of Toucian River Important Wetland	Approximately 57km north of the export cables of the Project	Cover approximately 565.94km^2 The wetland features a variety of habitats, including tidal sections, sandbanks, mudflats, and larger riverbeds. These habitats support a wide range of flora and fauna, including halophytes, sand plants, mangroves, and invertebrates on the coastal mudflat and intertidal zone.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Yunlin Huben Fairy Pitta Major Wildlife Habitat	Approximately 74km south of the export cables of the Project	Covers approximately 17.37km^2 Largest known breeding site in the world for the Fairy Pitta (Pitta nympha), a small passerine bird that is listed as a Vulnerable Species on the IUCN Red List of Threatened Species and as a Rare and Valuable Species under Taiwan's Wildlife Conservation Ac	Forestry Bureau, Council of Agriculture	Regulation: Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to major wildlife habitats. It is broadly taken that the further the distance the better, as this reduces likely impact Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed.
Chenglong Important Wetland	Approximately 108km south of the export cables of the Project	Cover approximately 1.71km^2 Formed due to the low altitude of the lower Hukou Village and the overuse of groundwater, which led to land subsidence and seawater intrusion. This wetland is an important habitat for migrating birds and supports a variety of wildlife	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Yiwu Important Wetland	Approximately 110km south of the export cables of the Project	Cover approximately 18.6km^2 Originally a sugarcane farm owned by Taiwan Sugar Corporation but was transformed into a wetland due to seawater intrusion caused by a typhoon. The wetland also supports rare and valuable species such as the Oriental White Stork, Painted Snipe, Saunders' Gull and Black-shouldered Kite	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Jiianan's Reservoir and Canal Important Wetlands	Approximately 111km south of the export cables of the Project	Cover approximately 1.95km^2 Farm ponds are an important landscape element in Jianan Plain, whereby the wetland encompasses 18 farm ponds. The farm ponds are distributed along the central corridor of Jianan Plain, serving as stepping stones and ecological habitats for many migratory birds and the less migratory amphibians	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
• Chayi County Aogu Major Wildlife Habitat • Aogu Important Wetland	Approximately 113km south of the export cables of the Project	Chayi County Aogu Major Wildlife Habitat covers approximately 6.64km^2, which overlaps with the Aogu Important Wetland Records of 37 families and 158 species of birds, of which 22 are of conservation significance. Major wintering area for diurnal wild fowls and an important habitat for wild birds along the southeastern coast of Taiwan. Other resident animals include Formosan Hares, rare species of reptiles such as Taiwan cobra (Naja atra, banded krait (*Bungarus multicinctus*), and pointed-scaled pitviper (*Trimeresurus mucrosquamatus*).	Forestry Bureau, Council of Agriculture	Regulation: Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to major wildlife habitats and important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed. The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Puzih Estuary Important Wetland	Approximately 115km south of the export cables of the Project	Cover approximately 48.8km^2 located in Dongshi Township of Chiayi County and partially in Budai Village. It extends northeast to Harbor Bridge in Chiayi County with the riverbank of both sides as boundaries Mangrove trees including *Avicennia marina* and *Kandelia obovata* grow in the wetland. Around 179 bird species have been recorded in the wetland and surrounding areas.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Haomeiliao Important Wetland	Approximately 127km south of the export cables of the Project	Cover approximately 9.59km^2 Encompasses estuaries, sandbanks, lagoons, beefwood, and mangroves. This wetland offers migratory birds a place to rest, forage, and winter. It is also an aquaculture area with fish, shrimp, and shellfish.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Budai Salt Pan Important Wetland	Approximately 127km south of the export cables of the Project	Cover approximately 7.22km^2 Includes old salt fields, fish farms, reservoirs, and a wetland park. The wetland is adjacent to the Zanliaogo Drainage System and Longgong River Drainage System. It was developed in 1938 and decommissioned in 2001. Important habitat for migratory birds. Notable bird species include the endangered Black-faced Spoonbill, Oriental White Stork, and Peregrine Falcon. The wetland also supports rare and valuable species such as the Common Kestrel, Little Tern, Painted Snipe, and Hen Harrier	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Bajhang Estuary Important Wetland	Approximately 132km south of the export cables of the Project	Cover approximately 6.28km^2 Extends north to the south side of Haomeiliao Wetland and the north levee of Bajhang River, south to Baima Levee Known for its diverse ecological resources, including various species of shellfish, crabs, and birds. Notable bird species include Black-faced Spoonbills, Saunders' Gulls, Eurasian Curlews, and Black-headed Gulls.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
					The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Wanli Aquatic Plants and Animals Reproduction Conservation Area (萬里水產動植物繁殖保育區)	Approximately 135km north of the export cables of the Project	Covers approximately 2.8 km^2 Established in 1999 To maintain biodiversity and protect the coastal and marine ecology and environment, the government of Taiwan established aquatic organisms' propagation and conservation zones in areas containing important ecology or species. This area is a 'multifunction' area that allows for the sustainable use of marine resources, where a limited amount of harvesting activities is permitted.	Fisheries Agency, Ministry of Agriculture/New Taipei City Government	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to conservation areas. It is broadly taken that the further the distance the better, as this reduces likely impact
Yehliu Aquatic Plants and Animals Reproduction Conservation Area (野柳水生植物及動物繁殖保護區)	Approximately 136km north of the export cables of the Project	Covers approximately 0.03 km^2 Established in 2019 To maintain biodiversity and protect the coastal and marine ecology and environment, the government of Taiwan established aquatic organisms' propagation and conservation zones in areas containing important ecology or species.	Fisheries Agency, Ministry of Agriculture/New Taipei City Government	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to conservation areas. It is broadly taken that the further the distance the better, as this reduces likely impact
Keelung City Aquatic Plants and Animals Reproduction Conservation Area (基隆市水生植物及動物繁殖保護區)	Approximately 136km north of the export cables of the Project	Covers approximately 13.56 km^2 Established in 1999 To maintain biodiversity and protect the coastal and marine ecology and environment, the government of Taiwan established aquatic organisms' propagation and conservation zones in areas containing important ecology or species. This area is a 'multifunction' area that allows for the sustainable use of marine resources, where a limited amount of harvesting activities is permitted.	Fisheries Agency, Ministry of Agriculture/Keelung City Government	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to conservation areas. It is broadly taken that the further the distance the better, as this reduces likely impact
Beimen Important Wetland	Approximately 136km south of the export cables of the Project	Cover approximately 17.9km^2 The wetland includes estuaries, shoals, fishing ponds, lagoons, beaches, and salt pans. It is known for its diverse ecological resources, including various species of shellfish, crabs, and birds. Notable bird species include Black-winged Stilts, Kentish Plovers, Black-faced Spoonbills, and Saunders' Gulls. The wetland also supports rare plants such as Gray Mangrove (*Avicennia marina*)	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Wanghaixiang Chaojing Bay Resource Conservation Area (望海巷潮境灣資源保護區)	Approximately 141km north of the export cables of the Project	Covers approximately 0.186 km^2 Established in 2016 To maintain biodiversity and protect the coastal and marine ecology and environment, the government of Taiwan established aquatic organisms' propagation and conservation zones in areas containing important ecology or species.	Fisheries Agency, Ministry of Agriculture/ Keelung City Government	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to conservation areas. It is broadly taken that the further the distance the better, as this reduces likely impact
Ruifang Aquatic Plants and Animals Reproduction Conservation Area (瑞芳水生植物及動物繁殖保護區)	Approximately 142km north of the export cables of the Project	Covers approximately 1.24 km^2 To maintain biodiversity and protect the coastal and marine ecology and environment, the government of Taiwan established aquatic organisms' propagation and conservation zones in areas containing important ecology or species.	Fisheries Agency, Ministry of Agriculture/ New Taipei City Government	Regulation: Fisheries Act Relevant agencies: Local governments Fisheries Agency, Ministry of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to conservation areas. It is broadly taken that the further the distance the better, as this reduces likely impact

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
Guantian Important Wetland	Approximately 143km south of the export cables of the Project	Cover approximately 0.15km^2 The wetland is located in a flat agricultural zone with its main water supply from Jianan Big Ditch Irrigation system. Water is distributed from Wushantao Reservoir to the wetland through Jianan Big Ditch in accordance with the annual irrigation plan for rice and other crops set by Jianan Irrigation Association.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Jia-xian Sih-de Fossil Forest Reserve	Approximately 148km south of the export cables of the Project	Cover approximately 0.11km^2 The reserve was designated on 10 April 2006 due to the abundance of fossils that can be found here	Forestry Bureau, Council of Agriculture	Regulation: Forestry Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to forest reserves. It is broadly taken that the further the distance the better, as this reduces likely impact
• Taijiang National Park • Tainan County Zengwen River Mouth Major Wildlife Habitat • Tainan City Sicao Major Wildlife Habitat • Sihcao Important Wetland • Yanshuei Estuary Important Wetland • Zengwun Estuary Important Wetland • Cigu Salt Pan Important Wetland • Tainan City Sicao Wildlife Refuge • Tainan County Zengwen River Mouth North Bank Black-faced Spoonbill Refuge	Approximately 150km south of the export cables of the Project	Taijiang National Park covers approximately 393.1km2, which overlaps with the Tainan City Sicao Major Wildlife Habitat, Tainan County Zengwen River Mouth Major Wildlife Habitat, Sihcao Important Wetland, Yanshuei Estuary Important Wetland, Zengwun Estuary Important Wetland, Cigu Salt Pan Important Wetland, Tainan City Sicao Wildlife Refuge and Tainan County Zengwen River Mouth North Bank Black-faced Spoonbill Refuge The park is a sanctuary for many bird species, notably the endangered black-faced spoonbill. It serves as a crucial wintering ground for these birds and other marine life, while also protecting the coastline from erosion. The coastal areas are home to diverse marine life and serve as important feeding grounds for birds.	National Park Service, Ministry of the Interior	Regulation: National Park Act Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments National Park Service, Ministry of the Interior Forestry Bureau, Council of Agriculture Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact In an original use area or a recreation area of a national park, construction activities are permissible only after obtaining permission from the National Park Headquarters. Any construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed. The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Shih-ba-luo-han-shan Forest Reserve	Approximately 164km south of the export cables of the Project	Cover approximately 1.93km^2 The reserve is located at the southernmost end of Mount Jade, with mountains ranging from 200 to 600 meters above sea level. It is home to around 512 vascular plant species, including rare and protected species such as *Salvia Tashiroi, Zingiber oligophyllum*, and *Albizia procera*. The reserve also supports rare bird species like *Oriolus traillii* and *Oriolus chinensis*. Additionally, the five ancient deserted tunnels near the reserve provide habitats for species like *Miniopterus schreibersii* and *Hirundo tahitica*	Forestry Bureau, Council of Agriculture	Regulation: Forestry Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to forest reserves. It is broadly taken that the further the distance the better, as this reduces likely impact
Longci Niupu Badlands Nature Reserve	Approximately 168km south of the export cables of the Project	Cover approximately 1.49km^2 Known for its distinctive geological features, including mudstone formations that have been shaped by erosion over time. The area is characterised by its rugged terrain and lack of vegetation due to the high alkaline levels in the soil	Forestry Bureau, Council of Agriculture	Regulation: Forestry Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to nature reserves. It is broadly taken that the further the distance the better, as this reduces likely impact
Jiading Wetland	Approximately 177km south of the export cables of the Project	Cover approximately 1.71km^2 Located in Qieding District, Kaohsiung, Taiwan. The wetlands provide a winter home to a substantial number of black-faced spoonbills, which counted about 8% of the global population in early 2015.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act	None of the projects' components will be directly located within these areas.

