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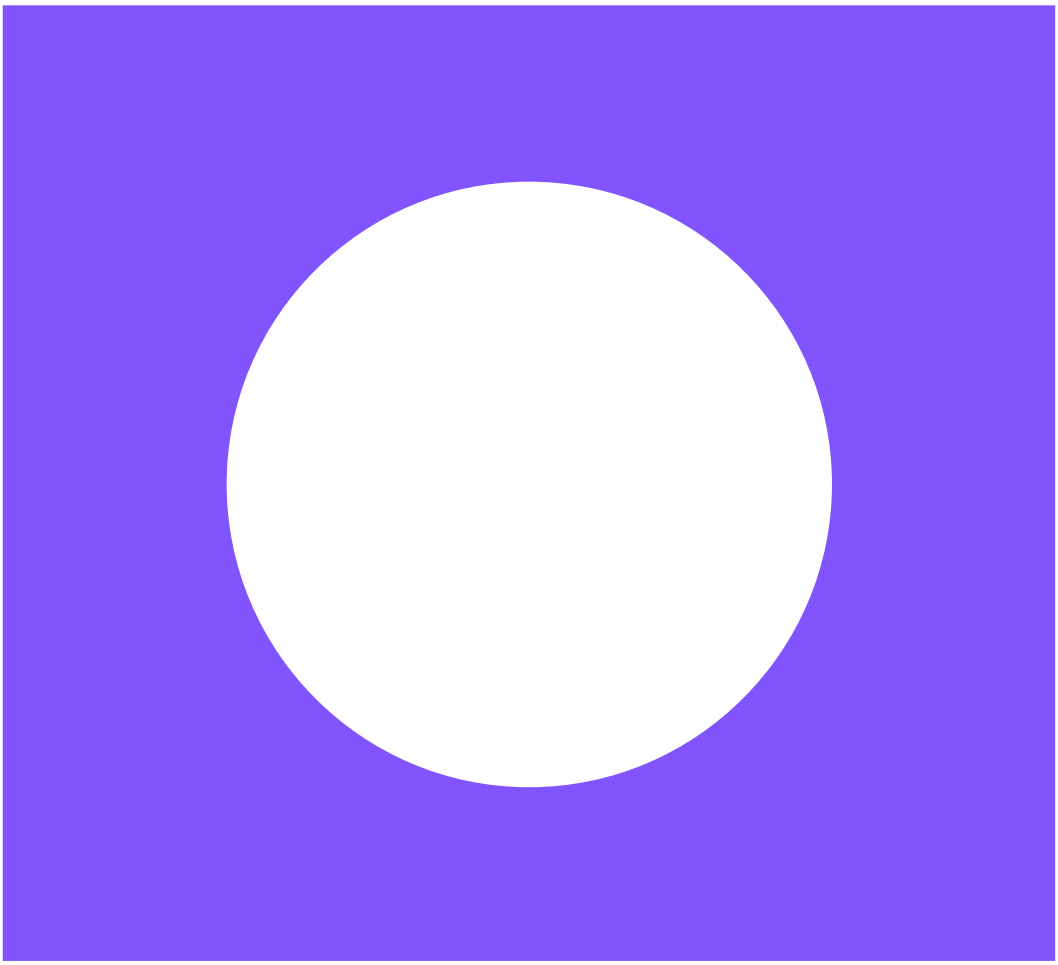

Ovacık Wind Power Plant (WPP) Project

Biodiversity Management Plan for the Construction Phase

May 2025

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Biodiversity Management Plan for the Construction Phase

May 2025

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	December 2024	ESIA Team	H. Hatipoglu	N. Ayvaz Ozen	Draft Construction Biodiversity Management Plan
B	May 2025	Cihan Değirmenci	Esra Demirhan	Gizem A. Gurler	Final Construction Biodiversity Management Plan

Document reference:

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Definitions and Abbreviations

