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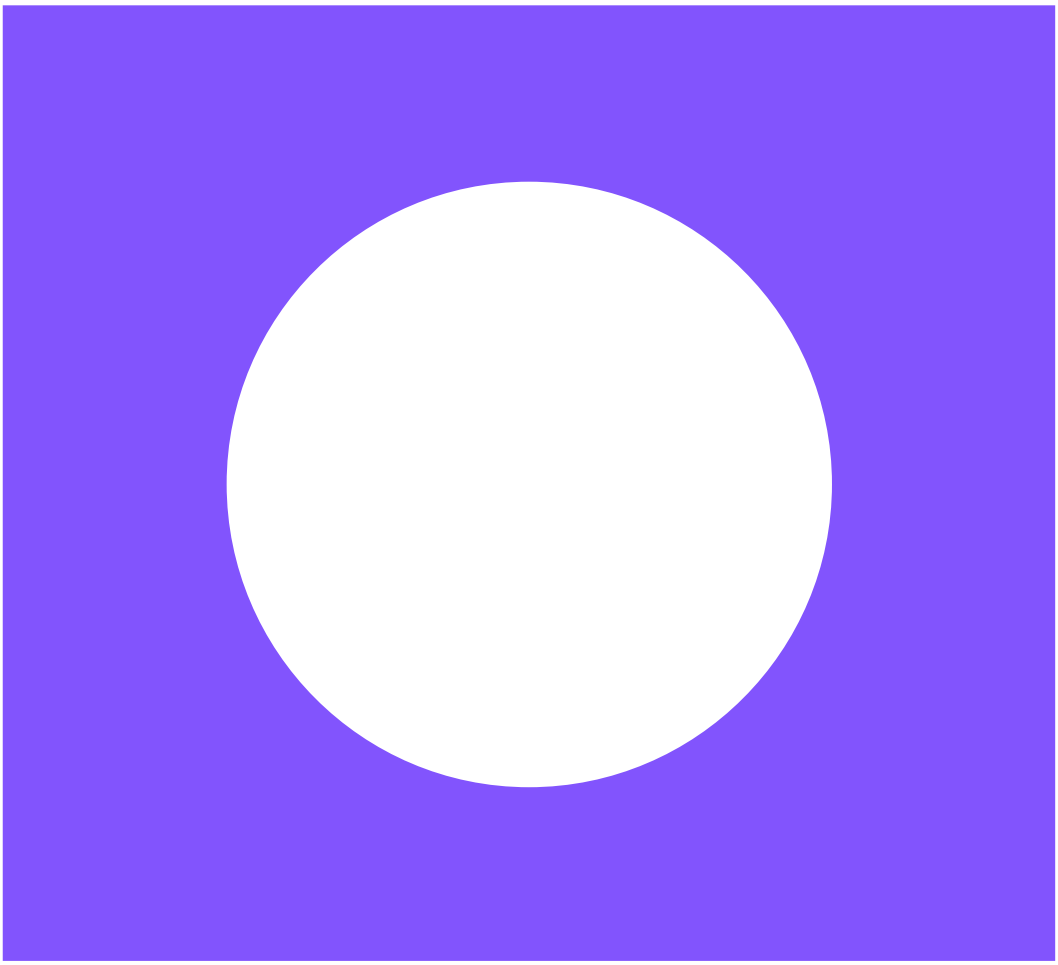

Uygar Wind Power Plant (WPP) Project

Biodiversity Management Plan for Operation Phase

May 2025

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Uygar Wind Power Plant (WPP) Project

Biodiversity Management Plan for Operation Phase

May 2025

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	January 2025	Cihan Ünal Değirmenci	Esra Demirhan	K.Gizem Arıkan Gürler	Draft Operation Biodiversity Management Plan
B	May 2025	Cihan Ünal Değirmenci Anıl Öser	Esra Demirhan	K.Gizem Arıkan Gürler	Final Biodiversity Management Plan

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Definitions and Abbreviations

Abbreviation	Definition
AoI	Area of Influence
BAP	Biodiversity Action Plan
BMP	Biodiversity Management Plan
CH	Critical Habitat
CHA	Critical Habitat Assessment
CITES	Convention for the International Trade in Endangered Species of Wild Fauna and Flora
DKMP	General Directorate of Nature Conservation and National Parks
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ETL	Electric Transmission Line
EUNIS	European Nature Information System
GN	Guidance Notes
IAS	Invasive Alien Species
IFC	International Finance Cooperation
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
NGO	Non-Governmental Organization
PBF	Priority Biodiversity Features
PR	Performance Requirement
PS	Performance Standard
Ramsar	Convention on Wetlands of International Importance Especially as Waterfowl Habitat
TEIAS	Turkish Electricity Transmission Corporation
VP	Vantage Point
WPP	Wind Power Plant

1 Introduction

1.1 Project Background

Enerjisa Üretim Santralleri Anonim Şirketi has been awarded with the competition took place on 30 May 2019 under the “Competition Announcement for the Allocation of Wind Energy Based Renewable Energy Resource Areas (YEKA) and Total Connection Capacities”[1] for Çanakkale Connection Region. Upon this award, a “YEKA Use Rights Agreement” was signed between Enerjisa Üretim Santralleri Anonim Şirketi and Ministry of Energy and Natural Resources (MoENR) on 09 March 2020. Subsequently, the "YEKA Use Rights Agreement" signed by Enerjisa Üretim Santralleri Anonim Şirketi for the Çanakkale Connection Region was transferred to Enerjisa Enerji Üretim Anonim Şirketi (“Enerjisa Üretim” or “the Project Company”) with the transfer agreements signed on 03 June 2021.

Uygar Wind Power Plant (WPP) Project (“the Project”) with 60 turbines and 252 MW_m/250 MW_e total installed power, is planned to be implemented by Enerjisa Üretim in Balıkesir Province, Burhaniye and Savaştepe Districts, Haydar, İkizce, Büyükyenice and Taşdibi Neighbourhoods; İzmir Province, Bergama District, Oruçlar, Ürkütler, Yukarıada, İneşir, Alhatlı, Durmuşlar, Çamoba and Kozluca Neighbourhoods; Manisa Province, Soma District, Kiraz Neighbourhood.

The Enerjisa Yeka Nine Wind Power Plants (WPPs) projects have undergone Environmental and Social Impact Assessment (ESIA, Supplementary Baseline (2024)) and Critical Habitat Assessment (CHA) studies, conducted by Mott MacDonald (hereafter Consultant). At the CHA stage, habitat types were determined, classified and those that were critical habitats were listed. In addition, species/taxa that may be a priority biodiversity features in these areas were determined and their IUCN protection status was specified. Additionally, Key Biodiversity Areas and trigger species were taken into consideration.

This document is updated to reflect the final results of the 2024 supplementary baseline studies. Quantitative assessments of no net loss and net gain requirements have been completed, and corresponding actions will be defined in the Project Biodiversity Action Plan (BAP) and Offset Plan. Specific measures for achieving net gain in critical habitats will also be detailed in the BAP by Enerjisa Üretim.

1.2 Purpose of the Study

This BMP aims to ensure an adequate management and control of the activities that may pose biodiversity-related risks associated with the operation phase of the Project. This plan outlines potential impacts and describes how these should be avoided, mitigated, managed, and monitored. The purpose of this document is as follows:

- Identify measures to manage and minimize potential impacts on biodiversity with special focus on critical habitats and species through the implementation of the mitigation hierarchy.
- Define monitoring activities necessary to improve the understanding of potential impacts and to monitor the success of proposed mitigation measures.
- Provide the framework to achieve IFC PS6 goals: no net loss of biodiversity, in the case of Natural Habitats; The BMP is intended to be a ‘live’ document and therefore it should be periodically updated. This is especially relevant during the design and construction phases when the BMP shall be updated taking into account (1) the findings provided by

[1] Published in the Official Gazette Date/No: 07.11.2018/30588

monitoring activities implemented on the ground as well as (2) potential changes in the Project design or management procedures.

This study aims to assess the habitats loss by the Project considering the baseline conditions and to quantitatively determine the net loss and, if applicable, the net gain based on these findings. For this purpose, the evaluation considered project habitats loss, the presence of Key Biodiversity Areas (KBAs), and habitats potentially significant for species that trigger critical habitat status, applying the DEFRA framework. Given that biodiversity assessments for demonstrate no net loss/net gain calculations often involve numerous region-specific variables, it is not feasible to directly implement DEFRA's methodology or similar models without adaptation. Consequently, a high-level No Net Loss/Net Gain assessment approach has been developed for nine wind power projects, utilizing DEFRA's calculation principles as detailed explain in Methodology Section 7.1.

It is also important to note that there is currently no nationally recognized or implemented net loss/net gain policy in Türkiye. However, in forested areas under the jurisdiction of the General Directorate of Forestry, it is mandatory to replant a number of trees equal to those removed and to covering the associated financial costs of such reforestation efforts. The afforestation works to be carried out for the project were also evaluated within the scope of the necessary offset effort.

The 2024 supplementary baseline studies are completed, and the necessary revisions are incorporated into this document. Quantitative details regarding no net loss and net gain requirements, along with related mitigation measures for critical habitats, will be presented in the Biodiversity Action Plan (BAP) to be prepared by Enerjisa Üretim.