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
		The area was historically used as a salt-evaporation pond and was declared a national heritage wetland by the Ministry of the Interior in 2011		Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Yongan Important Wetland	Approximately 182km south of the export cables of the Project	Cover approximately 0.41km^2 Located on the east side of Hsinta Power Plant's coal yard and is bounded by Xingda Road in the west and Wuwei Gutter connecting the lagoon in the east. Known for its bird populations, including black-faced spoonbills, greater flamingos, common kingfishers, and common shelducks. Changes in water levels have influenced the bird species present, with herons and great egrets concentrating in areas with lower water levels	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Wushanding Mud Volcano Nature Reserve	Approximately 183km south of the export cables of the Project	Cover approximately 0.04km^2 Located in the Yanchao District of Kaohsiung, Taiwan, was declared a protected area in 1992. Renowned for its active mud volcanoes, which are part of a stretch of badlands covering a large swath of southern Taiwan. These badlands are unique as they are found in a tropical rainforest, composed of mudstone, sandstone, shale, and chalk.	Forestry Bureau, Council of Agriculture	Regulation: Forestry Act Relevant agencies: Local governments Forestry Bureau, Council of Agriculture	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to nature reserves. It is broadly taken that the further the distance the better, as this reduces likely impact
Yuanjhong Harbor Important Wetland	Approximately 193km south of the export cables of the Project	Cover approximately 0.28km^2 The wetland was originally composed of the coastal fisheries and mangroves at the tidal channels. Abutting the navy harbour, the area is undisturbed under strict security control. The west consists of both saline and brackish water with black mangrove, which is a rather natural area. The east will be developed with deep water ponds and shallow marsh.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
• Shoushan National Nature Park • Banping Lake Important Wetland	Approximately 195km south of the export cables of the Project	Shoushan National Nature Park cover approximately 11.2km^2 and overlaps with Banping Lake Important Wetland. Situated in the southwest area of Kaohsiung City. It spans about 6km from its northern end to the southern end, with an average width of 2km and an altitude of 356m above sea level. The park's unique coral limestone terrain supports a diverse range of flora and fauna.	National Park Service, Ministry of the Interior	Regulation: National Park Act Wetland Conservation Act Relevant agencies: Local governments National Park Service, Ministry of the Interior Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact In an original use area or a recreation area of a national park, construction activities are permissible only after obtaining permission from the National Park Headquarters. The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Dashu Manmade Important Wetland	Approximately 197km south of the export cables of the Project	Cover approximately 1.77km^2 The wetland is situated at the middle reaches of Gaoping River. The area is known for its rich biodiversity, providing habitats for various bird species, aquatic plants, and other wildlife. A survey by Kaohsiung Wild-Bird	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies:	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
		Association recorded 5 species of mammals, 125 species of birds, 13 species of reptiles, and 5 species of amphibians, and 221 species of plants.		Local governments Construction and Planning Agency, Ministry of the Interior	taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Linluo Manmade Important Wetland	Approximately 197km south of the export cables of the Project	Cover approximately 0.03km^2 The wetland is situated at Yuliao-stream Range of Tai-Sugar Company at west of Freeway 3. It extends southeast to the ditch near Freeway 3 and it extends west to Farm Lane. Several species of birds including Little Egret, Black-crowned Night Heron, Chinese Bulbul, and Common Moorhen can be found in the wetland.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Jhouzai Important Wetland	Approximately 197km south of the export cables of the Project	Cover approximately 0.09km^2 The wetland extends to Mount Banping and Zuoying Station of High Speed Rail in the northeast and to Lotus Pond (Lianchih Pond) and Huantan Road in the west. The dominant bird species in the wetland include Chinese bulbul, nightingale and common moorhen. There are also endemic subspecies, including house swift, black-naped monarch and tawny-flanked prinia and two endemic species, Muller's barbet and streak-breasted scimitar babbler.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Niaosong Important Wetland	Approximately 200km south of the export cables of the Project	Cover approximately 0.04km^2 This wetland was originally the sedimentation pond of Taiwan Water Corporation. There are currently estimated 180 species of plants in the area, including many rare native species. There are 96 bird species (23 families and 38 species recorded in 2015), including endemic species such as Taiwan scimitar babbler and Taiwan barbet; 166 insects; 11 families and 15 species of amphibians and reptiles.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
Linyuan Manmade Important Wetland	Approximately 216km south of the export cables of the Project	Cover approximately 0.5km^2 The wetland features a variety of habitats, including tidal sections, sandbanks, mudflats, and larger riverbeds. These habitats support a wide range of flora and fauna, including halophytes, sand plants, mangroves, and invertebrates on the coastal mudflat and intertidal zone.	Construction and Planning Agency, Ministry of the Interior	Regulation: Wetland Conservation Act Relevant agencies: Local governments Construction and Planning Agency, Ministry of the Interior	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to important wetlands. It is broadly taken that the further the distance the better, as this reduces likely impact The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act
• Kenting National Park • Nanren Lake Important Wetland • Longluan Lake Important Wetland • Kenting Uplifted Coral Reefs Nature Reserve	Approximately 264km south of the export cables of the Project	Kenting National Park is Taiwan's oldest and southernmost national park, established on January 1, 1984. It covers an area of 333 km^2, including 181 km^{2}of land and 152 km^2 of sea. It overlaps with Nanren Lake Important Wetland, Longluan Lake Important Wetland and Kenting Uplifted Coral Reefs Nature Reserve	National Park Service, Ministry of the Interior	Regulation: National Park Act Wetland Conservation Act Wildlife Conservation Act Relevant agencies: Local governments	None of the projects' components will be directly located within these areas. There is no straightforward general definition on appropriate distance or placement for windfarms relative to national parks, major wildlife habitats, important wetlands and wildlife refuges. It is broadly taken that the further the distance the better, as this reduces likely impact

Site name	Distance from the Project	Description	Competent authority	Relevant regulations and agencies	Exclusion for offshore wind farm development
		The park features a variety of landscapes, including coral sea cliffs, fringing reefs, mountains, and coral tablelands. The Hengchun Longitudinal Valley Plain divides the park into two parts.		National Park Service, Ministry of the Interior Forestry Bureau, Council of Agriculture Construction and Planning Agency, Ministry of the Interior	In an original use area or a recreation area of a national park, construction activities are permissible only after obtaining permission from the National Park Headquarters.
				Cultural Heritage Preservation Act	The land situated within the borders of the Wetlands of Importance may be utilised by agriculture, fishery, salt-making industry, and building structures as per conditions in the Wetland Conservation Act

Source: Mott MacDonald, 2025

Within the EAAA, all internationally recognised areas that are more than 50km from the project footprint are summarised in Table A.2 below, and the locations of each internationally recognised area are shown in Figure A.1. Further details of each internationally recognised area are also provided in Table A.2 below

Table A.2: Internationally recognised areas within the EAAAs (more than 50km from the project footprint)

Site name	Designation	Distance from the Project	Significant Biodiversity Values
Hanbao Wetlands IBA (TW014)	IBA / KBA	Approximately 51km south of the export cables of the Project	Covers 2209ha, serves as gathering spot for migratory birds Many different types of habitats creating excellent bird roosting environments (Key Biodiversity Areas, 2023) This area has been identified as an IBA based on the presence of significant populations of Black-faced Spoonbill *Platalea minor* (IUCN Endangered) and significant congregations of Saunders's gull *Saundersilarus saundersi* (IUCN Vulnerable and National Red List Critically Endangered).
Zhuoshui River Estuary Wetland (TW016)	IBA / KBA	Approximately 72km south of the export cables of the Project	Covers 767ha. Coastal mud flat wetland, with the bird community comprised mainly of the Scolopacidae, Charadriidae, and Laridae. Total of 89 species bird species recorded. Triggered as IBA site based on presence of Saunders's gull (VU)
Huben, Yunlin County (TW017)	Major Wildlife Habitat, IBA and KBA	Approximately 74km south of the export cables of the Project	Covers 2355ha. Primarily comprises the upstream section of the Huwei River, including part of the mountain area at Linnei, Douliu, and Gukeng. Important breeding site for the fairy pitta (*Pitta nympha*). 97 bird species in 33 families have been recorded, among which are 5 endemic species, 32 sub-endemic species, and 25 protected species. Various species of mammals, amphibians and reptiles have also been recorded. Triggered as IBA site based on presence of fairy pitta (*Pitta nympha*) listed as VU in the IUCN Red List
Aogu Wetland, Chiayi County (TW021)	Wetland of National Importance, Major Wildlife Habitat, IBA and KBA	Approximately 109 km south of the export cables of the Project	Covers 13,880ha. Consists of sand flats, estuary, cultivated land, marshland, saltwater lake, freshwater ponds and mangroves. 223 bird species have been recorded here, including 22 protected species. 290 species of plants have also been identified. Triggered as an IBA site due to presence of black-faced spoonbill (EN), great cormorant (*Phalacrocorax carbo*) (LC) and Saunders's gull (VU). Holds congregations of ⩾1% of the global population of the Great cormorant (LC), Saunders's gull (VU) and waterbirds

Site name	Designation	Distance from the Project	Significant Biodiversity Values
Puzi River Estuary, Chiayi County (TW022)	Wetland of National Importance, IBA and KBA	Approximately 116km south of the export cables of the Project	Covers 2317ha. Main environments are the estuary, mangrove forests, protection forests, and aquaculture ponds. Abundance of crabs create excellent feeding grounds for shorebirds and waterfowl.179 species of birds have been recorded in the area. Triggered as IBA site based on presence of Saunders's gull (*Saundersilarus saundersi*) listed as VU in the IUCN Red List
Budai Wetland, Chiayi County (TW023)	Wetland of National Importance, IBA and KBA	Approximately 127km south of the export cables of the Project	Covers 4207ha. Main environments are the estuary, river systems, mud flats, salt fields, aquaculture ponds and human-cultivated wetlands. Attracts shorebirds and sea birds which pass through during migration or stay over during winter. Triggered as IBA site based on the presence of Saunders's gull (VU), black-faced spoonbill (*Platea minor*) (EN) and Caspian tern (*Hydroprogne caspia*) (LC). Holds congregations of ⩾1% of the global population of the Caspian tern
Middle Section of Bazhang River, Chiayi County (TW024)	Wetland of National Importance, IBA and KBA	Approximately 110km south of the export cables of the Project	Covers 317ha. Excellent environment for bloodworms to grow and multiply, serving as natural food sources for birds. Different species of trees and shrubs growing along the riverbank support excellent refuge for the birds. 82 species of birds recorded here, including protected species such as Painted Snipe and Eastern Collared Pratincole. Triggered as IBA site based on presence of black-winged stilt (*Himantopus himantopus*) (LC). Holds congregations of ⩾1% of the global population of the black-winged stilt (LC).
Beimen, Tainan City (TW025)	Wetland of National Importance, IBA and KBA	Approximately 136km south of the export cables of the Project	Covers 3302ha. Includes sand flats, salt fields, aquaculture ponds, mud swamp and mangroves. 121 bird species have been recorded, including migratory birds Triggered as IBA site based on the presence of Saunders's gull (VU) and black-faced spoonbill (EN)
Qingkunshen, Tainan City (TW026)	Wetland of National Importance, IBA and KBA	Approximately 143km south of the export cables of the Project	Covers 5146ha, adjacent to the Taiwan coastline. Largest salt evaporation area on Taiwan's southeast coast (1,800 ha). 51 birds recorded in this area. Important breeding site for black-winged stilt (LC).

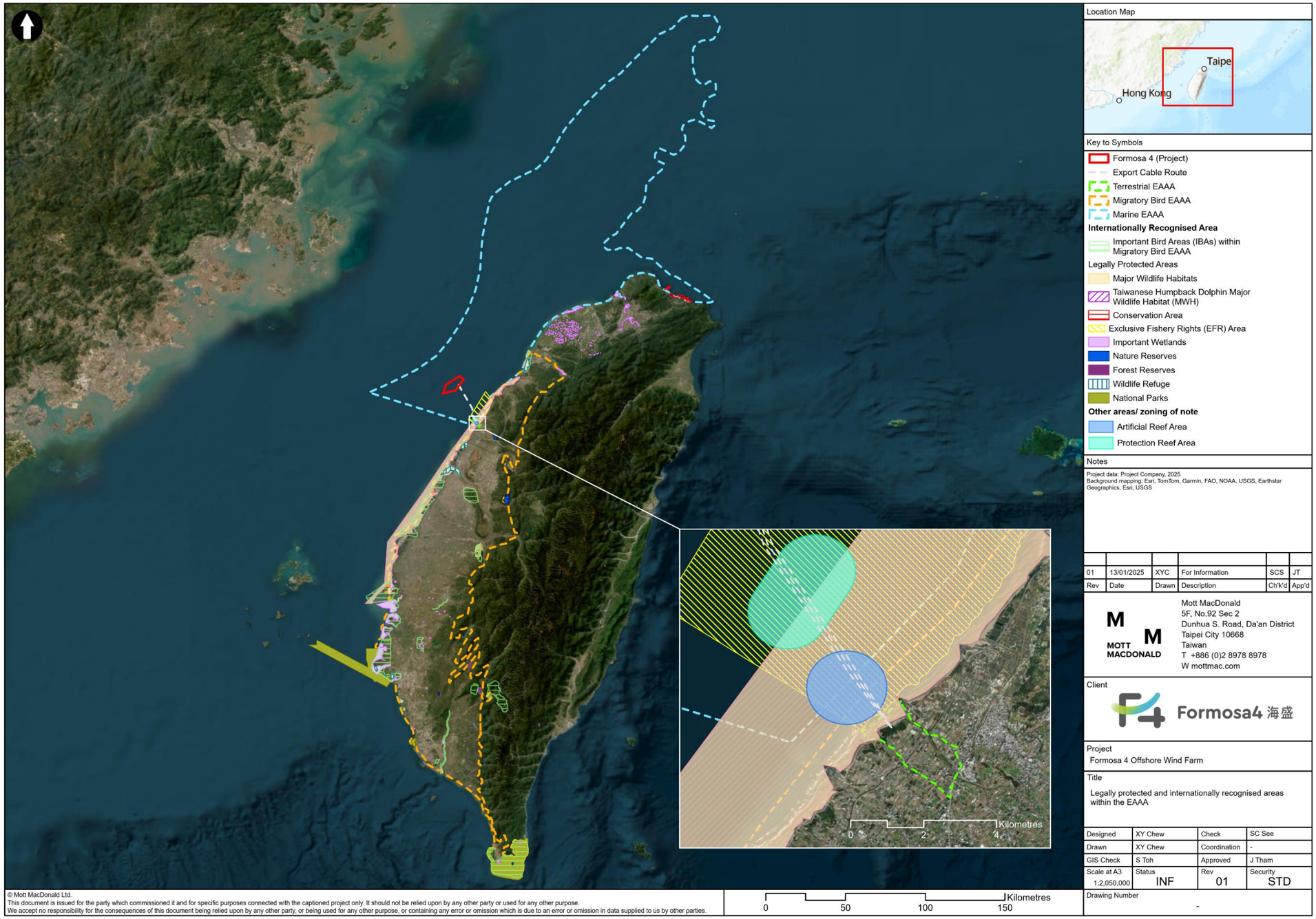
Site name	Designation	Distance from the Project	Significant Biodiversity Values
			Triggered as IBA site based on presence of black-winged stilt (LC)and long-toed stint (*Calidris subminuta*) (LC). Holds congregations of ⩾1% of the global population of the black-winged stilt (LC) and long-toed stint (LC)
Qigu, Tainan City (TW027)	Wetland of National Importance, Major Wildlife Habitat, National Park, IBA and KBA	Approximately 150km south of the export cables of the Project	Covers 9468ha. Habitats at this site can be classified as estuarine wetlands, lagoons, fishponds, grassy marshes, and salt fields. Globally important wintering site for the black-faced spoonbill. 220 species of birds have been recorded, including 23 protected species. 30 species of crabs and nearly 200 species of molluscs. Triggered as IBA site based on presence of black-faced spoonbill (EN).
Hulupi, Tainan City (TW028)	Wetland of National Importance, IBA and KBA	Approximately 136km south of the export cables of the Project	Covers 2280ha. Large reservoir administered by the Chianan Farm Water Conservation. Board, with orchards and other forest growth. Last remaining natural habitat where the Pheasant-tailed jacana (*Hydrophasianus chirurgus*) congregate in Taiwan. Triggered as IBA site based on presence of black-winged stilt (LC) and pheasant-tailed jacana (LC). Holds congregations of ⩾1% of the global population of the black-winged stilt and pheasant-tailed jacana
Sicao Wildlife Refuge, Tainan City (TW029)	Wetland of National Importance, Wildlife Refuge, Major Wildlife Habitat, National Park, IBA and KBA	Approximately 160km south of the export cables of the Project	Covers 4057ha, one of Taiwan's four biggest wetlands. Consists of tidal flats that are an important stop for passage migrants and winter visitors. A portion of the salt fields and aquaculture ponds has been designated as a wildlife refuge. Breeding population of the black-winged stilt at this site is the largest stilt group in Taiwan. 171 species of birds have been recorded, including 23 protected species Largest habitat in Taiwan of white-flowered black mangrove (*Lumnitzera racemosa*). Triggered as IBA site based on presence of black-faced spoonbill (EN) and black-winged stilt (LC). Holds congregations of ⩾1% of the global population of the black-winged stilt
Yong'an, Kaohsiung City (TW030)	Wetland of National Importance, IBA and KBA	Approximately 181km south of the export cables of the Project	Covers 124ha. Situated on the border between Qieding and Yong'an Districts in Xingda Port's inland sea, which once covered over 500 ha, this area has the most extensive mangrove forest in southern Taiwan.