Abbreviation	Definition
AoI	Area of Influence
AZE	Alliance for Zero Extinction
BAP	Biodiversity Action Plan
BMP	Biodiversity Management Plan
CHA	Critical Habitat Assessment
CITES	Convention for the International Trade in Endangered Species of Wild Fauna and Flora
CR	Critically Endangered
CRM	Collision Risk Model
DD	Data Deficient
DKMP	General Directorate of Nature Conservation and National Parks
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EN	Endangered
ESIA	Environmental and Social Impact Assessment
ETL	Electric Transmission Line
EU	European Union
EUNIS	European Nature Information System
GN	Guidance Notes
IAS	Invasive Alien Species
IBA	Important Bird Area
IFC	International Finance Cooperation
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
LC	Least Concern
NT	Near Threatened
PBF	Priority Biodiversity Features
PR	Performance Requirement
PS	Performance Standard
Ramsar	Convention on Wetlands of International Importance Especially as Waterfowl Habitat
SP	Sampling Point for ground static acoustic bat surveys
T	Turbine
VP	Vantage Point
VU	Vulnerable
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” or “the Project Company”) with the transfer agreements signed on 03 June 2021.

Ovacık Wind Power Plant (WPP) Project (“the Project”) with 13 turbines and 54.6 MW_m/54.6 MW_e total installed power, has been established to be established by EnerjiSA in Çanakkale Province, Bayramiç District, Gökçeiçi, Kuşçayır and Karıncalık Neighbourhoods in compliance with this Construction Biodiversity Management Plan. The Project components consist of 13 turbines, a switchyard, Project roads (i.e., access and site roads), a 68.75 tonnes/hour capacity mobile crashing and screening facility (to be used as needed), as well as an energy transmission line (ETL) as a Project associate facility (please refer to Section 2.3 for details). The Project is part of a nine-project wind energy investment package initiated by EnerjiSA which has a 750 MW total installed power from a total of 180 wind turbines located in the Aegean and Marmara Regions of western Turkey; aiming to evaluate and utilize the wind energy potential of the region and contribute to the national strategy and regional economy.

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.

After identifying the critical and natural areas and the species of high biodiversity value, it is necessary to assess the impacts of Project activities on these species and areas and propose preventive and/or mitigating measures. This Biodiversity Management Plan (BMP) outlines the specific measures to be implemented at site to mitigate the effects on natural habitats and species of significant conservation value along the Project route.

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

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 construction and operation phases of the Project. It also aims to address the gaps pertaining to biodiversity monitoring and management identified during the ESIA process. 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 a particular focus on Priority Biodiversity Features and associated species, through the application 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: (1) no net loss of biodiversity, in the case of Natural Habitats; and (2) net gain, in the case of Critical Habitats; and EBRD PR6 goals.

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

Quantified no net loss and net gain requirements for the project will be reflected in each project's Operational BMP, which will be updated in Q1 2025.

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
- Roles and Responsibilities
- Training requirements

Quantified no net loss and net gain information for the project will be reflected in each project's Operational BMP also developed by the Consultant. Detailed net gain requirements and related actions for critical habitats will be presented in Biodiversity Action Plan (BAP) by Enerjisa Üretim.

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 Project Company intends to develop the Project in alignment with the policy and requirements of the Lenders (i.e., EP IV, IFC and EBRD 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

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 construction were largely on habitats, flora, and terrestrial fauna.

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 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.

Internationally Recognised and Nationally Protected Areas

While the direct footprint of Ovacık WPP, including access roads and ETL, is not located within a legally protected or internationally recognised area, the AoI of the Project partially overlaps multiple KBAs. The closest of these, and the one with the largest proportion of overlap, is Biga Mountains KBA. Kaz Mountains KBA and Çanakkale Strait KBA are also in partial overlap.

