

Critical Habitat and Priority Biodiversity Baseline Desktop Study

DNISTROVSKIY 100 MW WIND POWER PROJECT UKRAINE

September 2019



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1 Introduction

1.1 Purpose of this report

Ukraine Power Resources is seeking funding from the European Bank for Reconstruction and Development (EBRD) for the development of the Dnistrovskiy Wind Power Project (DWPP) located is Bilhorod-Dnistrovskyi district of the Odesa region in Ukraine at the North-West of the Dnister estuary and will need to align with EBRD Performance Requirement 6 (PR6) for Biodiversity Conservation and Sustainable Management of Living Natural Resources.

As part of the ESIA procedure, a gap analysis of the ESIA documentation was conducted by WSP. In their analysis, WSP identified a gap with respect to the Critical Habitats and Priority Biodiversity Features analysis in the Project documentation and EBRD's PR6. WSP concluded a.o. that "The EIA (and ESIA) provide fairly in-depth consideration of Critical Habitats, as reviewed against a number of animal groups (e.g. insects, amphibians, etc.). With regards birds, the assessment considers relevant species systematically and concludes that the Discrete Content Unit (DCU - also termed the 'Discrete Management Unit (DMU)) does not trigger Critical Habitat for any species. This assessment does not include any detailed review of potential triggering of Critical Habitat under Criterion 3 (relating to migratory species)" and that "No specific mention is made regarding Priority Biodiversity Features (PBF)."

Consequently, WSP recommended that the EIA/ESIA analysis be supplemented with an additional desk-based study to better align it with EBRD's PR6.

This report is aimed at fulfilling the WSP recommendation that an additional desk-based review should be completed to fill this gap. WSP recommended that the desk-based study covers potential Critical Habitat and PBF triggers for the site, particularly in its dimension as an airway for birds, which is included in the definition of habitat by EBRD PR6, especially regarding potential connectivity with the Ramsar/Emerald/IBA site.

1.2 Project background

The project is for a 100 megawatts electric (MWe) wind farm comprising two phases (Phase 1 and Phase 2) of development.

The total project costs have been estimated at €117.9 m for 100 MWe of generating capacity that will comprise 26 wind turbines, approximately 39.2 km of new or improved access and site roads, a new substation, 85.3 km of underground cables to convey electricity from the turbines to the new substation and a 2.7 km 110 kV underground transmission line to convey electricity from the new substation to the regional grid at the existing Starokozache substation operated by the utility company, Odesaoblenergo.

The project has been screened as Category A under the EBRD's Environmental and Social Policy. A site layout of the Phase 1 and Phase 2 is provided in Figure 1 below, and a map of the wider area for orientation is shown in Figure 2 below.



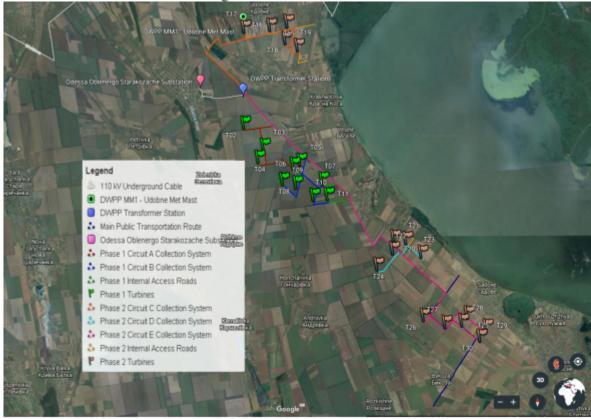


Figure 1 - Map of Phase 1 and 2 Layout (including Roads and Power Line Connections)

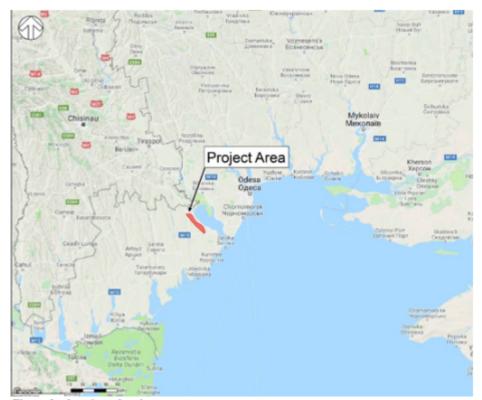


Figure 2 - location of project area

The DWPP project site is located in the Odessa Oblast Region of southwestern Ukraine. The wind farm project area, stretches from approximately 25 to 52 km north-west from the closest



point on the Black Sea coast in the Odessa Region. The wind turbines will be located northwest of Bilhorod-Dnistrovkyi. The Dnistr Estuary is located over 1.5 km from the Project. The Sponsors gave careful consideration to the Dnistr Estuary when siting the Project's wind turbines; aware of the potential significance and sensitivity of the Estuary, the Sponsors voluntarily moved the boundary of the Project area over 1.5 km from the shoreline of the Dnistr Estuary.