Site name	Designation	Distance from the Project	Significant Biodiversity Values
			The former saline beaches, their irrigation canals and natural lakes, and the dense growth of Avicennia marina and Lumnitzera racemosa mangroves attract large numbers of waterbirds Triggered as IBA site based on presence of black-faced spoonbill (EN) and Kentish plover (LC).
Yellow Butterfly Valley, Kaohsiung City (TW031)	IBA / KBA	Approximately 161km south of the export cables of the Project	Covers 10,291ha. The habitat consists mainly of subtropical evergreen hill forests, rivers, and fruit orchards. In recent years, many fruit orchards have been abandoned and were beginning to resemble second-growth forests with greater wildlife and bird diversity. This is a key site for Fairy Pitta in southern Taiwan. At least 130 bird species have been recorded at this site, including 8 endemic species Triggered as IBA site based on presence of fairy pitta (VU)
Shanping, Kaohsiung City (TW032)	IBA / KBA	Approximately 160km south of the export cables of the Project	Covers 9572 ha. Located 6.5 km southeast of Liugui on a ridge extending from the southern tip of the Central Mountain Range in the low- to mid-elevation broadleaf forest zone of the Laonung River watershed. This area was formed by erosion of the river systems creating flat land in the shape of a fan. The vegetation is mostly primary low- to mid-elevation broadleaf forests dominated by families Lauraceae and Fagaceae. Triggered as IBA site based on presence of numerous endemic bird species
Fengshan Reservoir, Kaoshiung City (TW035)	Wetland of National Importance, IBA and KBA	Approximately 210km south of the export cables of the Project	Covers 813 ha. The Fengshan Reservoir is located at the southern foothill of Fengshan at Linyuan District, Kaohsiung City, southeast of Xiaogang District about 22 km from Kaohsiung City. Aside from water processing facilities and the reservoir area, the surrounding watershed is mostly secondary forest dominated by trees such as *Delonix regia, Acacia confusa, Ficus microcarpa*, which provides habitat for migrating raptors as well as passage and overwintering habitat for birds. Triggered as IBA site based on presence of the Great cormorant (LC) and Chinese sparrowhawk (LC)
Gaoping River, Pingtung County (TW037)	Wetland of National Importance, IBA and KBA	Approximately 179km south of the export cables of the Project	Covers 2371 ha. The Gaoping River, also called the Lower Danshui River or Danshui River, flows from Qishan District, Kaohsiung City to the Linyuan Industrial Park where it empties into the sea. It forms the border between Kaohsiung City and Pingtung County. Rich ecosystems can be found along the river, from lofty peaks and ridges of mountains and precipitous stream valleys of the upstream sections where high-elevation birds reside, to the middle reaches where the river valleys broaden, forming alluvial valleys that support many mid-

Site name	Designation	Distance from the Project	Significant Biodiversity Values
			elevation birds, to the agricultural fields along the lower reaches, where dense growths of grasses along the banks are important habitats for migratory and resident bird species. Triggered as IBA site based on presence of the Great cormorant (LC), black-faced spoonbill (EN) and Chinese Egret (VU).
Kenting National Park (TW038)	Wetland of National Importance, National Park, Nature Reserve, IBA and KBA	Approximately 260km south of the export cables of the Project	Covers terrestrial area 18,083.5 ha and marine area 15,206.09 ha. Encompassing both terrestrial and marine components, Kenting National Park is located in the southernmost part of the Hengchun Peninsula and is surrounded by the sea. On land are five Ecological Protected Areas: Siangjiao Bay, Mt. Nanren, Shadao, Longkeng, and Sheding Tableland, with a total area of 6,248.81 ha and occupying 34.56% of the terrestrial area of the park. Four Marine Ecological Protected Areas total 476.38 ha and occupy 3.13% of the marine area within the park. Triggered as IBA site based on presence of the Styan's Bulbul (VU), Chinese sparrowhawk (LC), Gray-faced buzzard (LC) and numerous endemic bird species
Qieding Wetland, Kaohsiung City (TW054)	Wetland of National Importance, IBA and KBA	Approximately 177km south of the export cables of the Project	Covers 171 ha. There are a variety of wetland habitats at this site, including mudflats, mangrove forests, abandoned salt pans, and sandy areas. Qieding Wetland currently still has the greatest species richness and abundance of waterbirds in Kaohsiung City, the wintering habitat of up to 15,000 waterbirds. This area is closely linked to Yong'an Wetland, and waterbirds move between the sites when agitated, particularly evident in Kentish Plovers. Triggered as IBA site based on presence of black-faced spoonbill (EN) and Kentish plover (LC).
Fangyuan Wetland, Changhua County (TW056) (prospective)	IBA / KBA	Approximately 60km south of the export cables of the Project	Covers 3633 ha. The habitat is predominantly intertidal beaches and aquaculture ponds, followed by fallow farmlands, grasslands, and intertidal mudflats where oyster is cultivated. Potential IBA trigger species include Greater Sand-Plover about 800 individuals), Ruddy Turnstone (about 800 individuals), Gray-tailed Tattler (about 600 individuals) during migration and Kentish Plover (about 700-1,400 individuals) in the winter, each reaching 1% of the migratory population in recent years.

Source: Mott MacDonald, 2025

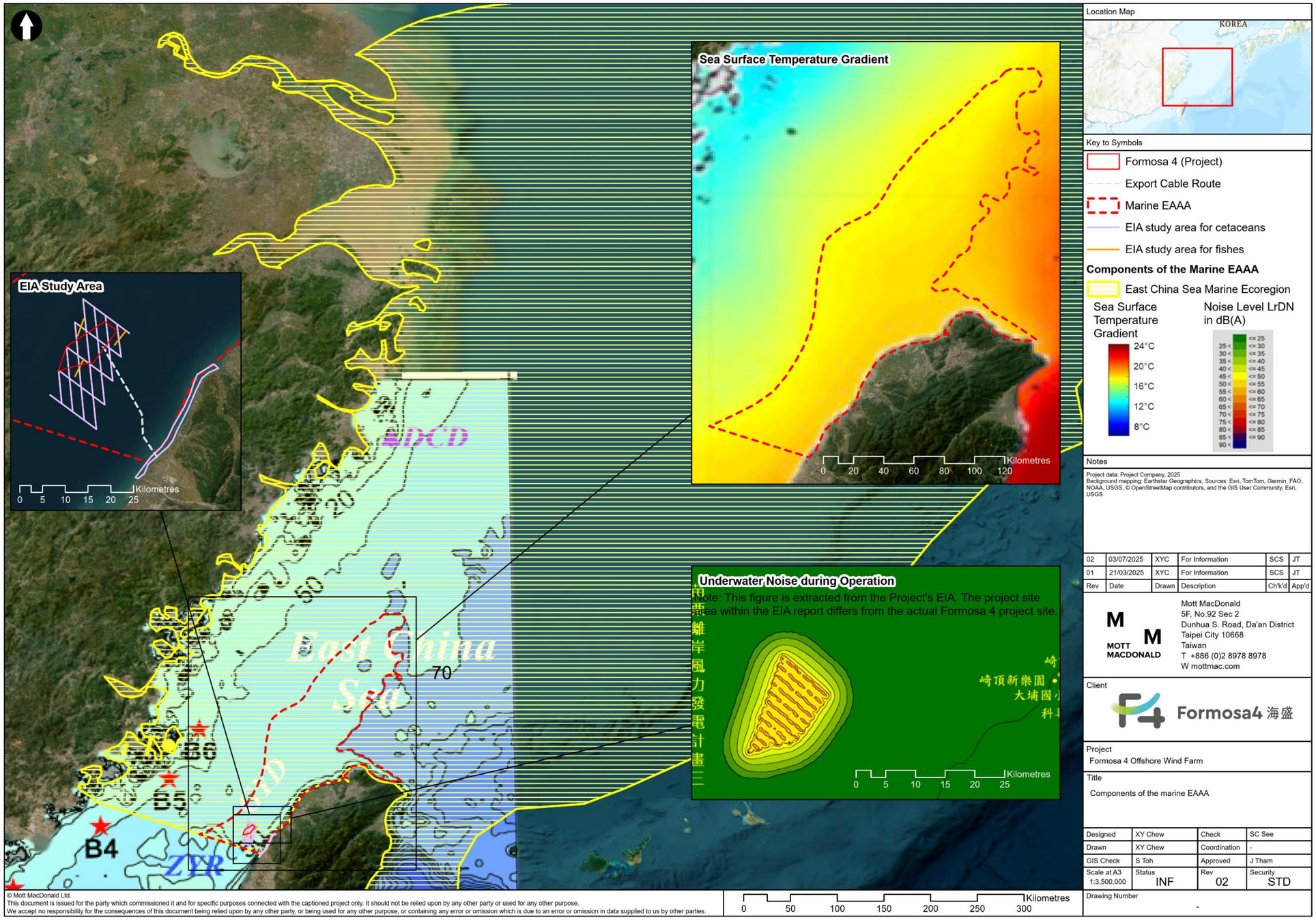
Figure A.1: Legally protected and internationally recognised areas within the EAAAs