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
-	-	**Birds** *Pernis apivorus* *Sitta krueperi* **Plants** *Crocus candidus* *Galanthus trojanus* ***Bats*** *Rhinolophus mehelyi* *Myotis capaccinii*	*Crocus candidus*	**Birds** *Aquila heliaca* *Clanga clanga* *Falco vespertinus* **Bats** *Hypsugo savii* *Miniopterus schreibersii* *Myotis capaccinii* *Nyctalus lasiopterus* *Nyctalus leisleri* *Nyctalus noctule* *Pipistrellus nathusii* *Pipistrellus pipistrellus* *Pipistrellus pygmaeus* *Vespertilio murinus* **Reptiles** *Testudo graeca* **Mammals** *Capreolus capreolus* *Vormela peregusna* *Myomimus roachi* *Ursus arctos*

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 Construction Phase

Impact Ref. No.	Type of Impact	Receptor	Descriptions and Sub-impacts
1	Habitat loss and degradation	**Birds** *Pernis apivorus* *Sitta krueperi* **Plants** *Crocus candidus* *Galanthus trojanus* ***Bats*** *Rhinolophus mehelyi* *Myotis capaccinii* Natural Habitats	• Removal of vegetation • Habitat loss • Loss of structures and materials important for nesting, hibernating, perching, roosting or other critical life history stages • Risk of wildfires • 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
2	Disturbance and Destruction of Flora and Fauna	**Birds** *Pernis apivorus* *Sitta krueperi* **Plants** *Crocus candidus* *Galanthus trojanus* ***Bats*** *Rhinolophus mehelyi* *Myotis capaccinii* All Flora and Fauna Species	• Increased human activity • Increased noise and vibration • Increased light • Dust emissions (via vegetation cleaning, excavating, blasting) • 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, Injury or death to hibernating or nesting wildlife during topsoil stripping, Injury or death to roosting or nesting wildlife during tree and rock removal)
3	Invasive Alien Species (IAS) competition	Natural Habitats	• Introduction of IAS through construction activities (either through construction materials brought into the area, or through equipment and vehicles) which can compete with local/native species and threaten KBA integrity • Predation injury and mortality of fauna species due to feral dogs and cats • Disturbance and competition by of fauna species feral species • Disease transmission from feral animals to fauna species (toxoplasmosis, scabies, etc)

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 Aims of Management Plan 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 construction	a) Minimise the construction areas to reduce direct impacts in the Project area b) Minimize extent of vegetation clearance in natural habitats c) Minimize injury or mortality of fauna species d) Raise awareness among internal and external stakeholders on biodiversity and conservation priorities	• No Project activity outside the designated construction sites will be conducted. • No vegetation clearance will be undertaken outside the Project footprint. • No fauna species injured or dead due to construction activities • Provide bespoke biodiversity training to personnel and contractors	• No disturbance to biodiversity outside the approved footprint. • Monitoring reports on the integrity natural and critical habitats do not show loss and degradation of natural habitat • Construction biodiversity monitoring reports do not contain incidents of fauna injury and mortality. • Reports on trainings, information disclosure meetings and attendants • 100% of personnel and contractors are covered by biodiversity requirements awareness campaign
2	Prevent adverse impacts to integrity of any Protected and/or Key Biodiversity Areas	a) Avoid activity outside the designated construction sites and approved footprint. b) Restore/compensate habitats lost to the Project from within the Protected and Key Biodiversity Areas	• No Project activity outside the designated construction sites will be conducted. • Compensatory tree planting activities will be conducted.	• Monitoring reports on the KBA do not indicate degradation of the integrity of the KBA. • Tree planting records and monitoring results indicating sapling success.
3	To achieve no net loss of important biodiversity	a) Minimise loss of important habitats b) Achieve no net loss c) Minimise impacts to important fauna d) Achieve a net gain for tree cutting areas e) Manage risk of introduction or spread of invasive species	• No net loss of natural habitats and flora • No net loss of bird and bat species, especially threatened and migrant species • No net loss of sensitive terrestrial fauna • Compensatory tree planting for tree cutting activities • No introduction or spread of invasive species due to construction activities • Translocation as if it is required according to results of re-assessment of target flora species • Monitoring of *Crocus candidus* population	• Periodical monitoring reports prepared and results do not show net loss of natural habitat, flora or fauna species. • If net loss of habitat or fauna species identified, compensation measures are implemented and demonstrably match the loss inflicted • No infestation with invasive species within the Project • Translocation records, such as for ground dwelling fauna, if necessary • Successful seeding and translocation, 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 construction phase