The BMP provides the following:

- Summary of the previous studies related biodiversity features and habitats (this section provides applicable legislation and guidelines)
- Summary of the Project impacts
- The mitigation measures applicable to the Project
- Requirements for monitoring and performance measurement of biodiversity management
- Project No Net Loss/Net Gain Approach
- Roles and Responsibilities
- Training requirements
- Reporting

1.3 Legislation and Guidelines

1.3.1 National Requirements

The primary framework of the Turkish legislation for environmental legislation is the Environmental Law (Law No: 2872). National laws and regulations regarding protection of the habitats and species are listed in Table 1-1.

Table 1-1 National Legislation on Biodiversity

Legislation (Official Gazette Date/Number - Last Revision Date)	National Strategy Documents
Law on National Parks (11.08.1983/18132 - 09.07.2018) Terrestrial Hunting Law (11.07.2003/25165 - 28.10.2020) Law on Animal Protection (01.07.2004/25509 - 13.12.2010) Regulation on the Protection of Wetlands (04.04.2014/28962 - 23.06.2022) Regulation for Implementing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (27.12.2001/24623 - 20.07.2019) Regulation on Protection of Wildlife and Wildlife Development Areas (08.11.2004/25637) Law on Protection of Cultural and Natural Assets (23.07.1983/18113 - 15.06.2022) Regulation on Collection, Protection and Usage of Plant Genetic Resources (19.07.2012/28358) Law on Fisheries (04.04.1971/ 13799 - 17.02.2021) The Environmental Protection Agency for Special Areas (08.07.2011/ 27988) Environment Law (11.08.1983 / 18132 - 15.06.2022) Forestry Law (08.09.1956 / 9402 - 25.12.2021) Law on Pasture (28.02.1998 / 23272 - 18.01.2019) Law on Coastal Areas Management (17.04.1990 / 20495 - 28.10.2020)	National Plan on on-site Protection of Plant Genetic Diversity (1998) National Environmental Action Plan (1999) National Forestry Program (2004) Climate Change Action Plan (2012) Turkish National Action Plan against Desertification (2015) National Rural Development Strategy (2015) National Biological Diversity Strategy and Action Plan (2019)

1.3.2 International Requirements

International agreements, conventions, and protocols regarding protection of the habitats and species are listed below:

- The Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention) (1981)
- The Convention on the Conservation of European Wildlife and Natural Habitats (BERN) (1984)
- United Nations Framework Convention on Climate Change (1994)
- The Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR) (1994)
- International Convention for the Prevention of Pollution from Ships (MARPOL) (1998)
- The UN Convention on Biological Diversity (1997) and Cartagena Protocol on Biosafety (2004)
- Kyoto Protocol (2009)
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1996)
- Paris Agreement (2016)

1.3.3 Project Standards

The international lender standards concerning biodiversity for the Project are represented by the IFC Performance Standards (PS6) and related Guidance Notes (6), EBRD Performance Requirements (PR6) and Guidance Notes (6) as well as Equator principles IV (EP IV).

The impact assessment and critical habitat assessment are carried out in accordance with the following international requirements:

- IFC Performance Standards on Environmental and Social Sustainability,
- EBRD's Environmental and Social Policy and Performance Requirements
- International Union for Conservation of Nature (IUCN) Red List of Threatened Species
- The Birds Directive (2009/147/EC)
- The Habitats Directive (92/43/EEC10)
- Post-construction Bird and Bat Fatality Monitoring for Onshore Wind Energy Facilities in Emerging Market Countries - Good Practice Handbook (2023)

The IFC PS6 objectives can be listed as:

- To protect and conserve biodiversity,
- To maintain the benefits from ecosystem services,
- To promote the sustainable management of living natural resources through the adoption of practices that integrates conservation needs and development priorities.

Similarly, the EBRD PR6 objectives are as defined below:

- Protect and conserve biodiversity using a precautionary approach,
- Adopt the mitigation hierarchy in the design and implementation of projects with the aim of achieving no net loss, and where appropriate, a net gain of biodiversity,
- Maintain ecosystem services, and
- Promote good international practice in the sustainable management and use of living natural resources.

2 Methodology of Biodiversity Management Plan

The preparation of BMP was the result of 9-stage process. These stages are as presented in Figure 2-1. Stages 1 through 6 were conducted as part of the Environmental and Social Impact Assessment (ESIA) by the Consultant. IFC PS6 requirements were considered when determining recommendations for natural and critical habitats. These requirements are summarized in Table 2-1 for natural habitats and Table 2-2 for critical habitats. Additionally, EBRD PR6 requirements were considered for Priority Biodiversity Features.

Figure 2-1: Stages BMP Preparation

Table 2-1: Requirements on Natural Habitats regarding IFC PS6

PS6 reference	PS6 text
PS6 paragraph 14	'The client will not significantly convert or degrade natural habitats, unless all of the following are demonstrated: • No other viable alternatives within the region exist for development of the project on modified habitat; • Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and • Any conversion or degradation is mitigated according to the mitigation hierarchy.'
PS6 footnote 7	'Significant conversion or degradation is (i) the elimination or severe diminution of the integrity of a habitat caused by a major and/or long-term change in land or water use; or (ii) a modification that substantially minimizes the habitat's ability to maintain viable populations of its native species.'
PS6 paragraph 15	'In areas of Natural Habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible.'
PS6 footnote 9	'No net loss is defined as the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimize the project's impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale (e.g. local, landscape-level, national, regional).

Table 2-2: Requirements on Critical Habitats regarding IFC PS6

PS6 reference	PS6 text
PS6 paragraph 17	'In areas of critical habitat, the client will not implement any project activities unless all of the following 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.'
PS6 paragraph 18	'In such cases where a client is able to meet the requirements defined in paragraph 17, 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.'
PS6 footnote 15	'Net gains are additional conservation outcomes that can be achieved for the biodiversity values for which the critical habitat was designated. Net gains may be achieved through the development of a biodiversity offset and/or, in instances where the client could meet the requirements of paragraph 17 of this Performance Standard without a biodiversity offset, the client should achieve net gains through the implementation of programs that could be implemented in situ (on-the-ground) to enhance habitat, and protect and conserve biodiversity'

Mitigation hierarchy has been considered for mitigation measures as avoidance, minimisation, restoration and offset. Avoidance and minimisation measures prevent or reduce impacts, while restoration and offset measures remediate impacts that have already happened. Restoration and offset efforts typically have a lower likelihood of success and are more expensive for the developer than avoidance and minimization. The mitigation hierarchy is explained in detail in Table 2-3.

Table 2-3: Mitigation hierarchy

Approach	Explanation

Avoidance	• The first and most crucial phase in the hierarchy, relies on the actions taken to anticipate and prevent the development of undesirable outcomes.
	• Biodiversity impacts/risks must be detected early in the project planning stages to be effective.
	• Can be effectively achieved through
	  ○ project design (to situate infrastructure and choose designs that avoid impacts)
	  ○ scheduling (to ensure the timing of project activities is favourable for biodiversity)
	  ○ site selection to ensure projects are not located in high-risk locations.

Minimisation	• Actions to reduce the duration, intensity, and/or extent of impacts that cannot be totally avoided, insofar as it is practically possible. • Early planning and the development of design alternatives can help identify potential methods. • Can be implemented throughout the entire project life cycle, including design, construction, operation, closure, decommissioning, and repowering.
Restoration	• Actions intended to restore certain biodiversity features or ecosystem services damaged by project impacts that could not be fully avoided or minimized in the framework of the mitigation hierarchy. • There are many terms linked to restoration, including rehabilitation, reclamation and remediation. • Differs from general rehabilitation, which may not set out to restore the original biodiversity or the biodiversity components on which ecosystem services depend. • Also distinct from actions to mitigate project impacts by restoring biodiversity elsewhere as a level in the hierarchy of mitigation (see next item, “Offset”). • Typically undertaken either during construction (to address impacts from temporary facilities such as laydown areas or roads), or towards the end of a project as part of decommissioning and/or repowering.
Offset	• Measures performed to compensate for severe negative residual impacts that cannot be prevented, minimized, or restored. • Should only be considered as a last resort and only after all avoidance, minimization, and restoration alternatives have been exhausted. • Seek to produce a quantifiable conservation result regarding the biodiversity aspects they target. • Effective conservation measures that produce biodiversity gains through prevented loss (addressing threats to prevent anticipated biodiversity loss) or restoration (for example, improving the condition of deteriorated habitat).

This plan was developed with the presumption that the effects during operation are primarily on birds and bats.

2.1 Stakeholder Engagement and Desktop Review

Desktop research was undertaken to understand the biodiversity values present in the vicinity of Project areas, identify existing conservation concerns, and identify gaps in existing knowledge. A literature review was completed in consultation with non-governmental organizations (NGOs), authorities, academic institutions-taxonomic specialists, and other recognized external experts.

3 Summary of the Biodiversity Baseline and Project Impacts

Biodiversity values that are subject to mitigation measures and management strategies within the scope of this BMP are listed in Table 3-1. The direct footprint of the Project, including roads and the ETL, is not located within a legally protected or internationally recognised area and the AoI does not overlap any such areas either.