Source: Mott MacDonald, 2025

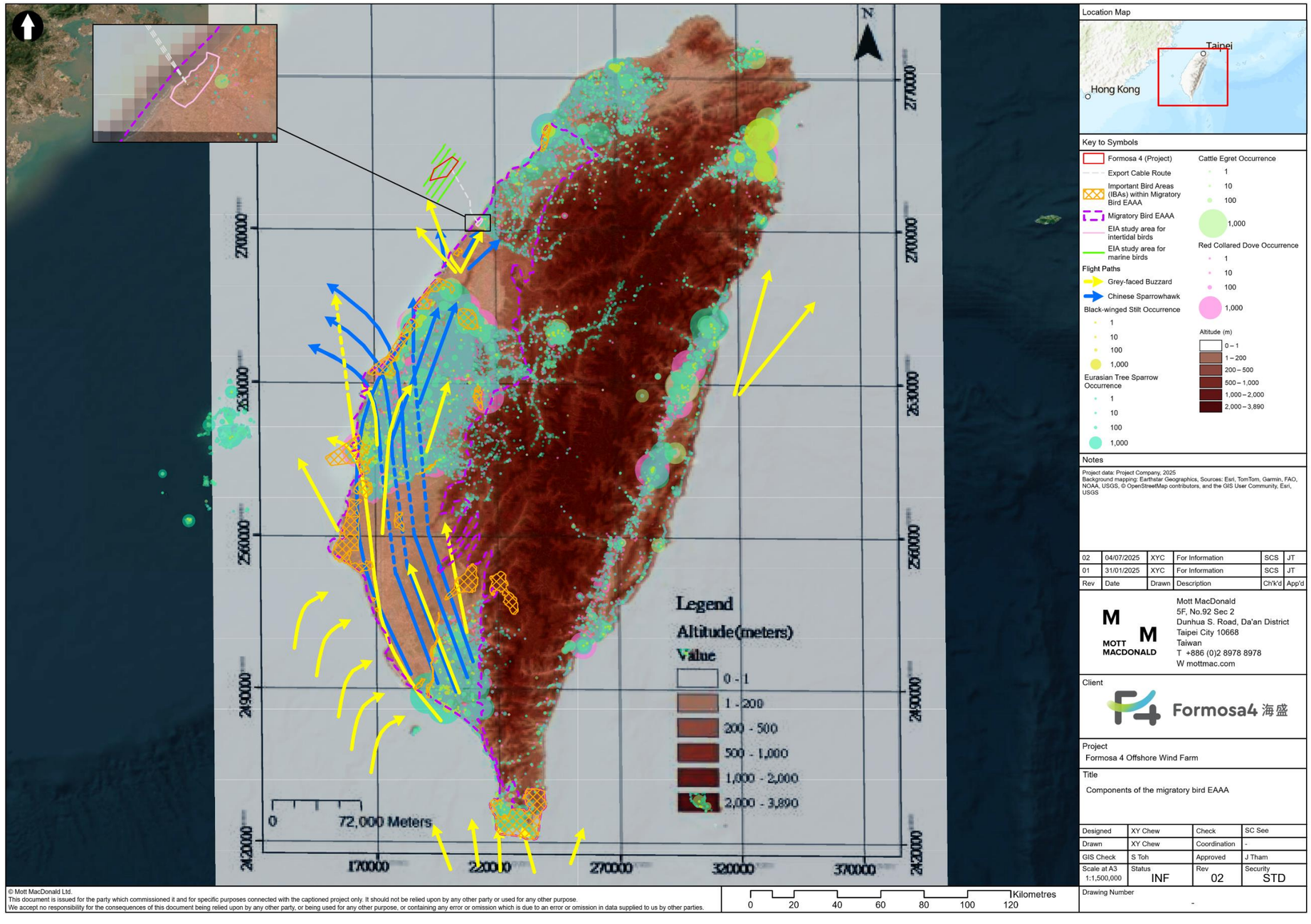
B. Maps of components of EAAAs

Figure B.1: Components of the marine EAAA



Source: Mott MacDonald, 2025

Figure B.2: Components of the migratory bird EAAA



Source: Mott MacDonald, 2025

C. Critical habitat species assessment

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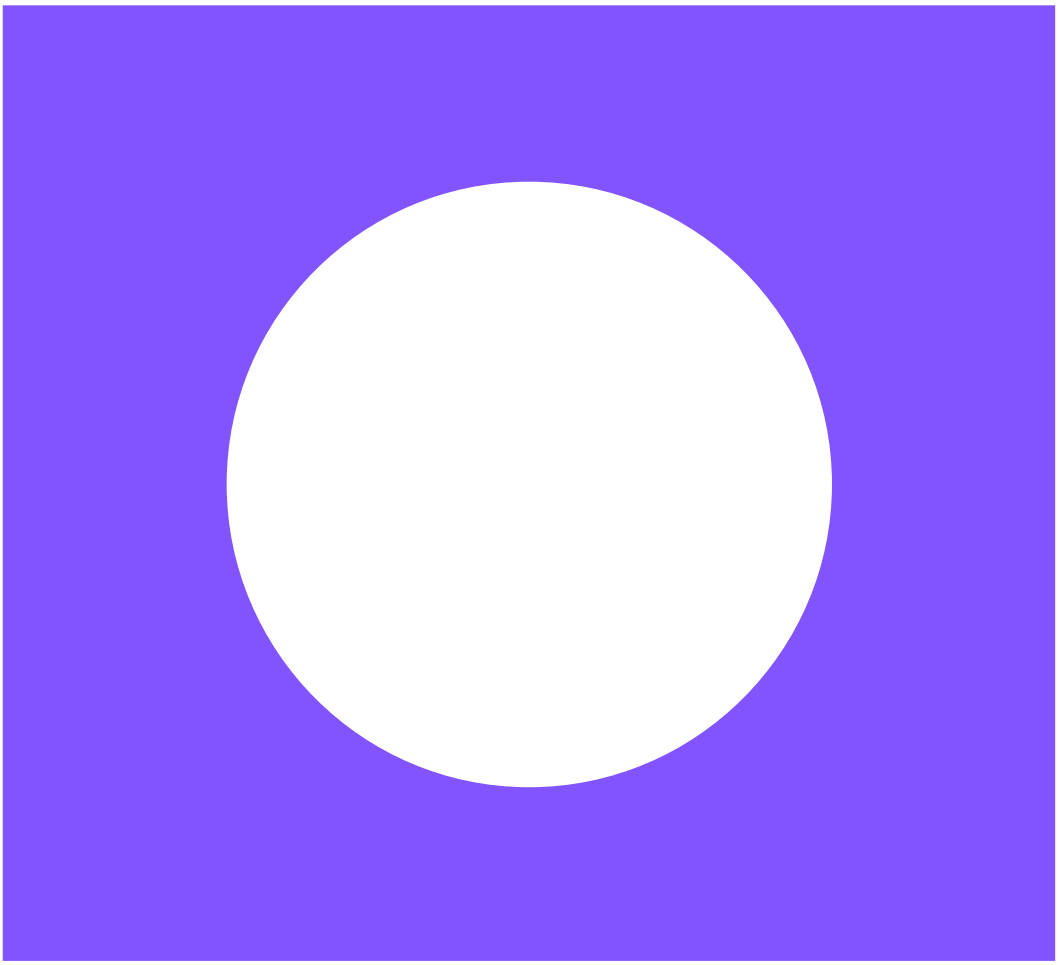

Formosa 4 Offshore Wind Farm in Taiwan

Critical Habitat Assessment - Appendix C

September 2025

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Mott MacDonald
5F, No.92 Sec 2
Dunhua S. Road
Da'an District
Taipei City 10668
Taiwan

T +886 (0)2 8978 8978
mottmac.com

Formosa 4 Offshore Wind Farm in Taiwan

Critical Habitat Assessment - Appendix C

September 2025

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
C	25 March 2025	S Toh SC See	J Tham	B Lim	Final CHA – Appendix C addressing LESA comments
D	17 April 2025	S Toh SC See	J Tham	B Lim	Revised Final CHA – Appendix C
E	12 May 2025	S Toh SC See	J Tham	B Lim	Revised Final CHA – Appendix C
F	8 July 2025	S Toh SC See	J Tham	B Lim	Revised Final CHA report addressing LESA comments
G	18 August 2025	S Toh	J Tham	B Lim	Revised Final CHA report addressing LESA comments
H	17 September 2025	S Toh SC See	K Cheung	B Lim	Revised final report for disclosure

Document reference: 614100035 | 3 | H

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C. Critical habitat species assessment

Table C.1: Critical habitat species assessment for criteria 1 to 3

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Actinopterygii	Bahaba taipingensis	Chinese Bahaba	CR		No		IBAT
Actinopterygii	Takifugu chinensis	Chinese Puffer	CR		No		IBAT
Actinopterygii	Larimichthys crocea	Large Yellow Croaker	CR		No	Full Migrant	IBAT, EIA
Actinopterygii	Acipenser sinensis	Chinese Sturgeon	CR		No	Full Migrant	IBAT
Actinopterygii	Epinephelus akaara	Hong Kong Grouper	EN		No		IBAT
Actinopterygii	Anguilla japonica	Japanese Eel	EN	CR	No	Full Migrant	IBAT
Actinopterygii	Argyrosomus japonicus	Dusky Meagre	EN		No	Full Migrant	IBAT
Actinopterygii	Evynnis cardinalis	Threadfin Porgy	EN		No		IBAT, EIA
Actinopterygii	Coilia mystus	Osbeck's Grenadier Anchovy	EN		No	Full Migrant	IBAT
Actinopterygii	Coilia nasus	Japanese Grenadier Anchovy	EN		No	Full Migrant	IBAT
Actinopterygii	Hippocampus histrix	Thorny Seahorse	VU		No	Not a Migrant	IBAT
Actinopterygii	Hippocampus trimaculatus	Three-spot Seahorse	VU		No	Not a Migrant	IBAT, EIA
Actinopterygii	Thunnus obesus	Bigeye Tuna	VU		No	Full Migrant	IBAT
Actinopterygii	Hippocampus kelloggi	Great Seahorse	VU		No	Not a Migrant	IBAT
Actinopterygii	Epinephelus fuscoguttatus	Brown-marbled Grouper	VU		No		IBAT
Actinopterygii	Epinephelus polyphekadion	Camouflage Grouper	VU		No		IBAT
Actinopterygii	Bolbometopon muricatum	Green Humphead Parrotfish	VU		No	Full Migrant	IBAT
Actinopterygii	Plectropomus areolatus	Squaretail Coralgrouper	VU		No		IBAT
Actinopterygii	Nemipterus virgatus	Golden Threadfin Bream	VU		No		IBAT, EIA
Actinopterygii	Makaira nigricans	Blue Marlin	VU		No	Full Migrant	IBAT
Actinopterygii	Rastrelliger faughni	Island Mackerel	VU		No		IBAT, EIA
Actinopterygii	Istiophorus platypterus	Sailfish	VU		No	Full Migrant	IBAT, EIA
Actinopterygii	Cheiloprion labiatus	Biglip Damsel	VU		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Actinopterygii	Mola mola	Ocean Sunfish	VU		No		IBAT
Actinopterygii	Albula glossodonta	Shortjaw Bonefish	VU		No		IBAT
Actinopterygii	Anguilla luzonensis	Philippine Mottled Eel	VU		No	Full Migrant	IBAT
Actinopterygii	Oxymonacanthus longirostris	Harlequin Filefish	VU		No		IBAT
Actinopterygii	Hippocampus spinosissimus	Hedgehog Seahorse	VU		No	Not a Migrant	IBAT
Actinopterygii	Epinephelus bruneus	Longtooth Grouper	VU		No		IBAT
Actinopterygii	Platichthys bicoloratus	Stone Flounder	VU		No		IBAT
Actinopterygii	Xiphias gladius	Swordfish	NT		No	Full Migrant	IBAT
Actinopterygii	Anguilla bicolor	Shortfin Eel	NT		No	Full Migrant	IBAT
Actinopterygii	Takifugu ocellatus	Ocellated Puffer	NT		No	Full Migrant	IBAT
Actinopterygii	Scomberomorus commerson	Narrow-barred Spanish Mackerel	NT		No	Full Migrant	IBAT, EIA
Actinopterygii	Scomberomorus niphonius	Japanese Spanish Mackerel	NT		No	Full Migrant	IBAT
Actinopterygii	Sardinella lemuru	Bali Sardinella	NT		No	Full Migrant	IBAT
Actinopterygii	Butis butis	Crimson-tipped Gudgeon	LC		No	Full Migrant	IBAT
Actinopterygii	Favonigobius reichei	Indo-pacific Tropical Sand Goby	LC		No	Full Migrant	IBAT
Actinopterygii	Lutjanus argentimaculatus	Mangrove Red Snapper	LC		No	Full Migrant	IBAT
Actinopterygii	Mugil cephalus	Flathead Mullet	LC		No	Full Migrant	IBAT
Actinopterygii	Coryphaena hippurus	Common Dolphinfish	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Sufflamen fraenatum	Masked Triggerfish	LC		No	Full Migrant	IBAT
Actinopterygii	Spratelloides gracilis	Blue Sprat	LC		No	Full Migrant	IBAT
Actinopterygii	Nematalosa nasus	Bloch's Gizzard Shad	LC		No	Full Migrant	IBAT
Actinopterygii	Alepisaurus ferox	Long Snouted Lancetfish	LC		No	Full Migrant	IBAT
Actinopterygii	Parablennius yatabei		LC		No	Full Migrant	IBAT, EIA