Type of Habitat/Type of 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	Along the project area, ETL line, access roads	Minimisation • The number of temporary access roads created will be kept to the minimum, no off-road driving will be allowed • No migration hot spots of terrestrial fauna through the Project facilities have been identified to date. However, if such areas will be identified as the result of construction or operational monitoring, further mitigations may be suggested	Project Company, Contractors and Subcontractors	Road Safety Management Plan (or relevant)	Weekly	Habitat connections created.	Records of new access roads	Immediate reinstatement of procedures
Natural Critical	Loss or degradation of Habitats and Flora Reduction of area of fauna and flora habitat available	Along the project area, ETL line, access roads	Avoidance • Micro-site project facilities to avoid loss of Priority Biodiversity Feature Habitats and minimise the footprint in natural habitats Minimisation • Ground disturbance will be minimised at all locations • Pre-clearance specific flora and fauna (borrowing and nesting species) surveys will be performed in 500 m radius. Areas of natural vegetation designated to be cleared will be checked by a competent ecologist not earlier than one week in advance of clearing, and all fauna will be noted. Emphasis will be placed on breeding sites such as underground burrows and nests in trees and micro-habitats such as beneath rocks, fallen logs and loose bark. • Cutting grasslands will be avoided during the flowering / fruiting periods of within the habitats of plants recognised as Priority Biodiversity Features • Topsoil of the natural habitats will be stripped and stored. If it will be stored for more than a few months, actions to protect soil fertility and prevent it from colonization by invasive species will be taken. • In case of storage of topsoil and subsoil, they will be stored separately. • Before construction, *Crocus candidus* bulbs will be collected and translocated in a suitablehabitat.. Restoration • The topsoil will be returned to its appropriate habitat location after the excavation process. • Revegetation of disturbed sites will be implemented within the same spring season, or within the upcoming spring season for disturbances occurring during the dry season.	Project Company, Contractors and Subcontractors	Biodiversity Monitoring Plan which is described in this plan	Weekly during construction (Bulb collection will be conducted on March-April – before construction)	No disturbance to biodiversity outside the approved operational footprint Record of the restoration vegetation planting. All temporarily disturbed habitats will be restored to their pre-construction state within five years following the completion of the restoration works No IAS invasion on soil stockpiles	Construction site layout plan Post-reinstatement inspection records Pre-clearance check-lists Topsoil storage records	Immediate reinstatement of procedures

Type of Habitat/Type of Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			• Only non-invasive species will be used for rehabilitation. • Seeds of critical habitat trigger species will be used during restoration. • The records of the trees cut will be kept and 5 trees will be planted for each felling tree. A protocol was signed with the forestry general directorate for reforestation.						
Natural Critical Modified Fauna species	Noise and Vibration Disturbance	Along the project area, ETL line, access roads	Minimisation • Where possible, high-impact noise (e.g., blasting) will be limited to daylight hours. • Pre-construction biodiversity monitoring will be conducted, including blasting areas, if if to be conducted • Unnecessary revving of engines will be avoided and switched off equipment when not in use. • Night work activities will not be conducted	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	Minimizing blast
Natural Critical Modified	Light disturbance	Along the project area, ETL line, access roads	Minimisation • Lighting for construction 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. • 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	Project Company, Contractors and Subcontractors	Night working procedure for construction (or equivalent plan)	Weekly	Records of incidents with wildlife due to light pollution	Records of incidents with wildlife due to light pollution	Wildlife-friendly lighting design
Natural Critical Modified	Increase in dust	Along the project area, ETL line, access roads	Avoidance • 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 reduced. Note that speed limit in village is 30 km/h and 40 km/h on forest roads. • On-site personnels will be informed about important habitat and species. Minimisation • Dust emission will be minimised by performing irrigation on access roads.	Project Company, Contractors and Subcontractors	Air Quality Management Plan Traffic Management Plan	Irrigation will be an ongoing application throughout the construction	Absence of grievances from the stakeholders (farmers/landowners	Records of complaint of stakeholders	Reducing truck circulation Increasing irrigation
Natural Critical Modified	Invasive-alien distribution risk:	Along the project area, ETL line, access roads	Avoidance • Construction machines and equipment will be washed by pressure wash before the entrance of the construction sites.	Project Company, Contractors and Subcontractors	Invasive Species Management Plan	Quarterly monitoring during construction	No infestation with invasive species within the Project	Pre-clearance check-lists Site walkover inspection records	Immediate reinstatement