Table 3-1: Biodiversity Values of the Project AoI

Critical Habitats	Natural Habitats	KBA Trigger Species	Flora Species of High Conservation Concern	Fauna Species of High Conservation Concern
-	G1.7 Termophilus deciduous woodland E4.4 Calcareous alpine and subalpine grassland H3.6 Weathered rock and outcrop habitats	-	*Digitalis trojana* *Cirsium balikesirense*	**Birds** *Falco vespertinus* **Bats** *Hypsugo savii* *Miniopterus schreibersii* *Nyctalus lasiopterus* *Nyctalus leisleri* *Nyctalus noctula* *Pipistrellus nathusii* *Pipistrellus pipistrellus* *Pipistrellus pygmaeus* *Tadarida teniotis* **Reptile** *Testudo graeca* **Mammals** *Vormela pderegusna*

Table 3-2 provides a summary of evaluated biodiversity impacts for each group or category, the phases in which they are expected to occur, along with a description of the impact and sub-impacts if applicable.

Table 3-2: The Summary of the Project Impacts of Operation Phase

Impact Ref. No.	Type of Impact	Receptor	Descriptions and Sub-impacts
1	Habitat loss and degradation	Natural Habitats	• Corridor effect • Edge effect (can favour certain species over others, thus altering species evenness for the area, can significantly limit interior dependent species if present). • Fragmentation • Risk of wildfires
2	Disturbance of Flora and Fauna	All Flora and Fauna Species	• Increased human activity • Increased noise and vibration • Artificial lighting • • Dust emissions (mainly from vehicle passage on site roads) • Air, soil and water pollution (Degradation of abiotic elements, due to inadequate management of anthropogenic alterations to the environment, which the ecosystem is dependent on) • Injury/Mortality risks of fauna (Wildlife-vehicle collisions)
3	Invasive Alien Species (IAS) competition	Natural Habitats Flora and Fauna Species	• Introduction of AIS which can compete with local/native species and threaten KBA integrity, through anthropogenic factors (equipment and vehicles, landscaping, improper waste management) • Predation injury and mortality due to feral dogs and cats • Disturbance and competition by feral species • Disease transmission from feral animals to wildlife (toxoplasmosis, scabies, etc)
4	Collision injury / mortality	Birds and Bats	• Injury and/or mortality due to direct collision with structures, mainly but not limited to fast moving components like turbine blades, but also structures that pose visibility challenges under certain conditions such as overhead power lines
5	Barotrauma mortality	Bats	• Injury and/or mortality due to interaction with pressure variations caused by moving turbine blades, frequently causing fatal internal damage
6	Electrocution injury / mortality	Birds	• Injury and/or mortality due to interaction with electrified structures, mainly the ETL, especially of larger bodied species, since triggering electrocution requires interacting with multiple different electrified components of a structure
7	Avoidance	Birds	• Barrier effect (altering flight path and/or altitude at an energy cost in order to move around the WPP) • Displacement effect (altering utilization frequency and/or patterns of the habitat due to WPP operation)
8	Artificial lighting	Birds, Bats	• Attraction of prey species (insects) • Decreased ability of orientation and navigation (especially nocturnal migrants) • Disturbance to sleep patterns • Increased pressure from predators

4 Biodiversity Management

This section provides details of the outline aims of this BMP together with objectives required to be met in order to deliver these aims.

Table 4-1 below lists the aims and objectives that form the basis of the BMP. These aims may be subject to change as required through ongoing management of the BMP.

These objectives have been established taking into account the impacts and the biodiversity features presented in Section 3.

Table 4-1: Aims of Management Plan

Aim Ref. No.	Aim	Associated Objectives	Target	Key Performance Indicator (KPI)
1	To minimise impacts to biodiversity during operation	a) Minimise disturbance to habitats / flora beyond the Project footprint during operation b) Reduce risk factors for wildlife injury and mortality c) Raise awareness among internal and external stakeholders on biodiversity and conservation priorities	• No Project activity outside the established footprint will be conducted. • Measures will be implemented to prevent accidental injury and mortality of fauna species due to operation activities. • Trainings and educational materials will be provided to key stakeholders to increase awareness of biodiversity and conservation priorities • The reporting and the data obtained will be monitored by the Corporate Biodiversity Specialist. The tasks of storing and registering the reports and data as a soft copy will be carried out for the annual biodiversity report.	• No Project activity or disturbance to biodiversity values recorded outside of approved footprint. • Monitoring reports on the integrity natural habitats do not show loss and degradation of natural habitat • Operation biodiversity monitoring reports do not contain incidents of fauna injury and mortality. • Bird and bat mortality estimations are below threshold values • 100% of personnel and contractors are covered by biodiversity requirements awareness campaign • Reports on trainings, information disclosure meetings and attendants
2	To achieve no net loss of important biodiversity	a) Minimise loss of important habitats and flora b) Minimise impacts to important fauna c) Achieve no net loss d) Manage risk of introduction or spread of invasive species e) Achieve net gain for critical habitat trigger species, if any	• Project operation activities do not result in net loss of natural habitats, sensitive flora, bird and bat species, especially those threatened and migrant species, or sensitive terrestrial fauna. • Measures are implemented to prevent IAS introduction and spread • As a result of the CHA revision in Q1 2025 *Ciconia nigra* species, which were previously identified as potential CH triggers, were designated as non-triggers and will not be addressed in the net gain requirements.	• Periodical monitoring reports prepared, and results do not show net loss of habitats, flora, or fauna species. • If a net loss is identified, the quantification is reported; actions to address the loss will be defined under the Project Biodiversity Action Plan (BAP) and Offset Plan, which will outline the measures to achieve no net lossNo infestation with invasive species within the Project recorded • Successful seeding and translocation monitoring records for sensitive flora (if any)

5 Management Actions

This section presents the biodiversity management actions and targets required to be delivered the aims listed within Section 4 The impacts presented in Table 3-2 have been compiled in line with the general objectives presented in Table 4-1 and presented as a management plan in Table 5-1.

Construction activities related impacts occur, either directly (e.g., mortalities caused by the activities, habitat fragmentation, wildlife disturbance) or indirectly (e.g., due to habitat deterioration that may cause a change in distribution and abundance of biodiversity in the area). Operational impacts are mostly bat and bird injury and morality, along with impacts associated with sustained human activity on the ground (vehicle collisions, disturbance, feral animal presence).

Table 5-1: Biodiversity Management Plan for operation phase

Type of Habitat/ Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
Natural Critical	Habitat fragmentation and edge effects Creation of barriers to movement	Project footprint (along the project area, the ETL, site and access roads)	Avoidance • Footprint creep prevented will be prevented Minimisation • If required for maintenance purposes, access will be limited to existing designated routes, and off-road driving will not be permitted. • The footprint of the Project components will be kept at established dimensions. • Actions that expand the footprint (widening roads, clearing additional areas for operational purposes) will not be undertaken except if justifiable and highly essential. • No off-road driving will be allowed. • If migration hotspots of terrestrial fauna are identified as a result of construction or operational monitoring, further actions will be developed and implemented.	Project Company, Contractors, and Subcontractors	Road Safety Management Plan (or relevant)	Quarterly	No change in Project footprint. Habitat connections created (if terrestrial fauna migration is pertinent).	Site walkover inspection records Biodiversity monitoring reports Record of the restoration studies Post-reinstatement inspection records	Immediate reinstatement of procedures
Natural Critical	Risk of wildfire	Project footprint (along the project area, the ETL, site and access roads)	Avoidance • Proper waste management will be ensured. • Staff will be made aware of waste management measures • Cigarette disposal will be carefully managed at designated areas. • The area beneath and near the ETL and other significant electrified components will be kept clear. • Fire will not be permitted as a means to clear vegetation during site maintenance activities • In cases where stubble fires are encountered, the Provincial Directorate of Environment, Urbanisation and Climate Change will be notified.	Project Company, Contractors, and Subcontractors	Waste Management Plan Road Safety Management Plan	Weekly	100% of personnel and contractors are covered by biodiversity requirements awareness campaign.	Site walkover inspection records Biodiversity monitoring reports Training and induction records. Educational material posted on boards.	Positive incentive – reward system for employees and subcontractors
Natural Critical Modified Fauna species	Noise Disturbance	Project footprint (along the project area, the ETL, site and access roads)	Minimisation • For operation and maintenance activities, use low noise emitting vehicles, machinery, and equipment	Project Company, Contractors, and Subcontractors	Environmental Noise Management Plan Environmental Management and Monitoring Plan	As per Noise Management Plan	Not exceed threshold values of the Environmental Management and Monitoring Plan 100% of personnel and contractors are covered by biodiversity requirements awareness campaign.	Records of monitoring schedule and result of environmental noise Training attendance sheets and transcript of the presentation Educational material posted on boards.	Selection of low noise emitting options whenever possible.
Natural Critical Modified	Light disturbance	Project footprint (along the project area, the ETL, site and access roads)	Minimisation • Lighting for operation and security purposes will be inward and downward facing to minimise light pollution in remote areas, and to minimize the disturbance to nocturnal wildlife, birds and invertebrates.	Project Company, Contractors, and Subcontractors	Operation Lighting design	Quarterly	Light pollution kept at minimum. No Records of incidents with wildlife due to light pollution	Site walkover inspection records (at night-time) Records of incidents with	Wildlife-friendly lighting design Replace offending lights with better alternatives / remove