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Actinopterygii	Myctophum spinosum		LC		No	Full Migrant	IBAT
Actinopterygii	Pteraclis aesticola	Pacific Fanfish	LC		No	Full Migrant	IBAT
Actinopterygii	Argyropelecus hemigymnus	Half-naked Hatchetfish	LC		No	Full Migrant	IBAT
Actinopterygii	Decapterus russelli	Indian Scad	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Remora brachyptera	Spearfish Remora	LC		No	Full Migrant	IBAT
Actinopterygii	Caranx sexfasciatus	Bigeye Trevally	LC		No	Altitudinal Migrant	IBAT
Actinopterygii	Benthosema pterotum	Skinnycheek Lanternfish	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Pomadasys maculatus	Saddle Grunt	LC		No	Full Migrant	IBAT
Actinopterygii	Roa modestus	Brown-banded Butterflyfish	LC		No	Full Migrant	IBAT
Actinopterygii	Bostrychus sinensis	Four-eyed Sleeper	LC		No	Full Migrant	IBAT
Actinopterygii	Glossogobius olivaceus		LC		Yes		IBAT
Actinopterygii	Eleotris oxycephala	カワアナゴ	LC		No	Full Migrant	IBAT
Actinopterygii	Anguilla marmorata	Marbled Eel	LC		No	Full Migrant	IBAT
Actinopterygii	Lateolabrax japonicus	cá vược nhật	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Caragobius urolepis	Scaleless Worm Goby	LC		No	Full Migrant	IBAT
Actinopterygii	Microphis leiaspis	Barhead Pipefish	LC		No	Full Migrant	IBAT
Actinopterygii	Takifugu obscurus	Mefugu	LC		No	Full Migrant	IBAT
Actinopterygii	Pagrus major	Red Seabream	LC		No	Full Migrant	IBAT
Actinopterygii	Rhabdosargus sarba	Goldlined Seabream	LC		No	Full Migrant	IBAT
Actinopterygii	Scomber japonicus	Pacific Chub Mackerel	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Kajikia audax	Striped Marlin	LC		No	Full Migrant	IBAT
Actinopterygii	Katsuwonus pelamis	Skipjack Tuna	LC		No	Full Migrant	IBAT
Actinopterygii	Sarda orientalis	Oriental Bonito	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Rastrelliger kanagurta	Indian Mackerel	LC		No	Full Migrant	IBAT
Actinopterygii	Scomber australasicus	Blue Mackerel	LC		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Actinopterygii	Euthynnus affinis	Kawakawa	LC		No	Full Migrant	IBAT
Actinopterygii	Gymnosarda unicolor	Dogtooth Tuna	LC		No	Full Migrant	IBAT
Actinopterygii	Scomberomorus koreanus	Korean Seerfish	LC		No	Full Migrant	IBAT
Actinopterygii	Auxis thazard	Frigate Tuna	LC		No	Full Migrant	IBAT
Actinopterygii	Coryphaena equiselis	Pompano Dolphinfish	LC		No	Full Migrant	IBAT
Actinopterygii	Auxis rochei	Bullet Tuna	LC		No	Full Migrant	IBAT
Actinopterygii	Grammatorcynus bilineatus	Double-lined Mackerel	LC		No	Full Migrant	IBAT
Actinopterygii	Bathygobius fuscus	Brown Frillfin	LC		No	Full Migrant	IBAT
Actinopterygii	Bunaka gyrinoides	Green-backed Gudgeon	LC		No	Full Migrant	IBAT
Actinopterygii	Lutjanus johnii	John's Snapper	LC		No	Full Migrant	IBAT
Actinopterygii	Johnius belangerii	Belanger's Croaker	LC		No	Full Migrant	IBAT
Actinopterygii	Microphis brachyurus	Opossum Pipefish	LC		No	Full Migrant	IBAT
Actinopterygii	Sardinops sagax		LC		No	Full Migrant	IBAT
Actinopterygii	Callogobius hasseltii		LC		No	Full Migrant	IBAT
Actinopterygii	Yarica hyalosoma	Mangrove Cardinalfish	LC		No	Full Migrant	IBAT
Actinopterygii	Strophidon sathete	Giant Estuarine Moray	LC		No	Full Migrant	IBAT
Actinopterygii	Butis amboinensis	Ambon Gudgeon	LC		No	Full Migrant	IBAT
Actinopterygii	Eleotris acanthopomus	Spine-cheek Gudgeon	LC		No	Full Migrant	IBAT
Actinopterygii	Giuris margaritaceus	Snakehead Gudgeon	LC		No	Full Migrant	IBAT
Actinopterygii	Stolephorus indicus	Indian Anchovy	LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Glossogobius aureus	Golden Flathead Goby	LC		No	Full Migrant	IBAT
Actinopterygii	Kuhlia mugil		LC		No	Full Migrant	IBAT
Actinopterygii	Mesopristes cancellatus	Tapiroid Grunter	LC		No	Full Migrant	IBAT
Actinopterygii	Tetraroge nigra	Freshwater waspfish	LC		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Actinopterygii	Planiliza subviridis	Greenback Mullet	LC		No	Full Migrant	IBAT
Actinopterygii	Electrona risso	Electric Lantern Fish	LC		No	Full Migrant	IBAT
Actinopterygii	Saurenchelys stylura		LC		No	Full Migrant	IBAT
Actinopterygii	Conger myriaster		LC		No	Full Migrant	IBAT
Actinopterygii	Congresox talabon		LC		No	Full Migrant	IBAT
Actinopterygii	Congresox talabonoides		LC		No	Full Migrant	IBAT
Actinopterygii	Muraenesox bagio	Common Pike Conger	LC		No	Full Migrant	IBAT
Actinopterygii	Muraenesox cinereus		LC		No	Full Migrant	IBAT, EIA
Actinopterygii	Atherinomorus lacunosus	Hardyhead Silverside	LC		No	Full Migrant	IBAT
Actinopterygii	Petroscirtes breviceps	Short-head Sabretooth Blenny	LC		No	Full Migrant	IBAT
Actinopterygii	Collichthys lucidus	Big Head Croaker	LC		No	Full Migrant	IBAT
Actinopterygii	Pennahia argentata		LC		No	Full Migrant	IBAT
Actinopterygii	Acentrogobius caninus	"Tropical Sand Goby	LC		No	Full Migrant	IBAT
Actinopterygii	Eviota piperata	Peppered Dwarfgoby	LC		Yes		IBAT
Actinopterygii	Konosirus punctatus		LC		No	Full Migrant	IBAT
Actinopterygii	Sardinella zunasi		LC		No	Full Migrant	IBAT
Actinopterygii	Ilisha elongata		LC		No	Full Migrant	IBAT
Actinopterygii	Engraulis japonicus	Japanese Anchovy	LC		No	Full Migrant	IBAT
Actinopterygii	Oncorhynchus masou		LC		No	Altitudinal Migrant	IBAT
Actinopterygii	Zenarchopterus dunckeri		LC		No	Full Migrant	IBAT
Actinopterygii	Awaous grammepomus		LC		No	Full Migrant	IBAT
Actinopterygii	Plecoglossus altivelis	Ayu sweetfish	DD		No	Full Migrant	IBAT
Actinopterygii	Apogon semilineatus	Half-lined Cardinalfish	DD		No	Full Migrant	IBAT, EIA
Actinopterygii	Megalops cyprinoides	Indo-Pacific Tarpon	DD		No	Full Migrant	IBAT, EIA
Actinopterygii	Tenualosa reevesii	Reeve's shad	DD		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Actinopterygii	Scomberomorus guttatus	Indo-Pacific King Mackerel	DD		No	Full Migrant	IBAT
Actinopterygii	Istiompax indica	Black Marlin	DD		No	Full Migrant	IBAT
Actinopterygii	Tetrapturus angustirostris	Shortbill Spearfish	DD		No	Full Migrant	IBAT
Actinopterygii	Stiphodon percnopterygionus		DD		No	Full Migrant	IBAT
Actinopterygii	Caecula pterygera		DD		No	Full Migrant	IBAT
Actinopterygii	Ichthyapus keramanus		DD		Yes		IBAT
Actinopterygii	Albula koreana		DD		Yes		IBAT
Actinopterygii	Miichthys miiuy		DD		No	Full Migrant	IBAT
Actinopterygii	Oxuderces dentatus		DD		Yes		IBAT
Actinopterygii	Bothus assimilis		DD		Yes		IBAT
Actinopterygii	Cynoglossus gracilis	Narrow Tongue-sole	DD		No	Full Migrant	IBAT
Actinopterygii	Arius arius	Threadfin Sea Catfish	LC		No	Full Migrant	
Actinopterygii	Chaetodon modestus	Brown-banded Butterflyfish	LC		No	Full Migrant	EIA
Actinopterygii	Lateolabrax japonicu	cá vược nhật	LC		No	Full Migrant	EIA
Actinopterygii	Acanthopagrus taiwanensis	Taiwan Picnic Seabream	DD		Yes		IBAT
Amphibia	Fejervarya multistriata	Hong Kong Rice Frog	LC		Yes	Not a Migrant	IBAT
Amphibia	Buergeria choui	Yaeyama Kajika Frog	LC		Yes	Not a Migrant	IBAT
Anthozoa	Alveopora japonica		CR		No		IBAT
Anthozoa	Montipora angulata		EN		No		IBAT
Anthozoa	Acropora florida	Branch Coral	EN		No		IBAT
Anthozoa	Acropora secale		EN		No		IBAT
Anthozoa	Alveopora catalai		EN		No		IBAT
Anthozoa	Acropora turaki		EN		No		IBAT
Anthozoa	Acropora divaricata		EN		No		IBAT
Anthozoa	Acropora stoddarti		EN		No		IBAT
Anthozoa	Pocillopora woodjonesi		EN		No		IBAT
Anthozoa	Pectinia lactuca	Lettuce Coral	EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Anthozoa	Montipora gaimardi		EN		No		IBAT
Anthozoa	Acropora willisae		EN		No		IBAT
Anthozoa	Acropora carduus		EN		No		IBAT
Anthozoa	Porites evermanni		EN		No		IBAT
Anthozoa	Acropora acuminata		EN		No		IBAT
Anthozoa	Montipora nodosa		EN		No		IBAT
Anthozoa	Pectinia alcicornis		EN		No		IBAT
Anthozoa	Acropora listeri		EN		No		IBAT
Anthozoa	Acropora tumida		EN		No		IBAT
Anthozoa	Acropora paniculata		EN		No		IBAT
Anthozoa	Acropora loripes		EN		No		IBAT
Anthozoa	Acropora derawanensis		EN		No		IBAT
Anthozoa	Lithophyllon repanda		EN		No		IBAT
Anthozoa	Acropora longicyathus		EN		No		IBAT
Anthozoa	Favites valenciennesii		EN		No		IBAT
Anthozoa	Seriatopora stellata		EN		No		IBAT
Anthozoa	Montipora malampaya		EN		No		IBAT
Anthozoa	Acropora elseyi		EN		No		IBAT
Anthozoa	Acropora grandis		EN		No		IBAT
Anthozoa	Montipora niugini		EN		No		IBAT
Anthozoa	Merulina scabricula		EN		No		IBAT
Anthozoa	Acropora vaughani		EN		No		IBAT
Anthozoa	Montipora effusa		EN		No		IBAT
Anthozoa	Acropora pulchra		EN		No		IBAT
Anthozoa	Anacropora spinosa		EN		No		IBAT
Anthozoa	Astreopora suggesta		EN		No		IBAT
Anthozoa	Montipora informis		EN		No		IBAT
Anthozoa	Astreopora cucullata		EN		No		IBAT
Anthozoa	Montipora foliosa		EN		No		IBAT
Anthozoa	Acropora kirstyae		EN		No		IBAT
Anthozoa	Ctenactis albitentaculata		EN		No		IBAT
Anthozoa	Acropora subglabra		EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Anthozoa	Astreopora incrustans		EN		No		IBAT
Anthozoa	Pocillopora meandrina		EN		No		IBAT
Anthozoa	Porites attenuata	Hump Coral	EN		No		IBAT
Anthozoa	Montipora cactus		EN		No		IBAT
Anthozoa	Acropora latistella	Staghorn Coral	EN		No		IBAT
Anthozoa	Acropora pruinosa		EN		No		IBAT
Anthozoa	Montipora friabilis		EN		No		IBAT
Anthozoa	Acropora aspera		EN		No		IBAT
Anthozoa	Acropora abrolhosensis		EN		No		IBAT
Anthozoa	Isopora palifera	Catch Bowl Coral	EN		No		IBAT
Anthozoa	Alveopora verrilliana		EN		No		IBAT
Anthozoa	Astreopora moretonensis		EN		No		IBAT
Anthozoa	Montipora efflorescens		EN		No		IBAT
Anthozoa	Isopora brueggemanni		EN		No		IBAT
Anthozoa	Montipora porites		EN		No		IBAT
Anthozoa	Montipora digitata		EN		No		IBAT
Anthozoa	Montipora incrassata		EN		No		IBAT
Anthozoa	Oulophyllia crispa	Intermediate Valley Coral	EN		No		IBAT
Anthozoa	Montipora caliculata		EN		No		IBAT
Anthozoa	Pocillopora damicornis	Cauliflower Coral	EN		No		IBAT
Anthozoa	Acropora donei		EN		No		IBAT
Anthozoa	Montipora hispida		EN		No		IBAT
Anthozoa	Acropora nasuta		EN		No		IBAT
Anthozoa	Montipora spongodes		EN		No		IBAT
Anthozoa	Acropora tortuosa		EN		No		IBAT
Anthozoa	Montipora stellata		EN		No		IBAT
Anthozoa	Astreopora listeri		EN		No		IBAT
Anthozoa	Acropora striata		EN		No		IBAT
Anthozoa	Montipora turgescens		EN		No		IBAT
Anthozoa	Acropora lutkeni		EN		No		IBAT
Anthozoa	Astreopora macrostoma		EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Anthozoa	Danafungia scruposa		EN		No		IBAT
Anthozoa	Acropora cytherea		EN		No		IBAT
Anthozoa	Montipora aequituberculata		EN		No		IBAT
Anthozoa	Acropora monticulosa		EN		No		IBAT
Anthozoa	Acropora solitaryensis		EN		No		IBAT
Anthozoa	Acropora dendrum		EN		No		IBAT
Anthozoa	Porites stephensoni		EN		No		IBAT
Anthozoa	Alveopora allingi		EN		No		IBAT
Anthozoa	Montipora tuberculosa		EN		No		IBAT
Anthozoa	Acropora microclados		EN		No		IBAT
Anthozoa	Micromussa lordhowensis		EN		No		IBAT
Anthozoa	Dipsastraea laxa		EN		No		IBAT
Anthozoa	Montipora samarensis		EN		No		IBAT
Anthozoa	Anacropora puertogalerae		EN		No		IBAT
Anthozoa	Lithophyllon concinna		EN		No		IBAT
Anthozoa	Lobophyllia hemprichii	Largebrain Root Coral	EN		No		IBAT
Anthozoa	Montipora grisea		EN		No		IBAT
Anthozoa	Acropora spicifera		EN		No		IBAT
Anthozoa	Montipora mactanensis		EN		No		IBAT
Anthozoa	Montipora foveolata		EN		No		IBAT
Anthozoa	Montipora australiensis		EN		No		IBAT
Anthozoa	Montipora danae		EN		No		IBAT
Anthozoa	Acropora aculeus		EN		No		IBAT
Anthozoa	Porites horizontalata		EN		No		IBAT
Anthozoa	Caulastraea echinulata		EN		No		IBAT
Anthozoa	Montipora taiwanensis		EN		No		IBAT
Anthozoa	Dipsastraea lizardensis		EN		No		IBAT
Anthozoa	Alveopora fenestrata		EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Anthozoa	Acropora palmerae		EN		No		IBAT
Anthozoa	Acropora verweyi		EN		No		IBAT
Anthozoa	Acropora yongei		EN		No		IBAT
Anthozoa	Acropora glauca		EN		No		IBAT
Anthozoa	Montipora spumosa		EN		No		IBAT
Anthozoa	Montipora peltiformis		EN		No		IBAT
Anthozoa	Montipora undata		EN		No		IBAT
Anthozoa	Acropora valenciennesi		EN		No		IBAT
Anthozoa	Montipora capitata		EN		No		IBAT
Anthozoa	Montipora cebuensis		EN		No		IBAT
Anthozoa	Montipora venosa		EN		No		IBAT
Anthozoa	Acropora polystoma		EN		No		IBAT
Anthozoa	Isopora cuneata		EN		No		IBAT
Anthozoa	Acropora echinata		EN		No		IBAT
Anthozoa	Pleuractis paumotensis	Elongate Mushroom Coral	EN		No		IBAT
Anthozoa	Montipora mollis		EN		No		IBAT
Anthozoa	Acropora subulata		EN		No		IBAT
Anthozoa	Anacropora reticulata		EN		No		IBAT
Anthozoa	Montipora altasepta		EN		No		IBAT
Anthozoa	Acropora nana		EN		No		IBAT
Anthozoa	Pavona duerdeni		EN		No		IBAT
Anthozoa	Acropora microphthalma		EN		No		IBAT
Anthozoa	Acropora selago		EN		No		IBAT
Anthozoa	Acropora intermedia		EN		No		IBAT
Anthozoa	Acropora millepora		EN		No		IBAT
Anthozoa	Acropora hyacinthus	Brush Coral	EN		No		IBAT
Anthozoa	Acropora cerealis		EN		No		IBAT
Anthozoa	Acropora muricata		EN		No		IBAT
Anthozoa	Montipora carinata		EN		No		IBAT
Anthozoa	Acropora abrotanoides		EN		No		IBAT
Anthozoa	Pocillopora acuta		EN		No		IBAT
Anthozoa	Acropora tenuis		EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Anthozoa	Acropora robusta		EN		No		IBAT
Anthozoa	Acropora humilis	Finger Coral	EN		No		IBAT
Anthozoa	Acropora clathrata		EN		No		IBAT
Anthozoa	Acropora austera		EN		No		IBAT
Anthozoa	Acropora valida		EN		No		IBAT
Anthozoa	Acropora horrida		EN		No		IBAT
Anthozoa	Acropora gemmifera		EN		No		IBAT
Anthozoa	Acropora digitifera		EN		No		IBAT
Anthozoa	Acropora samoensis		EN		No		IBAT
Anthozoa	Acropora sarmentosa		EN		No		IBAT
Anthozoa	Pocillopora verrucosa		EN		No		IBAT
Anthozoa	Pavona minuta		VU		No		IBAT
Anthozoa	Pachyseris gemmae		VU		No		IBAT
Anthozoa	Acropora granulosa		VU		No		IBAT
Anthozoa	Anacropora matthaii		VU		No		IBAT
Anthozoa	Montipora millepora		VU		No		IBAT
Anthozoa	Porites lichen		VU		No		IBAT
Anthozoa	Seriatopora caliendrum	Birdsnest Coral	VU		No		IBAT
Anthozoa	Lobophyllia robusta		VU		No		IBAT
Anthozoa	Echinopora lamellosa		VU		No		IBAT
Anthozoa	Astreopora expansa		VU		No		IBAT
Anthozoa	Anacropora forbesi		VU		No		IBAT
Anthozoa	Seriatopora hystrix	Thin Birdsnest Coral	VU		No		IBAT
Anthozoa	Alveopora excelsa		VU		No		IBAT
Anthozoa	Alveopora spongiosa		VU		No		IBAT
Anthozoa	Montipora monasteriata		VU		No		IBAT
Anthozoa	Lobophyllia corymbosa	Brain Root Coral	VU		No		IBAT
Anthozoa	Pavona cactus		VU		No		IBAT
Anthozoa	Dipsastraea favus	Head Coral	VU		No		IBAT
Anthozoa	Montipora hoffmeisteri		VU		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Anthozoa	Montipora verrucosa		VU		No		IBAT
Aves	Aythya baeri	Baer's Pochard	CR	CR	No	Full Migrant	IBAT
Aves	Emberiza aureola	Yellow-breasted Bunting	CR	EN	No	Full Migrant	IBAT
Aves	Anser cygnoid	Swan Goose	EN		No	Full Migrant	IBAT
Aves	Mergus squamatus	Scaly-sided Merganser	EN		No	Full Migrant	IBAT
Aves	Numenius madagascariensis	Far Eastern Curlew	EN	EN	No	Full Migrant	IBAT
Aves	Tringa guttifer	Spotted Greenshank	EN	EN	No	Full Migrant	IBAT
Aves	Ciconia boyciana	Oriental Stork	EN	EN	No	Full Migrant	IBAT
Aves	Charadrius mongolus	Siberian Sandplover	EN		No	Full Migrant	IBAT, EIAEDA
Aves	Platalea minor	Black-faced Spoonbill	EN		Yes	Full Migrant	IBAT
Aves	Aythya ferina	Common Pochard	VU		No	Full Migrant	IBAT
Aves	Calidris acuminata	Sharp-tailed Sandpiper	VU		No	Full Migrant	IBAT, EDA
Aves	Calidris ferruginea	Curlew Sandpiper	VU		No	Full Migrant	IBAT
Aves	Calidris falcinellus	Broad-billed Sandpiper	VU		No	Full Migrant	IBAT
Aves	Pluvialis squatarola	Grey Plover	VU		No	Full Migrant	IBAT, EIA
Aves	Saundersilarus saundersi	Saunders's Gull	VU	CR	No	Full Migrant	IBAT
Aves	Clanga clanga	Greater Spotted Eagle	VU		No	Full Migrant	IBAT
Aves	Aquila heliaca	Eastern Imperial Eagle	VU		No	Full Migrant	IBAT
Aves	Egretta eulophotes	Chinese Egret	VU	EN	No	Full Migrant	IBAT, EIA
Aves	Gorsachius goisagi	Japanese Night Heron	VU		No	Full Migrant	IBAT
Aves	Phoebastria albatrus	Short-tailed Albatross	VU		No	Full Migrant	IBAT
Aves	Pitta nympha	Fairy Pitta	VU	EN	No	Full Migrant	IBAT
Aves	Phylloscopus ijimae	Ijima's Leaf-warbler	VU	VU	Yes	Full Migrant	IBAT
Aves	Limosa limosa	Black-tailed Godwit	NT	VU	No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Limosa lapponica	Bar-tailed Godwit	NT	VU	No	Full Migrant	IBAT
Aves	Numenius arquata	Eurasian Curlew	NT	VU	No	Full Migrant	IBAT
Aves	Arenaria interpres	Ruddy Turnstone	NT		No	Full Migrant	IBAT, EDA
Aves	Calidris canutus	Red Knot	NT	VU	No	Full Migrant	IBAT
Aves	Calidris ruficollis	Red-necked Stint	NT	VU	No	Full Migrant	IBAT
Aves	Calidris alpina	Dunlin	NT	VU	No	Full Migrant	IBAT, EIAEDA
Aves	Nisaetus nipalensis	Mountain Hawk-eagle	NT	EN	No	Full Migrant	IBAT
Aves	Calonectris leucomelas	Streaked Shearwater	NT		No	Full Migrant	IBAT, EIA
Aves	Phoebastria immutabilis	Laysan Albatross	NT		No	Full Migrant	IBAT
Aves	Hydrobates monorhis	Swinhoe's Storm-petrel	NT		No	Full Migrant	IBAT
Aves	Bombycilla japonica	Japanese Waxwing	NT		No	Full Migrant	IBAT
Aves	Treron formosae	Taiwan Green-pigeon	NT	VU	Yes	Not a Migrant	IBAT
Aves	Garrulax taewanus	Taiwan Hwamei	NT	EN	Yes	Not a Migrant	IBAT, EIAEDA
Aves	Anser anser	Greylag Goose	LC		No	Full Migrant	IBAT
Aves	Aix galericulata	Mandarin Duck	LC	VU	No	Full Migrant	IBAT
Aves	Mareca falcata	Falcated Duck	LC	VU	No	Full Migrant	IBAT, EDA
Aves	Mareca penelope	Eurasian Wigeon	LC		No	Full Migrant	IBAT
Aves	Anas platyrhynchos	Mallard	LC		No	Full Migrant	IBAT
Aves	Spatula clypeata	Northern Shoveler	LC		No	Full Migrant	IBAT
Aves	Anas acuta	Northern Pintail	LC		No	Full Migrant	IBAT
Aves	Spatula querquedula	Garganey	LC		No	Full Migrant	IBAT
Aves	Sibirionetta formosa	Baikal Teal	LC		No	Full Migrant	IBAT
Aves	Anas crecca	Common Teal	LC	VU	No	Full Migrant	IBAT, EIAEDA
Aves	Aythya fuligula	Tufted Duck	LC		No	Full Migrant	IBAT
Aves	Aythya marila	Greater Scaup	LC		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Mergus serrator	Red-breasted Merganser	LC		No	Full Migrant	IBAT
Aves	Turnix sylvaticus	Common Buttonquail	LC	CR	No	Not a Migrant	IBAT
Aves	Alcedo atthis	Common Kingfisher	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Halcyon coromanda	Ruddy Kingfisher	LC		No	Full Migrant	IBAT
Aves	Cuculus poliocephalus	Lesser Cuckoo	LC		No	Full Migrant	IBAT
Aves	Hirundapus cochinchinensis	Silver-backed Needletail	LC		No	Full Migrant	IBAT
Aves	Apus pacificus	Pacific Swift	LC		No	Full Migrant	IBAT, EDA
Aves	Tyto longimembris	Eastern Grass-owl	LC	EN	No	Not a Migrant	IBAT
Aves	Otus spilocephalus	Mountain Scops-owl	LC		No	Altitudinal Migrant	IBAT
Aves	Ketupa flavipes	Tawny Fish-owl	LC	EN	No	Not a Migrant	IBAT
Aves	Asio otus	Long-eared Owl	LC		No	Full Migrant	IBAT
Aves	Asio flammeus	Short-eared Owl	LC		No	Full Migrant	IBAT
Aves	Streptopelia orientalis	Oriental Turtle-dove	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Streptopelia tranquebarica	Red Collared-dove	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Treron sieboldii	White-bellied Green-pigeon	LC		No	Full Migrant	IBAT
Aves	Rallina eurizonoides	Slaty-legged Crake	LC		No	Full Migrant	IBAT
Aves	Amaurornis phoenicurus	White-breasted Waterhen	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Zapornia pusilla	Baillon's Crake	LC		No	Full Migrant	IBAT
Aves	Zapornia fusca	Ruddy-breasted Crake	LC		No	Full Migrant	IBAT
Aves	Gallicrex cinerea	Watercock	LC	VU	No	Full Migrant	IBAT
Aves	Fulica atra	Eurasian Coot	LC		No	Full Migrant	IBAT
Aves	Scolopax rusticola	Eurasian Woodcock	LC		No	Full Migrant	IBAT
Aves	Gallinago stenura	Pin-tailed Snipe	LC		No	Full Migrant	IBAT
Aves	Gallinago megala	Swinhoe's Snipe	LC		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Gallinago gallinago	Common Snipe	LC		No	Full Migrant	IBAT
Aves	Numenius phaeopus	Whimbrel	LC		No	Full Migrant	IBAT, EDA
Aves	Tringa erythropus	Spotted Redshank	LC		No	Full Migrant	IBAT
Aves	Tringa totanus	Common Redshank	LC		No	Full Migrant	IBAT
Aves	Tringa stagnatilis	Marsh Sandpiper	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Tringa nebularia	Common Greenshank	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Tringa ochropus	Green Sandpiper	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Tringa glareola	Wood Sandpiper	LC		No	Full Migrant	IBAT, EDA
Aves	Actitis hypoleucos	Common Sandpiper	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Tringa brevipes	Grey-tailed Tattler	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Calidris alba	Sanderling	LC		No	Full Migrant	IBAT, EIA
Aves	Calidris temminckii	Temminck's Stint	LC	VU	No	Full Migrant	IBAT
Aves	Calidris subminuta	Long-toed Stint	LC		No	Full Migrant	IBAT, EDA
Aves	Calidris melanotos	Pectoral Sandpiper	LC		No	Full Migrant	IBAT
Aves	Calidris pugnax	Ruff	LC		No	Full Migrant	IBAT
Aves	Hydrophasianus chirurgus	Pheasant-tailed Jacana	LC	VU	No	Full Migrant	IBAT
Aves	Pluvialis fulva	Pacific Golden Plover	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Charadrius dubius	Little Ringed Plover	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Charadrius leschenaultii	Greater Sandplover	LC		No	Full Migrant	IBAT, EDA
Aves	Vanellus cinereus	Grey-headed Lapwing	LC		No	Full Migrant	IBAT
Aves	Glareola maldivarum	Oriental Pratincole	LC		No	Full Migrant	IBAT
Aves	Larus crassirostris	Black-tailed Gull	LC		No	Full Migrant	IBAT
Aves	Larus canus	Mew Gull	LC		No	Full Migrant	IBAT
Aves	Larus fuscus	Lesser Black-backed Gull	LC		No	Full Migrant	IBAT
Aves	Hydroprogne caspia	Caspian Tern	LC		No	Full Migrant	IBAT, EDA