Type of Habitat/Type of Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			• Wheels of the construction machines will be checked regularly. • Parking areas and camp sites will be kept clean against spreading of invasive species. Minimisation • There will be regular inventories of invasive species within the AoI, if any are identified, eradication measures will be developed and implemented.					Construction site layout plan Post-reinstatement inspection records	
Natural Critical Modified	Accidental loss of fauna Disturbance to fauna Killing/injuring fauna Displacement of fauna	Along the project area, ETL line, access roads Forest areas Blasting areas	Avoidance • Herbicide and fire will not be permitted as a means to clear vegetation to ensure a minimal impact footprint during habitat clearance and to reduce the risk of mortality and injury to wildlife. • Construction sites will be surveyed before and during construction period. • Pre-blasting biodiversity monitoring for burrowing and nesting species will be conducted, and the nests will be marked with fences and signboards (if found any) • If there are any active nests on construction site, an ecologist in consultation with an ornithologist will decide if it is safe to proceed with the works as planned, OR if the works close to the nest area should be postponed until the offspring fledges, OR if the nest should be relocated • Tree cutting activities will not be carried out as much as possible during the bird breeding season, otherwise it will be carried out under the supervision of an ornithologist. • 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. Minimisation • Removal of topsoil and vegetation will be implemented to ensure no individuals are killed or no galleries are destructed, and populations of the species continue to survive in the area. • 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.	Project Company, Contractors and Subcontractors	Pre-construction report/procedure Relocation procedure or relevant Terrestrial Flora and Fauna	Weekly	Translocation records No nest/offspring lost Site walkover records	Speed limit training records Training attendance sheets and transcript of the presentation	Adjust construction schedule

Type of Habitat/Type of Species	Impact	Location	Action	Responsibility for action	Relevant Plans and Procedures	Timing of Monitoring	KPI	Means of verification	Corrective action
			• 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 reduced. Note that speed limit in village is 30 km/h and 40 km/h on forest roads.						
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	Weekly	No negative impact records on habitat or species regarding waste pollution	Records of incidents involving wildlife	Waste management training

Table 5-2 Critical habitat trigger species and priority biodiversity features coordinates

Taxon	CH Trigger or Priority Biodiversity Feature	IUCN / National Red List Category*	Coordinates
Crocus candidus	PBF	VU*	35 S 461442N 4416854 E

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. Monitoring results in the construction phase will be given in the progress reports.

The surveys will be undertaken by a suitably experienced related specialist. Surveys will be undertaken for once within the appropriate flowering seasons for the rare plant species. The confirmed species as being present at the Project site will be transferred an appropriate area during appropriate season. The report on which plants should be transferred and the timing will be prepared by botanist.

Bird surveys will be conducted by skilled ornithologists, preferably one who has prior experience with the wind power plant project. Pre-construction and construction monitoring studies will be a determination study to verify the mitigation measures presented in this report and to change or increase the measures when necessary and will comprise survey effort undertaken around key ornithological sensitivities to identify the potential for significant disturbance to occur.

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
- Status of natural habitats and species of high conservation concern, implementation of related management controls
- Success of translocation (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.