Type of Habitat/ Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			• Artificial light will be limited to areas where it is essential. • Fewer lights will be preferable to more lights and lighting design will be prevented from affecting the sky as much as possible. • LEDs will be preferred than HPS to lighting. • Low lux lighting will be preferred. • Prefer trigger lighting for areas that do not require constant illumination. • Turbine lights will flash simultaneously.					wildlife due to light pollution	inessential lighting
Natural Critical Modified	Invasive-alien distribution risk Feral/stray introduction (cats and dogs)	Project footprint (along the project area, the ETL, site and access roads)	Avoidance • Vehicles, equipment and machinery for operation and maintenance will be cleaned before the entrance of the construction sites. • Parking areas and camp sites will be kept clean against spreading of invasive species. • Feral animals will not be fed or kept as pets • Sightings of feral animals will be reported and authorities (likely the municipality) will be contacted for removal of feral animals • Dog and cat food, and food waste will not be discarded in a manner which would provide foraging opportunities for feral animals • If operation staff is allowed to keep pet / guard animals, the animals will not be allowed to roam free, and will be kept on a leash or within a fenced off area • Any guard / pet animals on-site will be neutered or spayed, and will receive frequent veterinary checks • Staff will receive training about feral and pet animal policy Minimisation • There will be regular inventories of invasive species within the AoI, if any are identified, eradication measures will be developed and implemented.	Project Company, Contractors, and Subcontractors	Invasive Species Management Plan	Quarterly	No infestation with invasive species within the Project. No stray dogs or cats observed at Project site No free roaming pets observed No records of injury to wildlife due to feral and stray animals. 100% of personnel and contractors are covered by biodiversity requirements awareness campaign.	Site walkover inspection records Post-reinstatement inspection records Training attendance sheets and transcript of the presentation Veterinary records of pet / guard animals Educational material posted on boards.	Immediate reinstatement Improve waste management practices
Natural Critical Modified	Accidental loss of fauna Disturbance to fauna Killing/injuring fauna Displacement of fauna	Project footprint (along the project area, the ETL, site and access roads)	Avoidance • Herbicide and fire will not be permitted as a means to clear vegetation during site maintenance activities • Regular trainings will be held in order to raise awareness associated with the natural assets & importance of the site and protection of the natural structure including legislative framework, related conventions and their requirements as in line with the Environmental & Social Management System. • If bird nests are detected on structures such as the ETL poles or pylons, if they are not active, nests will be safely translocated by a qualified expert. Maintenance works or other actions that might otherwise disturb the nests	Project Company, Contractors, and Subcontractors	Relocation procedure or relevant Terrestrial monitoring reports	Quarterly	No bird nests lost as a result of operation No records of injury/loss of wildlife due to operation. 100% of personnel and contractors are covered by biodiversity requirements awareness campaign. Wildlife signs installed.	Speed limit training records Training attendance sheets and transcript of the presentation Translocation records Site walkover records	Punishment – reward system for employees and contractors Improve fauna management practices

Type of Habitat/ Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			will not be conducted until after translocation. Minimisation • Environmental incidents will be recorded to monitor the need for additional preventative measures to be implemented alongside the current animal exclusion methods. • As far as possible, night work will not be performed. • A ban on hunting and fishing by construction and operation staff • Induction training will be used to raise awareness of staff operating motor vehicles that includes instruction on the need to comply with speed limits to respect all forms of wildlife. • Speed limits will be kept low. Note that speed limit in village and on forest roads are 30 km/h. • Wildlife crossing signs will be installed and maintained based on biodiversity monitoring outcomes. Restoration • Opportunities to deploy safe nesting, roosting, sheltering and hibernating structures will be identified. Bird and bat boxes, safe perches and nesting structures for birds, and hibernacula for terrestrial species can be considered. • It has been determined that the population and species composition within T23 have not been identified, and the extent of losses remains unclear. However, a significant decline observed in acoustic monitoring results in 2024 surveys suggests that the loss may be substantial. Consequently, options to achieve a net gain should be considered.				Nesting, roosting, perching, and shelter structures deployed.		
Avifauna	Collision with turbine blades	Turbines	Minimisation • Turbine structures will not provide perching or nesting opportunities for birds. • If pre-operation and/or operation bird monitoring indicates increased collision risk and high mortality estimates of avifauna of significance, site specific *shutdown on demand protocol* will be developed and implemented, and training will be provided to the staff on a regular basis. • Painting of one turbine blade in black colour is a proven effective measure for decreasing collision mortality of birds by increasing visibility. This method will be adopted if blades are replaced, or in case of capacity extension or repowering during the lifetime of the Project.	Project Company, Contractors, and Subcontractors	Biodiversity Monitoring as detailed in this document	As detailed in bird monitoring requirements	No records of bird injury or mortality due to blade collision Periodical shutdown on demand training and drills is provided to all involved employees and contractors.	Bird monitoring report with collision risk assessment Bird mortality report with statistical mortality estimation Shutdown on demand protocol document Turbine shutdown reports Training and drill records for shutdown on demand protocol	Shutdown on demand protocol implemented Adjust turbine design during maintenance, repowering or capacity extension
Avifauna	Collision with ETL cables	ETL	Minimisation	Project Company, Contractors, and Subcontractors	Biodiversity Monitoring as	As detailed in mortality	Records of communication with TEIAS	Bird mortality report with statistical	Replacement of markers

Type of Habitat/ Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			• The company will liaise with TEIAS in order to achieve management targets pertaining to the ETL. • Marking of the ETL: Install bright colored bird flight diverters with night visibility, 5-10 meters apart maximum, for the entire length of the ETL. • Installation pattern of the markers can be staggered. • Other marker options can also be considered but safety and efficacy for reducing bird collisions will be verified. These might include spheres, swinging plates, strips, bird flappers, ribbons, tapes, flags, fishing floats, and crossed bands with day and night visibility. • Many types of line markers can fade, break, slip along the span or become obsolete as time passes. For these types of line markers, if preferred for any segments of the ETL, periodic checks and maintenance will be applied. • Options that are lower maintenance are available in the market and can be preferred such as metal spirals which can last longer without fading or breaking, and not fall off as easily as some of the other options. •		detailed in this document	monitoring requirements	No records of wildlife injury or mortality due to collision with ETL cables.	mortality estimation Site walkover records	Decreased marker spacing
Avifauna	Electrocution	ETL	Minimisation • Structures associated with the ETL will not offer perching or nesting opportunities for birds. • Based on the operation phase mortality monitoring results, if electrocution mortality of avifauna is detected to be significant concern, further measures will be considered • Measures will depend on component designs, and may include solutions such insulation of energized parts, installation of phase covers, or increased wire distance.	Project Company, Contractors, and Subcontractors	Biodiversity Monitoring as detailed in this document	As detailed in mortality monitoring requirements	Records of communication with TEIAS No records of wildlife injury or mortality due to collision with ETL cables.	Bird mortality report with statistical mortality estimation Site walkover records	Replacement of markers Decreased marker spacing Improvements to ETL design
Bats	Collision with turbine blades / barotrauma due to moving blades	Turbines	Minimisation • Turbines will be prevented from “freewheeling” (turbines will not be allowed to spin free during low wind and no energy generation), or significantly reduced idle speed. • Adjustment to blade angle (feathering) prevents undesirable freewheeling. • Based on the results of pre-operation and first year operation results of bat activity monitoring and bat mortality monitoring, further mitigation measures will be proposed, which may include actions such as changes to cut-in speed of turbines (either blunt or smart curtailment), or using Nacelle height monitoring to inform curtailment better. • Enercon turbines can be modified with SCADA Bat Protection Mode which allows alteration of turbines based on	Project Company, Contractors, and Subcontractors	Biodiversity Monitoring as detailed in this document	As detailed in mortality monitoring requirements	No records of bat injury or mortality	Bat monitoring report Bat mortality report	Further mitigation measures to turbine operation parameters after assessment of monitoring

Type of Habitat/ Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			environmental parameters such as temperature and wind speed, along with other advanced programming options such as for specific dates or time periods for bat related mitigation measures. Further details regarding Bat Protection Mode are available in a technical description document published by Enercon. • Bat deterrents are variable in their efficacy and are not considered as the primary means of mitigation. • Particular attention will be paid to curtailment in the T23 area due to the high bat activity and the presence of caves.						
Natural Critical Modified	Environmental pollution risk	Along the project area, ETL line, access roads	Avoidance • Organic waste will be managed in a way to prevent wildlife access to it. Minimisation • Waste storage outside of the landfill will be situated in bins with lids secured. • Waste oils and/or hazardous substances will be kept in sealed containers and/or covered. • All domestic waste outside the landfill/waste-storage facility will be stored in vermin-proof bins with lids secured. • Proper waste disposal will be provided avoiding natural habitats. • Prevent will be ensured wastewater discharge into aquatic habitats, especially in breeding seasons. • Accidental release of pollutants and potentially contaminated sediments will be controlled.	Project Company, Contractors, and Subcontractors	Waste Management Plan	Monthly	No negative impact records on habitat or species regarding waste pollution	Site walkover records Records of incidents involving wildlife	Waste management training

6 Monitoring and Adaptive Management

6.1 Monitoring Requirements

This section provides a summary of the monitoring requirements that must be implemented under the BMP.

In essence, the Project will need to establish a robust post-construction bird and bat monitoring programme. This programme will run for at least three years, after which it will be evaluated whether the goals of the BMP have been satisfactorily met or additional monitoring is required to further inform mitigation and adaptive management. Current and emerging commitments to national authorities (Nature Conservation and Natural Parks, DKMP) will also shape the course of the monitoring programme.