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Thalasseus bergii	Greater Crested Tern	LC		No	Full Migrant	IBAT
Aves	Sterna dougallii	Roseate Tern	LC		No	Full Migrant	IBAT
Aves	Sterna sumatrana	Black-naped Tern	LC		No	Full Migrant	IBAT
Aves	Onychoprion anaethetus	Bridled Tern	LC		No	Full Migrant	IBAT, EIA
Aves	Onychoprion fuscatus	Sooty Tern	LC		No	Full Migrant	IBAT
Aves	Chlidonias hybrida	Whiskered Tern	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Chlidonias leucopterus	White-winged Tern	LC		No	Full Migrant	IBAT
Aves	Pandion haliaetus	Osprey	LC		No	Full Migrant	IBAT
Aves	Pernis ptilorhynchus	Oriental Honey-buzzard	LC		No	Full Migrant	IBAT
Aves	Circus melanoleucos	Pied Harrier	LC		No	Full Migrant	IBAT
Aves	Accipiter soloensis	Chinese Sparrowhawk	LC		No	Full Migrant	IBAT, EIA
Aves	Accipiter gularis	Japanese Sparrowhawk	LC		No	Full Migrant	IBAT
Aves	Accipiter virgatus	Besra	LC		No	Altitudinal Migrant	IBAT
Aves	Butastur indicus	Grey-faced Buzzard	LC		No	Full Migrant	IBAT
Aves	Buteo lagopus	Rough-legged Buzzard	LC		No	Full Migrant	IBAT
Aves	Falco tinnunculus	Common Kestrel	LC		No	Full Migrant	IBAT, EDA
Aves	Tachybaptus ruficollis	Little Grebe	LC		No	Full Migrant	IBAT, EIA
Aves	Podiceps grisegena	Red-necked Grebe	LC		No	Full Migrant	IBAT
Aves	Podiceps cristatus	Great Crested Grebe	LC		No	Full Migrant	IBAT
Aves	Podiceps nigricollis	Black-necked Grebe	LC		No	Full Migrant	IBAT
Aves	Phaethon rubricauda	Red-tailed Tropicbird	LC		No	Full Migrant	IBAT
Aves	Phalacrocorax capillatus	Japanese Cormorant	LC		No	Full Migrant	IBAT
Aves	Egretta sacra	Pacific Reef-egret	LC		No	Full Migrant	IBAT, EDA
Aves	Ardea cinerea	Grey Heron	LC		No	Full Migrant	IBAT, EIAEDA