Table 6-1 Construction 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 to document any issue detected and corrective actions put in place.	Monthly by Project Environmental team and Annually by flora and fauna experts Any incidental observation made during construction activities shall also be registered. Results are presented and discussed in the quarterly report	Absence of stress or disturbance signs	Subcontractors (external flora expert)
Flora 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 species in the project area will be monitored during construction: - *Crocus candidus* • Translocated flora species will be monitored (if any).	Annually during vegetation period (Every year until the 3rd year of operation for impact monitoring) Annually for seeding/translocation activities (if any) until the success criteria are met Results and progress are presented and discussed in the quarterly report	Absence of invasive species No decrease in the population of target species due to project activities 70% of translocation/Seeding success, if any	Subcontractors (external flora expert)
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. Additional mitigation measure to avoid wildlife accidents and encounters will be taken if needed based on the first monitoring results.	An accident and observation are registered during the entire construction phase. Results are presented and discussed in the quarterly report	Absence of accidents involving fauna species Absence of exceptional or frequent fauna encounters	Subcontractors

Aspect	Description	Timing/ Frequency	KPI	Responsibility
Topsoil Monitoring	Topsoil stripping and stockpiling operations will be monitored and documented. A monitoring register will be filled in and photographic documentation will be collected to document any issue detected and measures put in place.	Monitoring of stripping shall be performed during stripping operations. Monitoring of topsoil stockpiles shall occur monthly (unless particular issues are recorded during previous monitoring) Results are presented and discussed in the quarterly report	Absence of stress or disturbance signs. Absence of invasive species	Project Company (Internal resources of the Project Company)
Bird Monitoring (Breeding Monitoring)	• Pre-construction survey will be conducted for breeding activities in the areas where construction will start. • Monitoring studies will be conducted before tree cutting, ground preparation and blasting. • Surveys will look for breeding activity within 5 km buffers of the construction areas • Population, flight patterns, nest locations and breeding activity of target species	March, April, May, June	Absence of stress or disturbance signs	Subcontractors (external ornithological expert)
Bat Monitoring	Surveys will investigate roosting areas, such as caves and cavities, and suitable trees and other structures, where ground preparation work will be conducted (especially areas where foundations will be situated or where blasting works, if any, will be conducted)	Prior to vegetation clearing, excavations and blasting during construction	Absence of stress or disturbance signs.	Subcontractors (external bat 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:

- Increased invasive species management.
- Enhanced training content and increased training frequency for sensitive flora and fauna
- Enhanced monitoring scope and frequency for sensitive species.

The initial flora and fauna studies will redefine the outline of this document and the details of the future monitoring studies. If a direct effect on the species is not expected as a result of the survey to be made for the plant species in the first monitoring activities, there is no required to take any action for the following years. However, if transport is to be applied for plant species, the success of translocation of relocated species should be monitored.

6.3 Reporting

The BMP is required to be updated whenever new sets of data become available during the Project's course. Following the CHA, first year, and second year of operational surveys, necessary updates will be incorporated into the operational 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 in E&S Progress Reports with all interested parties quarterly, Additionally, site and construction personnel will receive these results through quarterly toolbox training talks and/or presentations

7 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 construction 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

Roles	Responsibilities
External Biologist (Subcontractor)	• Conducting pre-construction biodiversity monitoring and providing summary results. • Ensuring compliance with construction restrictions for seasonal wildlife and providing results. • Performing pre-clearance specific flora and fauna surveys and providing results. • Conducting pre-blasting biodiversity monitoring if blasting is to be carried out and providing results. • Recording and following up the stripping of topsoil bodies and monitoring soil storage areas • Implementing project-specific methodologies prior to monitoring activities specified in this report. • Carrying out and reporting the Project monitoring activities in line with the guidelines specified in this BMP • Carrying out and supporting the management activities outlined in this plan and providing results. • Informing on-site personnels about important habitat and species. • Providing related trainings to personnel and subcontractors
The Project Company's and contractors' workers	• Understand the biodiversity management requirements associated with their work and comply with this plan in the course of their duties

8 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, and invasive species control. 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.