The project area is in a rural landscape in the vicinity of predominantly farmland and the small villages of Starokozache, Kozatske, Udobne, Semenivka and Moloha. On the boundaries and surrounding the project area are the villages of Zelenivka, Petrivka, Krutoyarivka, Krasna Kosa, Vesele, Honcharivka and Pivdenne. There are no residential properties within 700 m of the position of any of the wind turbines. Within the project area the agricultural fields are separated by artificial wood strips. Dirt roads cross the site, allowing access to the large fields for farming.

The total amount of land that will be occupied during construction is approximately 17.51 hectares (ha) (0.175km²). Of this, approximately 5.64 ha will be occupied temporarily. The closest water body is located to the east of the site i.e. the Dnistr Estuary and Dnister Delta Important Bird Area (IBA), and to the west it borders agricultural land.

1.3 EBRD Performance Requirement 6 (PR6)

The objectives of PR6 are to protect and conserve biodiversity; maintain core ecological functions of ecosystem services and biodiversity they support; adapt the mitigation hierarchy approach; and promote the sustainable management of living natural resources through the adoption of good international practices.

PR6 identifies two classes of important biodiversity, likewise based on the principles of threat (vulnerability) and geographic rarity (irreplaceability):

- Priority Biodiversity Features; and
- Critical Habitat.

EBRD PR6 defines priority biodiversity features (PBF) as including:

- (i) threatened habitats;
- (ii) vulnerable species;
- (iii) significant biodiversity features identified by a broad set of stakeholders or governments (such as Key Biodiversity Areas or Important Bird Areas); and
- (iv) ecological structure and functions needed to maintain the viability of priority biodiversity features described in this paragraph.

EBRD's PR6 Guidance note describes such criteria as follows:

Figure 3 – Examples of features that may meet criteria for priority biodiversity features



Priority biodiversity features as per EBRD PR6 (2014), paragraph 12	Examples
Threatened habitats	Habitats considered under pressure by national, regional or international assessments. These include natural and priority habitats identified under the EU Habitats Directive (Annex I).
Vulnerable species	Species listed by the International Union for Conservation of Nature (IUCN) or any other national/regional lists (such as national Red Lists) as Vulnerable (VU) or equivalent. These include animal and plant species of community interest identified under the EU Habitats Directive (Annex II).
Significant biodiversity features identified by a broad set of stakeholders or governments	Key Biodiversity Areas and Important Bird and Biodiversity Areas; nationally and internationally important species or sites for conservation of biodiversity; many areas meeting natural habitat definitions of other international financial institutions.
Ecological structure and functions needed to maintain the viability of priority biodiversity features	Where essential for priority biodiversity features, riparian zones and rivers, dispersal or migration corridors, hydrological regimes, seasonal refuges or food sources, keystone or habitat-forming species.

Source: EBRD Performance Requirement 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Priority biodiversity features have a high, but not the highest, degree of irreplaceability and/or vulnerability. Although a level below critical habitat in sensitivity, they still require careful consideration during project assessment and impact mitigation.

EBRD PR6 defines critical habitats (CH) as the most sensitive biodiversity features, which comprise one of the following:

- (i) highly threatened or unique ecosystems;
- (ii) habitats of significant importance to endangered or critically endangered species;
- (iii) habitats of significant importance to endemic or geographically restricted species;
- (iv) habitats supporting globally significant migratory or congregatory species;
- (v) areas associated with key evolutionary processes; or
- (vi) ecological functions that are vital to maintaining the viability of biodiversity features described in this paragraph.