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Ardea purpurea	Purple Heron	LC		No	Full Migrant	IBAT
Aves	Bubulcus ibis	Cattle Egret	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Ardeola bacchus	Chinese Pond Heron	LC		No	Full Migrant	IBAT
Aves	Nycticorax nycticorax	Black-crowned Night Heron	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Gorsachius melanolophus	Malay Night Heron	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Ixobrychus sinensis	Yellow Bittern	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Ixobrychus eurhythmus	Schrenck's Bittern	LC		No	Full Migrant	IBAT
Aves	Ixobrychus cinnamomeus	Cinnamon Bittern	LC		No	Full Migrant	IBAT
Aves	Ixobrychus flavicollis	Black Bittern	LC		No	Full Migrant	IBAT
Aves	Botaurus stellaris	Eurasian Bittern	LC		No	Full Migrant	IBAT
Aves	Platalea leucorodia	Eurasian Spoonbill	LC		No	Full Migrant	IBAT
Aves	Ciconia nigra	Black Stork	LC		No	Full Migrant	IBAT
Aves	Gavia stellata	Red-throated Loon	LC		No	Full Migrant	IBAT
Aves	Gavia arctica	Arctic Loon	LC		No	Full Migrant	IBAT
Aves	Bulweria bulwerii	Bulwer's Petrel	LC		No	Full Migrant	IBAT, EIA
Aves	Ardenna pacifica	Wedge-tailed Shearwater	LC		No	Full Migrant	IBAT
Aves	Lanius cristatus	Brown Shrike	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Lanius schach	Long-tailed Shrike	LC	VU	No	Full Migrant	IBAT, EIAEDA
Aves	Oriolus chinensis	Black-naped Oriole	LC	VU	No	Full Migrant	IBAT
Aves	Oriolus traillii	Maroon Oriole	LC		No	Full Migrant	IBAT
Aves	Lalage melaschistos	Black-winged Cuckooshrike	LC		No	Full Migrant	IBAT
Aves	Pericrocotus divaricatus	Ashy Minivet	LC		No	Full Migrant	IBAT
Aves	Dicrurus macrocercus	Black Drongo	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Terpsiphone atrocaudata	Japanese Paradise-flycatcher	LC		No	Full Migrant	IBAT
Aves	Monticola solitarius	Blue Rock-thrush	LC		No	Full Migrant	IBAT, EDA

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Turdus obscurus	Eyebrowed Thrush	LC		No	Full Migrant	IBAT
Aves	Turdus pallidus	Pale Thrush	LC		No	Full Migrant	IBAT
Aves	Turdus chrysolaus	Brown-headed Thrush	LC		No	Full Migrant	IBAT, EDA
Aves	Muscicapa griseisticta	Grey-streaked Flycatcher	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Muscicapa sibirica	Dark-sided Flycatcher	LC		No	Full Migrant	IBAT
Aves	Muscicapa dauurica	Asian Brown Flycatcher	LC		No	Full Migrant	IBAT
Aves	Muscicapa ferruginea	Ferruginous Flycatcher	LC		No	Full Migrant	IBAT
Aves	Calliope calliope	Siberian Rubythroat	LC		No	Full Migrant	IBAT
Aves	Luscinia svecica	Bluethroat	LC		No	Full Migrant	IBAT
Aves	Phoenicurus auroreus	Daurian Redstart	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Saxicola torquatus	Common Stonechat	LC		No	Full Migrant	IBAT
Aves	Spodiopsar sericeus	Red-billed Starling	LC		No	Full Migrant	IBAT
Aves	Agropsar sturninus	Purple-backed Starling	LC		No	Full Migrant	IBAT
Aves	Agropsar philippensis	Chestnut-cheeked Starling	LC		No	Full Migrant	IBAT
Aves	Sturnia sinensis	White-shouldered Starling	LC		No	Full Migrant	IBAT
Aves	Spodiopsar cineraceus	White-cheeked Starling	LC		No	Full Migrant	IBAT
Aves	Acridotheres cristatellus	Crested Myna	LC	EN	No	Not a Migrant	IBAT
Aves	Parus monticolus	Green-backed Tit	LC		No	Altitudinal Migrant	IBAT
Aves	Hirundo rustica	Barn Swallow	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Delichon dasypus	Asian House Martin	LC		No	Full Migrant	IBAT
Aves	Regulus goodfellowi	Flamecrest	LC		Yes	Altitudinal Migrant	IBAT
Aves	Pycnonotus sinensis	Light-vented Bulbul	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Prinia crinigera	Striated Prinia	LC		No	Altitudinal Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Prinia inornata	Plain Prinia	LC		No	Altitudinal Migrant	IBAT, EIAEDA
Aves	Urosphena squameiceps	Asian Stubtail	LC		No	Full Migrant	IBAT
Aves	Horornis canturians	Korean Bush-warbler	LC		No	Full Migrant	IBAT
Aves	Horornis diphone	Japanese Bush-warbler	LC		No	Full Migrant	IBAT
Aves	Horornis fortipes	Brownish-flanked Bush-warbler	LC		No	Altitudinal Migrant	IBAT
Aves	Helopsaltes ochotensis	Middendorff's Grasshopper-warbler	LC		No	Full Migrant	IBAT
Aves	Acrocephalus bistrigiceps	Black-browed Reed-warbler	LC		No	Full Migrant	IBAT
Aves	Phylloscopus fuscatus	Dusky Warbler	LC		No	Full Migrant	IBAT
Aves	Phylloscopus inornatus	Yellow-browed Warbler	LC		No	Full Migrant	IBAT
Aves	Phylloscopus borealoides	Sakhalin Leaf-warbler	LC		Yes	Full Migrant	IBAT
Aves	Phylloscopus coronatus	Eastern Crowned Warbler	LC		No	Full Migrant	IBAT
Aves	Yuhina brunneiceps	Taiwan Yuhina	LC		Yes	Altitudinal Migrant	IBAT
Aves	Alauda gulgula	Oriental Skylark	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Passer cinnamomeus	Russet Sparrow	LC	EN	No	Altitudinal Migrant	IBAT
Aves	Motacilla alba	White Wagtail	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Motacilla cinerea	Grey Wagtail	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Anthus hodgsoni	Olive-backed Pipit	LC		No	Full Migrant	IBAT
Aves	Anthus gustavi	Pechora Pipit	LC		No	Full Migrant	IBAT
Aves	Anthus cervinus	Red-throated Pipit	LC		No	Full Migrant	IBAT
Aves	Prunella collaris	Alpine Accentor	LC	VU	No	Full Migrant	IBAT
Aves	Fringilla montifringilla	Brambling	LC		No	Full Migrant	IBAT
Aves	Chloris sinica	Oriental Greenfinch	LC		No	Full Migrant	IBAT
Aves	Spinus spinus	Eurasian Siskin	LC		No	Full Migrant	IBAT
Aves	Pyrrhula erythaca	Grey-headed Bullfinch	LC	VU	No	Altitudinal Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Eophona migratoria	Chinese Grosbeak	LC		No	Full Migrant	IBAT
Aves	Emberiza pusilla	Little Bunting	LC		No	Full Migrant	IBAT
Aves	Emberiza sulphurata	Yellow Bunting	LC	VU	No	Full Migrant	IBAT
Aves	Melanitta stejnegeri	Siberian Scoter	LC		No	Full Migrant	IBAT
Aves	Rallus indicus	Eastern Water Rail	LC		No	Full Migrant	IBAT
Aves	Bambusicola sonorivox	Taiwan Bamboo-partridge	LC		Yes	Not a Migrant	IBAT, EIAEDA
Aves	Ninox japonica	Northern Boobook	LC		No	Full Migrant	IBAT
Aves	Charadrius alexandrinus	Kentish Plover	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Ardea intermedia	Intermediate Egret	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Circus cyaneus	Hen Harrier	LC		No	Full Migrant	IBAT
Aves	Himantopus himantopus	Black-winged Stilt	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Hierococcyx sparverioides	Large Hawk-Cuckoo	LC		No	Full Migrant	IBAT
Aves	Butorides striata	Green-backed Heron	LC		No	Full Migrant	IBAT
Aves	Urile pelagicus	Pelagic Cormorant	LC		No	Full Migrant	IBAT
Aves	Otus sunia	Oriental Scops-owl	LC		No	Full Migrant	IBAT
Aves	Buteo japonicus	Japanese Buzzard	LC		No	Full Migrant	IBAT
Aves	Ficedula albicilla	Red-throated Flycatcher	LC		No	Full Migrant	IBAT
Aves	Psilopogon nuchalis	Taiwan Barbet	LC		Yes	Altitudinal Migrant	IBAT, EIAEDA
Aves	Pomatorhinus musicus	Taiwan Scimitar-babbler	LC		Yes	Not a Migrant	IBAT, EIAEDA
Aves	Cuculus optatus	Oriental Cuckoo	LC		No	Full Migrant	IBAT, EIA
Aves	Regulus regulus	Goldcrest	LC		No	Full Migrant	IBAT
Aves	Phylloscopus xanthodryas	Japanese Leaf-warbler	LC		No	Full Migrant	IBAT
Aves	Anas zonorhyncha	Eastern Spot-billed Duck	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Turdus eunomus	Dusky Thrush	LC		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Phasianus colchicus	Common Pheasant	LC	CR	No	Not a Migrant	IBAT
Aves	Falco peregrinus	Peregrine Falcon	LC		No	Full Migrant	IBAT
Aves	Spilopelia chinensis	Eastern Spotted Dove	LC		No	Full Migrant	IBAT, EDA
Aves	Circus spilonotus	Eastern Marsh-harrier	LC		No	Full Migrant	IBAT
Aves	Otus lettia	Collared Scops-owl	LC		No	Altitudinal Migrant	IBAT, EIAEDA
Aves	Gelochelidon nilotica	Common Gull-billed Tern	LC		No	Full Migrant	IBAT
Aves	Larus smithsonianus	Arctic Herring Gull	LC		No	Full Migrant	IBAT
Aves	Gallinula chloropus	Common Moorhen	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Egretta garzetta	Little Egret	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Pericrocotus solaris	Grey-chinned Minivet	LC		No	Altitudinal Migrant	IBAT
Aves	Hypothymis azurea	Black-naped Monarch	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Cyanoptila cyanomelana	Blue-and-white Flycatcher	LC		No	Full Migrant	IBAT
Aves	Sittiparus castaneoventris	Chestnut-bellied Tit	LC		Yes	Not a Migrant	IBAT
Aves	Emberiza spodocephala	Black-faced Bunting	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Cecropis daurica	Red-rumped Swallow	LC		No	Full Migrant	IBAT
Aves	Riparia chinensis	Asian Plain Martin	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Anthus richardi	Richard's Pipit	LC		No	Full Migrant	IBAT
Aves	Motacilla tschutschensis	Eastern Yellow Wagtail	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Hypsipetes leucocephalus	Black Bulbul	LC		No	Full Migrant	IBAT, EIAEDA
Aves	Brachypteryx goodfellowi	Taiwan Shortwing	LC		Yes	Not a Migrant	IBAT
Aves	Troglodytes troglodytes	Northern Wren	LC		No	Full Migrant	IBAT
Aves	Turdus naumanni	Naumann's Thrush	LC		No	Full Migrant	IBAT
Aves	Tarsiger cyanurus	Orange-flanked Bush-robin	LC		No	Full Migrant	IBAT
Aves	Zoothera aurea	White's Thrush	LC		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Aves	Milvus migrans	Black Kite	LC	VU	No	Full Migrant	IBAT, EIA
Aves	Charadrius atrifrons	Tibetan Sandplover	LC		No	Full Migrant	IBAT
Aves	Sternula albifrons	Little Tern	LC		No	Full Migrant	EIAEDA
Aves	Acridotheres javanicus	Javan Myna	VU		No	Not a Migrant	EIAEDA
Aves	Ardea alba	Great White Egret	LC		No	Full Migrant	EIAEDA
Aves	Recurvirostra avosetta	Pied Avocet	LC		No	Full Migrant	EIAEDA
Aves	Pterodroma hypoleuca	Bonin Petrel	LC		No	Full Migrant	EIA
Aves	Phalaropus lobatus	Red-necked Phalarope	LC		No	Full Migrant	EIA
Aves	Sterna hirundo	Common Tern	LC		No	Full Migrant	EIA
Aves	Vanellus vanellus	Northern Lapwing	NT		No	Full Migrant	EDA
Aves	Thalasseus bernsteini	Chinese Crested Tern	CR	CR	Yes	Full Migrant	IBAT
Cephalopoda	Loligo edulis	Swordtip Squid	DD		No	Full Migrant	EIA
Cephalopoda	Sepioteuthis lessoniana	Bigfin Reef Squid	DD		No	Altitudinal Migrant	EIA
Chondrichthyes	Carcharias taurus	Sand Tiger Shark	CR		No		IBAT
Chondrichthyes	Carcharhinus longimanus	Oceanic Whitetip Shark	CR		No		IBAT
Chondrichthyes	Sphyrna lewini	Scalloped Hammerhead	CR		No		IBAT
Chondrichthyes	Sphyrna mokarran	Great Hammerhead	CR		No		IBAT
Chondrichthyes	Anoxypristis cuspidata	Narrow Sawfish	CR		No		IBAT
Chondrichthyes	Pristis zijsron	Green Sawfish	CR		No		IBAT
Chondrichthyes	Rhina ancylostomus	Bowmouth Guitarfish	CR		No		IBAT
Chondrichthyes	Rhynchobatus australiae	Bottlenose Wedgefish	CR		No		IBAT
Chondrichthyes	Aetomylaeus vespertilio	Ornate Eagle Ray	CR		No		IBAT
Chondrichthyes	Centrophorus atromarginatus	Dwarf Gulper Shark	CR		No		IBAT
Chondrichthyes	Squatina japonica	Japanese Angelshark	CR		No		IBAT
Chondrichthyes	Rhinobatos schlegelii	Brown Guitarfish	CR		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Chondrichthyes	Glaucostegus typus	Giant Guitarfish	CR		No		IBAT
Chondrichthyes	Cephaloscyllium sarawakensis	Sarawak Pygmy Swell Shark	CR		Yes		IBAT
Chondrichthyes	Rhynchobatus immaculatus	Taiwanese Wedgefish	CR		Yes		IBAT
Chondrichthyes	Carcharhinus obscurus	Dusky Shark	EN		No		IBAT
Chondrichthyes	Carcharhinus plumbeus	Sandbar Shark	EN		No		IBAT
Chondrichthyes	Cetorhinus maximus	Basking Shark	EN		No		IBAT
Chondrichthyes	Rhincodon typus	Whale Shark	EN		No	Full Migrant	IBAT
Chondrichthyes	Isurus oxyrinchus	Shortfin Mako	EN		No		IBAT
Chondrichthyes	Eusphyra blochii	Winghead Shark	EN		No		IBAT
Chondrichthyes	Negaprion acutidens	Sharptooth Lemon Shark	EN		No	Unknown	IBAT
Chondrichthyes	Centrophorus squamosus	Leafscale Gulper Shark	EN		No		IBAT
Chondrichthyes	Hemipristis elongata	Snaggletooth Shark	EN		No		IBAT
Chondrichthyes	Odontaspis ferox	Smalltooth Sandtiger	EN		No		IBAT
Chondrichthyes	Stegostoma tigrinum	Indo-Pacific Leopard Shark	EN		No		IBAT
Chondrichthyes	Gymnura zonura	Zonetail Butterfly Ray	EN		No		IBAT
Chondrichthyes	Aetomylaeus maculatus	Mottled Eagle Ray	EN		No		IBAT
Chondrichthyes	Rhinoptera javanica	Javanese Cownose Ray	EN		No		IBAT
Chondrichthyes	Rhinobatos hynnicephalus	Ringed Guitarfish	EN		No		IBAT
Chondrichthyes	Mobula tarapacana	Sicklefin Devil Ray	EN		No		IBAT
Chondrichthyes	Mobula thurstoni	Bentfin Devil Ray	EN		No		IBAT
Chondrichthyes	Isurus paucus	Longfin Mako	EN		No		IBAT
Chondrichthyes	Squatina nebulosa	Clouded Angelshark	EN		No		IBAT
Chondrichthyes	Triakis scyllium	Banded Houndshark	EN		No		IBAT
Chondrichthyes	Squalus japonicus	Japanese Spurdog	EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Chondrichthyes	Squalus brevirostris	Japanese Shortnose Spurdog	EN		No		IBAT
Chondrichthyes	Hemitriakis japanica	Japanese Topeshark	EN		No		IBAT
Chondrichthyes	Squatina tergocellatoides	Ocellated Angelshark	EN		No		IBAT
Chondrichthyes	Paragaleus tengi	Straight-tooth Weasel Shark	EN		No		IBAT
Chondrichthyes	Maculabatis gerrardi	Whitespotted Whipray	EN		No		IBAT
Chondrichthyes	Alopias pelagicus	Pelagic Thresher	EN		No		IBAT
Chondrichthyes	Mustelus manazo	Starspotted Smooth-hound	EN		No		IBAT
Chondrichthyes	Beringraja pulchra	Mottled Skate	EN		No		IBAT
Chondrichthyes	Halaelurus buergeri	Blackspotted Catshark	EN		No		IBAT
Chondrichthyes	Mustelus griseus	Spotless Smooth-hound	EN		No		IBAT
Chondrichthyes	Pateobatis jenkinsii	Jenkins' Whipray	EN		No		IBAT
Chondrichthyes	Himantura leoparda	Leopard Whipray	EN		No		IBAT
Chondrichthyes	Rhinoptera jayakari	Oman Cownose Ray	EN		No		IBAT
Chondrichthyes	Mobula birostris	Oceanic Manta Ray	EN		No		IBAT
Chondrichthyes	Aetobatus ocellatus	Spotted Eagle Ray	EN		No		IBAT
Chondrichthyes	Maculabatis macrura	Sharpnose Whipray	EN		No		IBAT
Chondrichthyes	Mobula mobular	Spinetail Devil Ray	EN		No		IBAT
Chondrichthyes	Squalus mitsukurii	Shortspine Spurdog	EN		No		IBAT
Chondrichthyes	Squatina formosa	Taiwan Angelshark	EN		Yes		IBAT
Chondrichthyes	Carcharhinus limbatus	Blacktip Shark	VU		No		IBAT
Chondrichthyes	Carcharodon carcharias	White Shark	VU		No		IBAT
Chondrichthyes	Notorynchus cepedianus	Broadnose Sevengill Shark	VU		No		IBAT
Chondrichthyes	Alopias vulpinus	Common Thresher	VU		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Chondrichthyes	Carcharhinus brevipinna	Spinner Shark	VU		No		IBAT
Chondrichthyes	Carcharhinus falciformis	Silky Shark	VU		No	Full Migrant	IBAT
Chondrichthyes	Carcharhinus leucas	Bull Shark	VU		No		IBAT
Chondrichthyes	Carcharhinus melanopterus	Blacktip Reef Shark	VU		No		IBAT
Chondrichthyes	Triaenodon obesus	Whitetip Reef Shark	VU		No		IBAT
Chondrichthyes	Sphyrna zygaena	Smooth Hammerhead	VU		No		IBAT
Chondrichthyes	Carcharhinus brachyurus	Copper Shark	VU		No		IBAT
Chondrichthyes	Hemigaleus microstoma	Sickelfin Weasel Shark	VU		No		IBAT
Chondrichthyes	Nebrius ferrugineus	Tawny Nurse Shark	VU		No	Unknown	IBAT
Chondrichthyes	Rhizoprionodon acutus	Milk Shark	VU		No		IBAT, EIA
Chondrichthyes	Centrophorus moluccensis	Endeavour Dogfish	VU		No		IBAT
Chondrichthyes	Urolophus aurantiacus	Oriental Stingaree	VU		No		IBAT
Chondrichthyes	Gymnura poecilura	Longtail Butterfly Ray	VU		No		IBAT
Chondrichthyes	Telatrygon acutirostra	Sharpnose Ray	VU		No		IBAT
Chondrichthyes	Taeniurops meyeni	Blotched Fantail Ray	VU		No		IBAT
Chondrichthyes	Chimaera phantasma	Silver Chimaera	VU		No		IBAT
Chondrichthyes	Narcine brevilabiata	Shortlip Numbfish	VU		No		IBAT
Chondrichthyes	Squalus montalbani	Philippine Spurdog	VU		No		IBAT
Chondrichthyes	Narcine lingula	Chinese Numbfish	VU		No		IBAT
Chondrichthyes	Carcharhinus albimarginatus	Silvertip Shark	VU		No		IBAT
Chondrichthyes	Okamejei hollandi	Yellow Spotted Skate	VU		No		IBAT
Chondrichthyes	Narcine maculata	Smallspot Numbfish	VU		No		IBAT
Chondrichthyes	Narke dipterygia	Spottail Sleeper Ray	VU		No		IBAT
Chondrichthyes	Hemitrygon laevigata	Yantai Stingray	VU		No		IBAT
Chondrichthyes	Gymnura japonica	Japanese Butterfly Ray	VU		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Chondrichthyes	Okamejei acutispina	Sharpspine Skate	VU		No		IBAT
Chondrichthyes	Okamejei kenojei	Spiny Skate	VU		No		IBAT
Chondrichthyes	Chaenogaleus macrostoma	Hooktooth Shark	VU		No		IBAT
Chondrichthyes	Alopias superciliosus	Bigeye Thresher	VU		No		IBAT
Chondrichthyes	Proscyllium habereri	Graceful Catshark	VU		No		IBAT
Chondrichthyes	Okamejei boesemani	Boeseman's Skate	VU		No		IBAT
Chondrichthyes	Hemitrygon navarrae	Blackfish Stingray	VU		No		IBAT
Chondrichthyes	Mobula alfredi	Reef Manta Ray	VU		No		IBAT
Chondrichthyes	Carcharhinus tjutjot	Indonesian Whaler Shark	VU		No	Unknown	IBAT
Chondrichthyes	Aetomylaeus nichofii	Banded Eagle Ray	VU		No		IBAT
Chondrichthyes	Aetobatus narutobiei	Naru Eagle Ray	VU		No		IBAT
Chondrichthyes	Bathytoshia lata	Brown Stingray	VU		No		IBAT
Chondrichthyes	Telatrygon zugei	Pale-edge Sharpnose Ray	VU		No		IBAT
Chondrichthyes	Platyrhina tangi	Yellow-spotted Fanray	VU		No		IBAT
Chondrichthyes	Dipturus chinensis	Polkadot Skate	VU		No		IBAT
Chondrichthyes	Narke japonica	Japanese Sleeper Ray	VU		No		IBAT
Chondrichthyes	Hemitriakis complicofasciata	Ocellate Topeshark	VU		Yes		IBAT
Chondrichthyes	Hemitrygon bennetti	Bennett's Stingray	VU		Yes		IBAT
Chondrichthyes	Cirrhigaleus barbifer	Mandarin Shark	LC		Yes		IBAT
Chondrichthyes	Dasyatis acutirostra	Sharpnose Ray	VU		No		EIA
Chondrichthyes	Dasyatis zugei	Pale-edge Sharpnose Ray	VU		No		EIA
Holothuroidea	Holothuria scabra		EN		No		IBAT
Holothuroidea	Thelenota ananas	Pineapple Sea Cucumber	EN		No		IBAT
Holothuroidea	Actinopyga miliaris		VU		No		IBAT
Hydrozoa	Millepora tenera		EN		No		IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Hydrozoa	Millepora dichotoma	Fire Coral	EN		No		IBAT
Hydrozoa	Millepora platyphylla		EN		No		IBAT
Hydrozoa	Millepora intricata		EN		No		IBAT
Hydrozoa	Millepora exaesa	Fire Coral	EN		No		IBAT
Insecta	Pantala flavescens	Wandering Glider	LC		No	Full Migrant	IBAT
Insecta	Tholymis tillarga	Old World Twister	LC		No	Full Migrant	IBAT
Insecta	Tramea transmarina	Red Glider Dragonfly	LC		No	Full Migrant	IBAT
Insecta	Ischnura aurora	Gossamer Damselfly	LC		No	Full Migrant	IBAT
Insecta	Vanessa cardui	Painted Lady	LC		No	Full Migrant	IBAT
Insecta	Acrida formosana	Taiwan Cone-headed Grasshopper	LC		Yes	Not a Migrant	IBAT
Insecta	Eurema hecabe	Grass Yellow	LC		No	Full Migrant	EIAEDA
Liliopsida	Trillium tschonoskii	Keun-yeon-yeong-cho	EN		No		IBAT
Liliopsida	Paris polyphylla	Love Apple	VU		No		IBAT
Magnoliopsida	Limnophila sessiliflora		LC	EN	No		IBAT
Magnoliopsid	Oenanthe javanica	Water Dropwort	LC		Yes		IBAT
Magnoliopsid	Hydrolea zeylanica		LC	EN	No		IBAT
Mammalia	Balaenoptera borealis	Sei Whale	EN		No		IBAT
Mammalia	Balaenoptera musculus	Blue Whale	EN		No		IBAT
Mammalia	Neophocaena asiaeorientalis	Narrow-ridged Finless Porpoise	EN		No	Not a Migrant	IBAT
Mammalia	Balaenoptera physalus	Fin Whale	VU		No		IBAT
Mammalia	Ursus thibetanus	Asiatic Black Bear	VU	EN	No		IBAT
Mammalia	Physeter macrocephalus	Sperm Whale	VU		No		IBAT
Mammalia	Rusa unicolor	Sambar	VU		No		IBAT
Mammalia	Neophocaena phocaenoides	Indo-Pacific Finless Porpoise	VU		No	Not a Migrant	IBAT
Mammalia	Sousa chinensis	Indo-Pacific Humpback Dolphin	VU		No		IBAT, EDA, Monitoring report