The goal of the monitoring programme will be to:

1. compare baseline bird and bat population and activity values to operation activity levels in order to verify the extent of impact of the Project on bird and bat species, which will be used to better align mitigation and adaptive management,
2. establish 1st, 2nd and 3rd year operation bird and bat population and activity values for future studies which will periodically occur through the lifetime of the Project, in addition to prior to singular events such as capacity extension,
3. employ a mortality monitoring programme to identify bird and bat injury and mortality via collision, electrocution, and barotrauma and identify the optimal mitigation measures, while minimizing energy production loss,

These surveys will be conducted by skilled bird and bat experts, preferably one who has prior experience with carrying out bird and bat studies at WPPs.

The bird groups to focus on during the bird monitoring survey are as follows:

- Large soaring migrant species of Türkiye's migratory routes
- Large soaring resident species, especially if globally or nationally threatened

The bat groups to focus on during the bird monitoring survey are as follows:

- Mid- to long-range migratory species
- High and medium collision risk species
- Regionally or globally threatened species

Monitoring reports presenting outcomes for each monitoring period will be independently audited.

Based on monitoring results on the statuses of biodiversity features at different phases of the Project, additional measures will be taken as necessary. A general framework for periodical monitoring studies to be conducted throughout the Project, and biodiversity features to be monitored are as the following:

- Status of critical habitat values and PBF trigger species
- Status of KBA integrity and species of high conservation concern, implementation of related management controls
- Success of translocation and seeding (If any)
- Changes in populations of target fauna species to be identified through surveys.

Management controls that are required to be developed based on monitoring results will be addressed within the scope of the BMP and BAPs.

Additional locations for operational monitoring may become apparent as pre-construction work progresses and will be reported within the BMP as revisions.

Table 6-1: Operation Monitoring Plan

Aspect	Description	Timing/ Frequency	KPI	Responsibility
Habitat Monitoring	Natural habitats adjacent to construction sites will be regularly monitored for the presence of avoidable and unintentional disturbance including: • habitat loss and habitat fragmentation; • increased exposure to atmospheric pollutants due to airborne dust (e.g., signs of dust deposition on vegetation); • exposure to contaminants due to accidental spills, waste management and disposal etc. A monitoring register will be filled in and photographic documentation will be collected, Corporate-level Biodiversity Specialist will administer the register, which will be used within the Annual Biodiversity Report (including bird and bat reports), to document any issue detected and corrective actions put in place. Results are presented and discussed in the E&S Progress Reports.	Vegetation Period (April-June)	Absence of stress or disturbance signs	Project Company, Contractor, and Subcontractors
Flora Survey and Monitoring	The presence of invasive flora species in the Project area will be monitored regularly. Areas monitored will include areas recently disturbed such as soil and topsoil stockpiles, access roadsides, reclamation sites, etc. The following target flora species will be monitored: – *Digitalis trojana* *Cirsium balikesirense*	Annually	Absence of invasive species 70% of translocation/seeding success (if any)	Project Company, Contractor, and Subcontractors
Invasive Alien Species	Identification of invasive alien species Registration of IAS species encountered and their distribution in the Project area	Annually (unless particular issues are recorded during previous monitoring) First 3 years of operation, to be reevaluated after	No infestation of invasive species within the Project AoI	Project Company, Contractor, and Subcontractors
Terrestrial Fauna Monitoring	Accidents involving wildlife or the observation of live animal or carcasses within and around the Project area will be registered and monitored. The incident report will include the following records: - Date/Location - Visual (if any)	Bi-annually (Records regarding accidents will be kept as the case occurs and will be reported bi-annually by Project Environmental Team and biodiversity expert).	Absence of accidents involving fauna species Absence of exceptional or frequent fauna encounters	Project Company, Contractor, and Subcontractors

Aspect	Description	Timing/ Frequency	KPI	Responsibility
	- Species name - Injury/Mortality of fauna, etc. - Economic loss - Human health Additional mitigation measure to avoid wildlife accidents and encounters will be taken if needed based on the first monitoring results. Records of accidents will be maintained as they occur and reported. The incident report will include the following content: date and location, visual evidence (if any), species name, injury or mortality of fauna, economic loss, and impact on human health.	Additional annual monitoring (by fauna experts)		
Bird Monitoring Vantage Point (VP)	Monitoring will be conducted per NatureScot guidelines and following Vantage Point (VP) methodology, producing a robust Collision Risk Assessment. Methodology will follow the methodologies established in 2024 bird baseline surveys and also implement recommended and accepted additions and revisions to 2024 survey parameters. Results are discussed in interim (pre-liminary) and final annual bird reports.	First 3 years of operation, to be reevaluated after Migration and breeding seasons	Absence of disturbance to migrating and threatened species Collision risk analysis values are below acceptable threshold values	Project Company (Internal resources of The Project company (full-time wildlife expert) Contractor or/and Subcontractors (Independent ornithological expert)
Breeding Bird / Raptor Survey	Breeding bird surveys will be conducted within the Project AoI via point counts. Necessity for breeding raptor surveys encompassing the AoI and/or at appropriate buffer for raptor species of concern will be evaluated following pre-operation surveys. Methodology will follow the methodologies established in 2024 bird baseline surveys and also implement recommended and accepted additions and revisions to 2024 survey parameters. Results are discussed in interim (pre-liminary) and final annual bird reports.	Once annually in years 1-3 and refresh at year 10, 20 and 30. Locate nests in March/July	No record of disturbance of nests or collision Nest success No clutch lost	Project Company (Internal resources of The Project company (full-time wildlife expert) Contractor or/and Subcontractors (Independent ornithological expert)
Bat Monitoring	Monitoring will be conducted per NatureScot guidelines and following appropriate methodology for ground automated static detector sampling. Sound analysis will be carried out by an expert with software assistance. Methodology will follow the methodologies established in 2024 bird baseline surveys and also implement	3 seasons (spring, summer and autumn) April – October (mid-August will be covered)	Absence of stress or disturbance signs.	Project Company (Internal resources of The Project company (full-time wildlife expert) Contractor or/and Subcontractors (Independent bat expert)

Aspect	Description	Timing/ Frequency	KPI	Responsibility
	recommended and accepted additions and revisions to 2024 survey parameters. Results are discussed in interim (pre-liminary) and final annual bird reports.	First 3 years of operation, to be reevaluated after		
Shutdown on demand (SDoD) for bird species	Continuous monitoring for sensitive bird species (large soaring migrant and resident species) Approach will be determined by the Project company and technology alternatives will be considered. Monitoring will align with the SDoD Technical Note to be developed, and with site-specific protocols to be created where necessary. These documents are structured to comply with the shutdown protocol and will be revised as needed based on the outcomes of PCFM implementation Results are discussed in annual shutdown on demand reports.	Ongoing during operation Full coverage of periods target species are active Programme reviewed every 5 years	No record of fatal collision or injury	Project Company (Internal resources of The Project company (full-time wildlife expert) Contractor or/and Subcontractors (Independent ornithological expert)
Bird and bat fatality monitoring	To be designed according to Good Practice Handbook on Post-construction Bird and Bat Fatality Monitoring (PCFM) for Onshore Wind Energy Facilities (WEFs) in Emerging Market Countries (2023) guidelines. All turbines and the ETL will be included in monitoring design. Results are discussed in interim (pre-liminary) and annual post construction fatality monitoring reports.	First 3 years of operation, to be further reviewed. 3 seasons (spring, summer and autumn) April – October (mid-August will be covered) At least 4 experimental studies each year of monitoring. Refresh study will be prescribed based on further monitoring. Monitoring will continue March-November until mitigation success is achieved, and bird/bat fatality is reduced to threshold.	Low collision mortality or injury rates of large soaring migrant and resident speciesThe collision mortality or injury rates are below the CRM estimations from the Baseline studies conducted in 2024. Bat fatality estimation thresholds identified by expert and do not exceed thresholds. Achieve a 70% reduction in bat fatality rate in subsequent monitoring years compared to the first-year PCFM mortality results, as a result of implemented curtailment measures.	Project Company (Internal resources of The Project company (full-time wildlife expert) Contractor or/and Subcontractors (Independent ornithological expert)

6.2 Adaptive Management

Adaptive management will be informed by findings from the monitoring described above Project Company. Where it is identified that targets associated with the BMP actions are not being met, Project Company will be responsible for rectifying this through appropriate adaptive management, to the approval of the Project Lenders. As a brief indication of what this may comprise, the following measures could feasibly be deployed:

- Turbine curtailment measures
- Shutdown on demand protocol implementation
- Improved spatial and temporal coverage of the airspace for bird monitoring,
- Increased insulation solutions for electrified components,
- Additional bird deflectors and markers installations,
- Providing perching and nesting structures away from the Project structures
- Supplementary seed-collection and plant translocation; if necessary
- Increased invasive species management.

6.3 Reporting

The BMP is required to be updated whenever new sets of data become available during the Project's course, including first and foremost the CHA. Following the CHA, first year, and second year of operational surveys, necessary updates will be incorporated into the BMP. Additionally, if significant flora and fauna assemblages within the Project area is identified, their specific monitoring requirements might be outlined via BAPs.

Contractors and subcontractors will be required to follow habitat and species-specific procedures developed based on these assessments. External experts responsible for biodiversity studies within the Project will provide reports to the Project company (relevant authority) on the implementation of mitigation measures, management controls, monitoring strategies, and their site-specific findings.