EBRD's PR6 Guidance note describes such criteria and compares them to PBF criteria as follows:



Critical habitat as per EBRD PR6 (2014), paragraph 14	Definition/examples	Priority biodiversity features as per EBRD PR6 (2014), paragraph 12
(i) Highly threatened or unique ecosystems	Ecosystems that are at risk of significantly decreasing in area or quality; have a small spatial extent; and/or contain concentrations of biomerestricted species. For example:	(i) Threatened habitats
	 Ecosystems listed as, or meeting criteria for, Endangered or Critically Endangered by the <u>IUCN Red List of Ecosystems</u> 	
	 Areas recognised as priorities in official regional or national plans, such as National Biodiversity Strategy and Action Plans 	
	 Areas determined to be of high priority/significance based on systematic conservation planning carried out by government bodies, recognised academic institutions and/or other relevant qualified organisations (including internationally-recognised NGOs). 	
(ii) Habitats of significant importance to endangered or critically endangered species	Areas supporting species at high risk of extinction (Critically Endangered or Endangered) on the IUCN Red List of Threatened species (or equivalent national/regional systems). For example:	(ii) Vulnerable species
	 Alliance for Zero Extinction sites 	
	 Animal and plant species of community interest in need of strict protection as listed in EU Habitats Directive (Annex IV). 	
(iii) Habitats of significant importance to endemic or geographically restricted species	Areas holding a significant proportion of the global range or population of species qualifying as restricted-range under Birdlife or IUCN criteria. For example:	(iii) Significant biodiversity features identified by a broad set of stakeholders or governments (such as Key
species	 Alliance for Zero Extinction sites 	Biodiversity Areas or Important
	 Global-level <u>Key Biodiversity Areas</u> and <u>Important Bird and</u> <u>Biodiversity Areas</u> identified for restricted-range species. 	Bird Areas)
(iv) Habitats supporting globally significant (concentrations of) migratory or congregatory species	Areas that support a significant proportion of a species' population, where that species cyclically and predictably moves from one geographical area to another (including within the same ecosystem), or areas that support large groups of a species' population that gather on a cyclical or otherwise regular and/or predictable basis. For example:	
	 Global-level Key Biodiversity Areas and Important Bird and Biodiversity Areas identified for congregatory species 	
	 Wetlands of International Importance designated under criteria 5 or 6 of the <u>Ramsar Convention</u>. 	
(v) Areas associated with key evolutionary processes	Areas with landscape features that might be associated with particular evolutionary processes or populations of species that are especially distinct and may be of special conservation concern given their distinct evolutionary history. For example:	
	 Isolated lakes or mountaintops 	
	 Populations of species listed as priorities by the <u>Edge of Existence</u> programme. 	
(vi) Ecological functions that are vital to maintaining the	Ecological functions without which critical biodiversity features could not persist. For example:	(iv) Ecological structure and functions needed to maintain
viability of biodiversity features described (as critical habitat features)	 Where essential for critical biodiversity features, riparian zones and rivers, dispersal or migration corridors, hydrological regimes, seasonal refuges or food sources, keystone or habitat-forming species. 	the viability of priority biodiversity features

Source: EBRD Performance Requirement 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

2 Approach to Assessment

Identification of features which potentially meet thresholds for Priority Biodiversity Features and Critical Habitat was carried out through the following steps:

- 1. Identification of an appropriate scale for assessment to undertake the analysis for biodiversity;
- 2. Collection and verification of available information on biodiversity:



From the Ukrainian National EIA¹, the Supplemental ESIA², the environmental (including birds and bats) report, baseline surveys, literature review, consultation with the Ukrainian Society for the Protection of Birds (the national Birdlife International partner organization); and

3. Assessment against PR6 criteria for species and habitats to identify which biodiversity features may qualify the area as Priority Biodiversity Features or Critical Habitat.

2.1 Scale of Assessment

PBF and CH is usually carried out at the landscape scale, using ecologically coherent units for determining the presence or absence of qualifying features under PR6 Criteria i – vi, or Discrete Control Units (DCUs) which are clearly defined and mapped and include the area of influence and a consideration of broader landscape.

PR6 considers habitats as "a terrestrial, freshwater or marine geographical unit or <u>airway</u> that supports assemblages of living organisms and their interactions with the non-living environment." In our case, the relevant airway spatial range is the one the wind turbine rotor: from 50m to 200m. Terrestrial impacts of the current Project have already been assessed in the Environmental Report (which is contained as an appendix in the National EIA³) and Supplemental ESIA⁴ through DCUs. We are now considering potential impacts in the context of a flyway for migratory birds as

- priority biodiversity feature in the sense of
 - o PR6 par. 12 (ii) Vulnerable species;
 - o PR6 par. 12 (iii) Significant biodiversity features identified by a broad set of stakeholders or governments; and as
- critical habitat in the sense of
 - o PR6 par. 14 (ii) habitats of significant importance to endangered or critically endangered species, and
 - o PR6 par. 14 (iv) habitats supporting globally significant migratory or congregatory species.