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Mammalia	Apodemus semotus	Taiwan Field Mouse	LC		Yes		IBAT
Mammalia	Balaenoptera edeni	Bryde's Whale	LC		No	Full Migrant	IBAT
Mammalia	Hipposideros armiger	Great Himalayan Leaf-nosed Bat	LC		Yes		IBAT
Mammalia	Macaca cyclopis	Formosan Rock Macaque	LC		Yes	Not a Migrant	IBAT
Mammalia	Megaptera novaeangliae	Humpback Whale	LC		No	Full Migrant	IBAT
Mammalia	Murina puta	Taiwanese Tube-nosed Bat	LC		Yes		IBAT
Mammalia	Niviventer coninga	Spiny Taiwan Niviventer	LC		Yes		IBAT
Mammalia	Vespertilio sinensis	Asian Particolored Bat	LC	EN	No		IBAT
Mammalia	Sus scrofa	Wild Boar	LC		Yes		IBAT
Mammalia	Anourosorex yamashinai	Taiwanese Mole Shrew	LC		Yes		IBAT
Mammalia	Nyctalus plancyi	Chinese Noctule	LC		Yes		IBAT
Mammalia	Myotis fimbriatus	Fringed Long-footed Myotis	LC		Yes		IBAT
Mammalia	Prionailurus bengalensis	Mainland Leopard Cat	LC	EN	No	Not a Migrant	IBAT
Mammalia	Belomys pearsonii	Hairy-footed Flying Squirrel	DD		Yes		IBAT
Mammalia	Crocidura rapax	Chinese White-toothed Shrew	DD		Yes		IBAT
Mammalia	Sousa chinensis ssp. Taiwanensis	Taiwanese Humpback Dolphin	CR		Yes		#N/A
Merostomata	Tachypleus tridentatus	Tri-spine Horseshoe Crab	EN		No	Full Migrant	IBAT
Reptilia	Eretmochelys imbricata	Hawksbill Turtle	CR		No	Full Migrant	IBAT
Reptilia	Mauremys sinensis	Chinese Stripe-necked Turtle	CR		No		IBAT, EDA
Reptilia	Mauremys mutica	Yellow Pond Turtle	CR		No		IBAT
Reptilia	Chelonia mydas	Green Turtle	EN		No	Full Migrant	IBAT

Class	Scientific name	Common name	IUCN status	National red list status	Restricted range (C2)	Migratory (C3)	Source
Reptilia	Caretta caretta	Loggerhead Turtle	VU		No	Full Migrant	IBAT
Reptilia	Dermochelys coriacea	Leatherback Turtle	VU		No	Full Migrant	IBAT
Reptilia	Lepidochelys olivacea	Olive Ridley Turtle	VU		No	Full Migrant	IBAT
Reptilia	Deinagkistrodon acutus	Chinese Moccasin	VU		No		IBAT
Reptilia	Bungarus multicinctus	Many-banded Krait	VU		No		IBAT, EIA
Reptilia	Naja atra	Chinese Cobra	VU		No		IBAT, EIAEDA
Reptilia	Elaphe taeniura	Cave Racer	VU		No		IBAT
Reptilia	Pareas formosensis	Formosa Slug Snake	LC		Yes		IBAT
Reptilia	Rhabdophis swinhonis	Taiwan Keelback	LC		Yes		IBAT
Reptilia	Ovophis makazayazaya	Taiwan Mountain Pitviper	LC		Yes		IBAT

Source: Mott MacDonald, 2025