The results of biodiversity management and monitoring, as outlined in the BMP, will be shared with all interested parties. Operational management and monitoring process will include the following reporting.

- Flora and Habitat Survey Results (will be submitted in E&S Progress Reports)
- Bird and bat mortality monitoring results
- Vantage Points survey results with Collision Risk Assessment
- Breeding Bird Survey Results
- Bat survey results
- Annual shutdown on demand report
- Revision of Critical Habitats Assessment, if necessary
- Revision of Operational BMP, if necessary

The results of biodiversity management and monitoring, as outlined in the BMP, will be submitted bi-annually. CHA and BMP will be revised annually, if necessary. The Corporate-level Biodiversity Specialist will administer the monitoring register, which will be used within the Annual Biodiversity Report (including bird and bat reports).

7 No Net Loss / Net Gain Approach

7.1 Methodology

To establish the extent of the mitigation required, a habitat-based approach was used to calculate Biodiversity Net Gain (BNG) / Net Loss (NL) for the biodiversity features associated with the habitats that will be altered by the Project, as outlined in the following sections.

The process of calculating no net loss or gain involves evaluating both the area and quality of the habitat that will be lost, as well as the area and quality of the habitat that will be created or restored. This assessment allows for a comprehensive calculation of the net biodiversity gain or loss for the development. The DEFRA[2] / The Statutory Biodiversity Metric[3] was adopted and customized to determine the Biodiversity Net Gain (BNG) or Net Loss (NL) requirements for each EUNIS habitat type. For the identification and quantification of habitats, a remote sensing and field survey approach was used, employing multi-spectral imagery captured by satellites.

To compensate the adverse impacts on habitats within the Project's impact area, off-site restoration activities will be implemented in degraded or altered habitats. In this context, and to remain consistent with the terminology used in relevant standards, the term "loss" has been revised to "alteration" in this section. After the completion of these restoration activities, and during the decommissioning phase, any residual impacts will be re-evaluated, and if habitat creation is deemed necessary, corresponding measures will be outlined in the Offset Management Plan.

The steps taken to carry out the calculation are outlined below:

7.1.1 Establishment of Baseline (Pre-Intervention)

The first step involves assessing the biodiversity value of the land before any development activities commence. To accomplish this, habitats within the project area of influence boundaries were mapped using Landsat imagery data. Initially, habitats were identified and classified through a desktop-based approach. These classifications were subsequently refined through site visits conducted by qualified ecologists, who assessed and documented the habitat quality during dedicated baseline studies.

The next step involves evaluating the potential impact of the development on habitats. This assessment takes into account not only the area of habitat to be lost but also the quality of the habitat, which is measured in terms of “Baseline Biodiversity Units”. The formula employed to calculate the “Baseline Biodiversity Units” is as follows:

$$\text{Baseline Biodiversity Units} = \left(A_{t0} \times Q_D^{t0} \times Q_C^{t0}\right) \times \left(Q_{SS}^{t0}\right)$$

- A – Area of Habitat (ha)
- Q_C – Condition (a quality measure)
- Q_D – Distinctiveness (a quality measure)
- Q_{SS} – Strategic Significance (a quality measure)
- t0 – Pre-intervention (baseline)

[2] Department for Environment Food & Rural Affairs

[3] https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

The area of habitat to be lost was determined by identifying all habitats within the footprint of the project. The quality of these habitats is assessed based on the criteria of Condition, Distinctiveness, and Strategic Significance. Each category of these criteria is assigned a corresponding multiplier score, as outlined in the tables below.

Condition:

Habitat condition is an indicator of the state or health of a habitat, used to assess variations among areas of the same habitat type. This condition is frequently influenced by factors such as past and current management practices, as well as land use. The score reflects the biodiversity value of the habitat in relation to other habitats of the same type.

Table 7-1: Condition Categories and Multiplier Scores for Habitats

Condition	
Category	**Multiplier**
Good	3
Fairly Good	2.5
Moderate	2
Fairly poor	1.5
Poor	1

Distinctiveness:

Distinctiveness is an assessment based on the specific type of habitat and its unique characteristics. The habitat type is determined through professional surveys conducted by qualified experts.

Table 7-2: Habitat Distinctiveness Categories and Multiplier Scores

Distinctiveness		
Category	**Multiplier**	**Definition**
Very High	8	Critical habitats refer to areas of remaining habitat that are limited in size, with a significant portion of them lacking protection through formal designation.
High	6	Natural habitats that support key species and essential ecological processes may meet PBF criteria, particularly when situated within or enhancing the ecological integrity of Key Biodiversity Areas
Medium	4	Natural habitats with moderate wildlife benefits and ecological value, supporting a range of species and ecosystem functions.
Low	2	Agricultural and urban land uses with lower biodiversity value, typically supporting fewer species and ecosystem functions.
Very Low	0	Urban areas consist of artificial structures, including un-vegetated, sealed surfaces, and built linear features, all of which have very low biodiversity value, such as paved roads and buildings.

Strategic Significance:

A score reflecting the local significance of the habitat, determined by its location, habitat type, and whether it has been identified in a local strategy plan.

Table 7-3: Strategic Significance and Multiplier Scores

Strategic Significance		
Category	**Multiplier**	**Definition**
High	1.15	Formally identified in local strategy.
Medium	1.1	Location ecologically desirable but not in local strategy.
Low	1	Area/compensation not in local strategy/no local strategy, and there is no evidence to suggest that the habitat is of medium significance.

7.1.2 Biodiversity Units of Habitat Creation

The next step involves calculating the potential biodiversity gains through the establishment of habitat areas. Habitat creation aims to enhance biodiversity by restoring priority habitats on land where these habitats were previously lacking or where only minimal remnants of the habitat currently remain.

The formula used to calculate 'Biodiversity Units of Habitat Creation' is:

$$\text{Baseline Biodiversity Units of Habitat Creation} = \left[\left(A^{t1} \times Q_D^{t1} \times Q_C^{t1}\right) \times \left(R_D \times R_T\right) \times \left(Q_{SS}^{t1}\right)\right] \times \left(R_{OS}\right)$$

- A – Area of Habitat (ha)
- Q_C – Condition (a quality measure)
- Q_D – Distinctiveness (a quality measure)
- Q_{SS} – Strategic Significance (a quality measure)
- R_D – Difficulty (a risk factor)
- R_T – Time to Target Condition (a risk factor)
- R_{OS} – Spatial Risk (off-site risk factor)
- t1 – Post-intervention

7.1.3 Biodiversity Units of Habitat Restoration

The next step involves calculating the potential biodiversity gains through the restoration of habitat areas. Habitat restoration focuses on enhancing biodiversity by rehabilitating priority habitats on land where they were previously degraded or where only minimal remnants of the habitat remain.

The formula used to calculate 'Biodiversity Units of Habitat Restoration is:

$$\text{Baseline Biodiversity Units of Habitat Restoration} = \left[\left|\left\langle\left\{\left(A^{t1} \times Q_D^{t1} \times Q_C^{t1}\right) - \left(A^{t0} \times Q_D^{t0} \times Q_C^{t0}\right)\right\} \times \left(R_D \times R_T\right)\right\rangle + \left(A^{t0} \times Q_D^{t0} \times Q_C^{t0}\right)\right| \times \left(Q_{SS}^{t1}\right)\right] \times \left(R_{OS}\right)$$

- A – Area of Habitat (ha)
- Q_C – Condition (a quality measure)
- Q_D – Distinctiveness (a quality measure)
- Q_{SS} – Strategic Significance (a quality measure)
- R_D – Difficulty (a risk factor)
- R_T – Time to Target Condition (a risk factor)
- R_{OS} – Spatial Risk (off-site risk factor)
- t1 – Post-intervention
- t0 – Pre-intervention (baseline)

In addition to the habitat extent and quality factors used to determine biodiversity units, as outlined above, potential gains also account for several risk factors. These include a time risk factor, which reflects the delay between the loss of habitats and the establishment of functional offset habitats; a difficulty risk factor, which addresses uncertainties regarding the success of offset areas; and a spatial risk factor, which considers the distance between the project site and the offset areas.

Difficulty Risk Factor:

A pre-determined score based on the level of difficulty associated with the creation, restoration, of the habitat type.

Table 7-4: Difficulty Risk Factor categories and multiplier scores for habitats

Difficulty Risk Factor	
Category	**Multiplier**
Very High	0.1
High	0.33
Medium	0.67
Low	1

Time to Target Condition:

A pre-determined score based on the duration required for the habitat type to be established and achieve the target condition.

Table 7-5: Time to Target Condition categories and multiplier scores for habitats

Time to Target Condition	
Time (years)	**Multiplier**
0	1.000
5	0.837
10	0.700
15	0.585
20	0.490
25	0.410
30	0.343
>30	0.320

Spatial Risk:

A score determined by the distance between the habitat loss site and the location where habitat creation or enhancement is implemented.

Table 7-6: Spatial Risk categories and multiplier scores for habitats

Spatial Risk	
Category	**Multiplier**
Compensation inside the Project area or its immediate vicinity.	1.00
Compensation outside the Project area but within Area of Influence	0.75
Compensation outside the Area of Influence	0.50

7.1.4 Biodiversity Net Change Calculation

Biodiversity Net Gain (BNG) / No Net Loss (NL) is calculated by subtracting the biodiversity units to be lost due to development from the biodiversity units to be gained through habitat offset creation or restoration. The scenario where the losses and gains are balanced indicates No Net Loss (NNL). BNG is achieved when the gains surpass the losses by the desired percentage. To achieve Biodiversity Net Gain (BNG), it is required that the habitat units gained exceed 10% of the baseline habitat units calculated.

7.1.5 Monitor and Reporting

The application of this metric allows the Project to monitor its performance through the implementation of long-term monitoring. Monitoring and reporting should be sustained for a predetermined period following the completion of the development to evaluate the effectiveness of any BNG. The project's offset plan should include a monitoring and evaluation program.

7.2 Biodiversity Net Loss and Gain Calculations

The habitat alteration anticipated due to the construction activities within the project area, which includes site roads, turbine footprints, ETL (Electrical Transmission Lines), and switchyard areas, has been thoroughly assessed. Based on the analysis, it has been assessed that these areas will experience habitat degradation, with a total habitat alteration of 323.4 hectares.

Uygar WPP AoI is not located within any protected or international recognized area. The external ETL (Bayramic connection) which might be built and operated by TEIAS at a future date might overlap KBAs.

Table 7-12 provides the Baseline Biodiversity Unit, while Table 7-13 outlines the Biodiversity Units of Habitat Creation. Table 7-14 details the Biodiversity Units of Habitat Restoration, and Table 7-15 presents the findings on overall net loss or gain.

During field studies, the project area was observed to be under anthropogenic influence. Therefore, the baseline condition of the project area has been assessed as 'moderate (2)' in Table 7-12.

Within the scope of the high-level assessment, habitats without measurable alteration were not quantified in Table 7-11. Nonetheless, habitat alteration was prevented in areas where endemic flora individuals were present, and no activities were conducted in these locations.

The amount of habitat alteration due to access roads, site roads, turbine footprints, ETL and switchyard area are given in Table 7-7 through Table 7-10. A total habitat alteration provided in Table 7-11.

Table 7-7: Habitat Alteration on Site Roads

EUNIS	Area (ha)
E4.4 Calcareous alpine and subalpine grassland	25.8
G1.7 Termophilus deciduous woodland	2.3
G4.B Mixed mediterranean pine - thermophilous oak woodland	9.8
G4.D Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	10.9
H3.6 Weathered rock and outcrop habitats	3.8
I1.1 Intensive unmixed crops	5.2
I1.3 Arable land with unmixed crops grown by low-intensity agricultural methods	17.4
Total	75.2

Table 7-8: Habitat Alteration on Turbine Footprint

EUNIS	Area (ha)
E4.4 Calcareous alpine and subalpine grassland	32.9
G1.7 Termophilus deciduous woodland	2.7
G4.B Mixed mediterranean pine - thermophilous oak woodland	17.1
G4.D Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	8.2
H3.6 Weathered rock and outcrop habitats	10.2
I1.1 Intensive unmixed crops	6.4
I1.3 Arable land with unmixed crops grown by low-intensity agricultural methods	11.9
Total	89.4

Table 7-9: Habitat Alteration on Switchyard Area

EUNIS	Area (ha)
E4.4 Calcareous alpine and subalpine grassland	6.2
G1.7 Termophilus deciduous woodland	0.0
G4.B Mixed mediterranean pine - thermophilous oak woodland	0.0
G4.D Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	0.0
H3.6 Weathered rock and outcrop habitats	0.0
I1.1 Intensive unmixed crops	0.0
I1.3 Arable land with unmixed crops grown by low-intensity agricultural methods	4.1
Total	10.3

Table 7-10: Habitat Alteration on ETL

EUNIS	Area (ha)
E4.4 Calcareous alpine and subalpine grassland	26.7
G4.B Mixed mediterranean pine - thermophilous oak woodland	27.8
I1.1 Intensive unmixed crops	55.4
I1.3 Arable land with unmixed crops grown by low-intensity agricultural methods	35.5
I2.2 Small-scale ornamental and domestic garden areas	3.1
Total	148.6

Table 7-11: Total Habitat Alteration

EUNIS	Area (ha)
G1.7 Termophilus deciduous woodland	5
G4.B Mixed mediterranean pine - thermophilous oak woodland	54.7
G4.D Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	19.1
E4.4 Calcareous alpine and subalpine grassland	91.6
H3.6 Weathered rock and outcrop habitats	14
I1.1 Intensive unmixed crops	67
I1.3 Arable land with unmixed crops grown by low-intensity agricultural methods	68.9
I2.2 Small-scale ornamental and domestic garden areas	3.1
J1.2 Residential buildings of villages and urban peripheries	0
TOTAL	323.4

Table 7-12: Ovacık Biodiversity Units Lost Due to Development

EUNIS Code	Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Biodiversity Units for Baseline
G1.7	Termophilus deciduous woodland	5	6	2	1.1	66
G4.B	Mixed mediterranean pine - thermophilous oak woodland	54.7	4	2	1.1	481.36
G4.D	Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	19.1	4	2	1.1	168.08
E4.4	Calcareous alpine and subalpine grassland	91.6	6	2	1.1	1209.12
H3.6	Weathered rock and outcrop habitats	14	6	2	1.1	184.8
I1.1	Intensive unmixed crops	67	2	1	1	134
I1.3	Arable land with unmixed crops grown by low-intensity agricultural methods	68.9	2	1	1	137.8
I2.2	Small-scale ornamental and domestic garden areas	3.1	0	1	1	0
Total		323.4				2381.16

The Baseline Biodiversity Unit calculated following the project's habitat alteration assessment is 2381.16. All planned habitat creation and restoration activities aim to achieve No Net Loss (NNL) for this biodiversity unit.

Table 7-13: Biodiversity Units of Habitat Creation

EUNIS Code	Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Difficulty Risk Factor	Time to Target Condition	Spatial Risk	Biodiversity Units of Habitat Creation
G1.7	Termophilus deciduous woodland[4]	0	6	3	1.1	1	0.7	0.75	0
G4.B	Mixed mediterranean pine - thermophilous oak woodland	0	4	3	1.1	1	0.7	0.75	0
G4.D	Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	0	4	3	1.1	1	0.7	0.75	0
E4.4	Calcareous alpine and subalpine grassland	0	6	3	1.1	1	0.837	0.75	0
H3.6	Weathered rock and outcrop habitats	0	6	3	1.1	1	0.7	0.75	0
I1.1	Intensive unmixed crops	0	2	1	1	1	1	0.75	0
I1.3	Arable land with unmixed crops grown by low-intensity agricultural methods	0	2	1	1	1	1	0.75	0
I2.2	Small-scale ornamental and domestic garden areas	0	0	1	1	1	1	0.75	0
Total		0							0

As the habitat units to be gained through restoration efforts are expected to meet the No Net Loss requirement, no habitat creation activities have been planned. Therefore, the area designated for creation is reported as zero hectares in Table 7-13.

[4] Afforestation and habitat creation activities are carried out by the General Directorate of Forestry (GDF), with the established areas remaining under its supervision. In these efforts, artificial coniferous plantations have been implemented in place of native Termophilus woodland. Information on tree planting activities provided by the General Directorate of Forestry (OGM) is presented in Table 7.16. In 2023, 54,000 trees were planted across 33,8 hectares, and in 2024, 50,000 trees were planted over 42,8 hectares.

Table 7-14: Biodiversity Units of Habitat Restoration[5]

EUNIS Code	Habitat Type	Area (ha)	Distinctiveness	Condition	Strategic Significance	Difficulty Risk Factor	Time to Target Condition	Spatial Risk	Biodiversity Units of Habitat Restoration
G1.7	Termophilus deciduous woodland	5	6	3	1.1	1	0.7	0.75	66.825
G4.B	Mixed mediterranean pine - thermophilous oak woodland	54.7	4	3	1.1	1	0.7	0.75	487.377
G4.D	Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	19.1	4	3	1.1	1	0.7	0.75	170.181
E4.4	Calcareous alpine and subalpine grassland	91.6	6	3	1.1	1	0.837	0.75	1286.35254
H3.6	Weathered rock and outcrop habitats	14	6	3	1.1	1	0.7	0.75	187.11
I1.1	Intensive unmixed crops	67	2	1	1	1	1	0.75	100.5
I1.3	Arable land with unmixed crops grown by low-intensity agricultural methods	68.9	2	1	1	1	1	0.75	103.35
I2.2	Small-scale ornamental and domestic garden areas	3.1	0	1	1	1	1	0.75	0
Total		323.4							2401.69554

When calculating the restoration habitats and areas, the baseline habitats and their respective areas were taken as a reference, with the assumption that these restoration efforts would occur within the Area of Influence. However, all offset activities, will be comprehensively outlined in the Biodiversity Offset Management Plan (BOMP).

[5] For the calculations in the habitat restoration table to be valid, all included habitats must be located within the Area of Influence. If these habitats fall outside the Area of Influence, baseline biodiversity unit calculations will also be required for the newly identified areas. The methodology provided in Section 7.1 should be used for these calculations.

Table 7-15: Biodiversity Net Gain / Loss Units

EUNIS Code	Habitat Type	Biodiversity Units of Habitat Restoration	Biodiversity Units of Habitat Creation	Biodiversity Units for Baseline	Biodiversity Gain/Loss
G1.7	Termophilus deciduous woodland	66.825	0	66	0.825
G4.B	Mixed mediterranean pine - thermophilous oak woodland	487.377	0	481.36	6.017
G4.D	Mixed Black pine ([Pinus nigra]) - evergreen oak woodland	170.181	0	168.08	2.101
E4.4	Calcareous alpine and subalpine grassland	1286.35254	0	1209.12	77.23254
H3.6	Weathered rock and outcrop habitats	187.11	0	184.8	2.31
I1.1	Intensive unmixed crops	100.5	0	134	-33.5
I1.3	Arable land with unmixed crops grown by low-intensity agricultural methods	103.35	0	137.8	-34.45
I2.2	Small-scale ornamental and domestic garden areas	0	0	0	0
Total		2401.69554	0	2381.16	20.53554

All offset activities, including the selection of suitable sites for habitat creation, restoration methods, implementation schedules, and monitoring protocols, will be thoroughly detailed in the BOMP, and the data presented in Table 7-15 may be subject to change accordingly.

7.3 Discussion

The Project commits to achieving "No Net Loss" of natural habitats and in this context, biodiversity units have been calculated as conservative approach to establish a baseline for natural habitat losses/alterations. To address the residual impact, the Project Company will implement biodiversity offset measures. These will include off-site restoration of existing natural habitats, the creation of new habitat areas, or a combination of both, as appropriate. Site-specific strategies will be determined in accordance with ecological conditions and identified impacts. All offset activities, including the selection of sites, restoration techniques, implementation schedule, and monitoring framework, will be detailed in a Biodiversity Offset Management Plan (BOMP).

In this context, the conservative approach and the compensation effort to be applied are summarized in this section.

According to the baseline studies of the project area, the biodiversity unit has been determined as 2381.16 units. The Baseline biodiversity Units have been calculated based on the values provided in Table 7-12. In order to achieve No Net Loss within the scope of the project, it is necessary to restore a unit of biodiversity equivalent to the one determined for the project.

The Biodiversity Units for Habitat Restoration have been calculated based on the values provided in Table 7-14. If the hectares of habitat types that have experienced habitat alteration, as presented in Table 7-11, are restored in the same manner. A total of 2401.69554 biodiversity units will be gained through the restoration efforts. Based on the calculations presented in Table 7-15, No habitat creation activities will be necessary to offset. Due to the 20.53554 biodiversity units that have gained.

Under the habitat creation efforts, the habitats to be created should be selected from those listed in Table 7-13. The hectares of the selected and created habitats should be calculated based on the values provided in Table 7-13.

However, if the hectares of the habitat types experiencing habitat alteration, as outlined in Table 7-11, are not restored in the same manner, no biodiversity units will be gained. As a result, creation efforts will be required to address the 2381.16 biodiversity units. After the restoration works and afforestation studies, the Project Company will reveal how much of the units given in this approach have been provided and accordingly will develop an offset plan to compensate for the remaining residual effect.

For example: achieve No Net Loss within the overall project area influence, the number of hectares requiring creation in the G1.7 Termophilus deciduous woodland habitats with similar criteria in the project area 229.07 hectares.

However, all of the habitats to be created and restored must be located within the area of influence. If these areas do not fall within the area of influence, the calculations will be adjusted accordingly.

For all areas exhibiting forest characteristics, it is necessary to obtain permission from the General Directorate of Forestry (GDF) for any activities to be carried out. Additionally, forestry operations such as tree planting or tree cutting in these areas are organized and implemented by the GDF.

The project proponent has made a payment to the General Directorate of Forestry for tree planting activities. Compensation for impacts on forested areas will be addressed through this mechanism, and the extent of the area where replanting has been or will be conducted must be clearly detailed within the Offset Management Plan.

Pursuant to agreements with the General Directorate of Forestry (GDF), details of the tree planting activities undertaken on behalf of Enerjisa within the Balıkesir province are presented in Table 7-16. As these activities are fully implemented under the oversight of GDF, the associated data have not been incorporated into the Habitat Unit calculations within the BMP.

Table 7-16: Tree Planting Data by the GDF

Year	Province	District	Village	Area (ha)	Number of Saplings Planted	Species
2023	Balıkesir	Bigadiç	Yeniköy	33,8	54000	*Pinus brutia*
2024	Balıkesir	Balya	Göloba	42,8	50000	*Pinus brutia*

8 Roles and Responsibilities

Roles	Responsibilities
Project Company, Project Manager (Project-level)	• Overall responsibility for biodiversity performance of Project including subcontractors • Ensure that the BMP and related plans are integrated into operation activities. • Ensure sufficient and qualified resources are provided for implementation of this BMP • Design specific personnel on site or at the administrative level, clearly define their roles and responsibilities • Ensure the BMP is distributed to all relevant personnel, visitors, and subcontractors
Project Company E&S Compliance Manager (Company-level)	• Having overall responsibility for the implementation of this BMP by fulfilling the Project requirements • Determining necessary resources for proper implementation of this BMP and reporting them to the Project Manager • Monitoring of key performance indicators • Ensuring coordination between the Project Company Environmental Specialist (Project level) and the Project Company, Biodiversity Specialist (Corporate level) • Investigating non-compliances of BMP by all employees work within the Environmental and Social Site Team and contractors
Project Company, Biodiversity Specialist (Corporate level) /	• Planning, implementation, and follow-up of the BMP and if it is necessary, its complementary plans and procedures • Ensure that action/measures and monitoring activities are carried out timely and adequately according to the BMP requirements • Ensure the BMP is implemented by all personnel and subcontractors • Review and update the BMP as required • Oversee compliance through the landscape monitoring program • Call in specialists to consult on special problems or to conduct third-party audits as needed during all phases of the Project • Prepare training manuals during relevant Project phase and conduct internal audits and record identified incompliances • Ensure related trainings are provided to personnel and subcontractors • Develop necessary monitoring and reporting forms and establish appropriate document control procedures. Collecting, organizing and reviewing monitoring data and monitoring reports from the specialized contractor(s) and providing summary results of such reports to stakeholders and to the Lenders. • Review the outcomes of the biodiversity monitoring program against the requirements of national regulations and international standards. If non-compliances against the requirements are detected, investigate the non-compliance and ensure that immediate corrective actions are taken. • May propose changes and integrations to the mitigation and monitoring activities proposed in the BMP, the proposed changes could be evaluated and approved • Will manage the actions related to NNL/NG processes and manage the creation of the necessary BAP and Offset Management Plan in line with the this plan and related documents such as CHA and PCFM.
External Biologist (Subcontractor)	• Carrying out and supporting the management activities outlined in this plan and providing results. • Implementing project-specific methodologies prior to monitoring activities specified in this report. • Carrying out the Project monitoring activities and reporting in line with the guidelines specified in this BMP • Informing on-site personnels about important habitat and species. • Providing related trainings to personnel and subcontractors
All Project personnel including Subcontractors	• Understand the biodiversity management requirements associated with their work and comply with this plan in the course of their duties

9 Training Requirements

The Project Company is responsible for ensuring that all the Project personnel and sub-contractors are knowledgeable about the biodiversity values and conservation priorities. As part of this effort, the Project staff members are required to undergo training that covers various aspects of BMP implementation, site-specific measures, compliance with environmental plans, the Project standards, and protocols based on their specific roles.

A general framework for a training on biodiversity will include the following elements:

- **Introduction to Biodiversity:** Construction workers need to have a basic understanding of biodiversity and its importance in construction projects. An overview of what biodiversity is and its importance for ecosystems and human well-being are provided in training materials.
- **Policies:** Training will cover legal requirements and policies related to biodiversity conservation specific to the location and project type.
- **Biodiversity Values and Conservation Priorities:** Presenting the distinct biodiversity attributes and conservation priorities within the Project area involves critical species, habitats, and ecological processes. Additionally, it will be considered general insights into habitats and species of significant conservation interest, along with relevant visual representations (Protected areas, forests, flora species, nests, raptors, migratory species etc).
- **Roles and Responsibilities:** Clarifying the roles and responsibilities and strong emphasis on adhering to this BMP and other environmental strategies.
- **Site-specific Measures:** Detailing the specific measures that need to be taken at the Project site to minimize impacts on biodiversity, such as habitat restoration, protected species management, invasive species control, and shutdown on demand implementation. Methods to be followed in responding incidents related to biodiversity features (collision, electrocution, invasive management etc).
- **Environmental Plans, Standards, and Protocols:** Introducing participants to the environmental plans, project standards, and protocols related to biodiversity conservation, emphasizing their significance and the necessity of adherence
- **Case Studies and Best Practices:** Sharing case studies and best practices from similar Projects or industries to illustrate successful approaches to biodiversity conservation and to inspire participants.
- **Monitoring and Reporting**: Providing guidance on the monitoring and reporting requirements related to biodiversity, including data collection methods, record-keeping, and reporting protocols.
- **Q&A and Discussion:** Allowing participants to ask questions, seek clarifications, and engage in discussions to enhance their understanding of the training content.
- **Evaluation and Assessment:** Conducting evaluations or assessments to gauge participants' comprehension of the training material and identify areas for improvement.
- **Refresher Training:** Highlighting the importance of regular refresher training sessions to ensure ongoing awareness and compliance with biodiversity conservation measures. It's important to note that the specific content and structure of the training may vary depending on the Project's context, local regulations, and specific biodiversity considerations