Although the Dnister Estuary is not included in the Project area, it is being considered in this study in order to provide a comprehensive analysis. The potential impacts in the context of a flyway for migratory birds is therefore considered in the context of the proximity of the Dnister Estuary which includes the following overlapping Ramsar convention/Emerald Network/Important Bird Area (IBA) sites:

- Northern part of the Dniester Liman Ramsar site (no. 765)
- Dniester-Turunchuk Crossrivers Area Ramsar site (no. 764)
- Dnister Delta Important Bird Area (UA091)
- Lower Dniester National Nature Park Emerald site (UA0000039)

¹ Report On Environmental Impact Assessment Dniester Wind-Power Station In Bilgorod-Dnistrovsky District of Odesa Region" available at: http://eia.menr.gov.ua/places/view/881

² Supplemental Environmental & Social Impact Assessment For International Lenders – Dnistrovskiy 100 MW Wind Power Project" available at: https://ukrainepowerresources.com/our-projects/

³ "Report On Environmental Impact Assessment Dniester Wind-Power Station In Bilgorod-Dnistrovsky District of Odesa Region" available at: http://eia.menr.gov.ua/places/view/881

⁴ "Supplemental Environmental & Social Impact Assessment For International Lenders – Dnistrovskiy 100 MW Wind Power Project" available at: https://ukrainepowerresources.com/our-projects/



Dnistrovskyi Lyman Emerald site (UA0000141)

Although large swathes of a narrow migratory flyway may meet Priority Biodiversity Feature or Critical Habitat thresholds, to designate large parts of a flyway as Priority Biodiversity Feature or Critical Habitat is unlikely to be useful and would be misaligned with other approaches to identification of sites of global or regional conservation importance.

For example, the global standard⁵ for identification of Key Biodiversity Areas (KBAs) states that "Along migratory corridors, KBAs should be identified for stop-over or bottleneck sites rather than for the entire corridor."

Given the KBA guidance, areas should be only considered Priority Biodiversity Feature or Critical Habitat if they showed evidence of being stop-over sites or bottlenecks (or areas of low flight where birds may interact significantly with a wind farm) within this already narrow migratory corridor.

However, a precautionary approach was taken and we checked not only for the presence of vulnerable and endangered species at regional or global level but also in relation with the Dnister estuary, Ramsar convention, Emerald Network, and Important Bird Area (IBA) sites. The best source of data for such an exercise is the pre-existing IBA dataset produced by BirdLife.

2.2 Available Information

This desktop study is based on existing documentation and interpretation of global and regional datasets.

Additional data were obtained from:

- Ukrainian National EIA⁶ ("Report On Environmental Impact Assessment Dniester Wind-Power Station In Bilgorod-Dnistrovsky District of Odesa Region")
- Supplemental ESIA⁷ ("Supplemental Environmental & Social Impact Assessment For International Lenders Dnistrovskiy 100 MW Wind Power Project")
- Environmental Report ("Expert Opinion and Scientific Report For the Assessment of the Platform of the Dnistrovska WF Construction and Operation Assessing Natural Systems of the Environment, Vegetation, Seasonal Ornithological Complexes and Migratory Birds and Bats According to the Recommendations of Scottish Natural Heritage and Other International Instruments within the Bilhorod-Dniester District of Odessa Oblast")⁸
- Birdlife International Partner (USPB) Report ("Act of Ecological and Ornithological Survey of the Planned Wind Field of the Dnister Wind Power Plant with a Total Installed Capacity of 100 MW")⁹
- Online Resources, including:
 - ibat-alliance.org

⁵ IUCN: A Global Standard for the Identification of Key Biodiversity Areas (March 2016) available at https://portals.iucn.org/library/sites/library/files/documents/2016-048.pdf

⁶ Available at: http://eia.menr.gov.ua/places/view/881

⁷ Available at: available at: https://ukrainepowerresources.com/our-projects/

⁸ Available at: available at: https://ukrainepowerresources.com/our-projects/

⁹ Report dated April 13, 2019



- <u>https://www.protectedplanet.net/</u>
- http://www.biodiversitya-z.org/content/protected-areas
- http://zeroextinction.org/
- http://datazone.birdlife.org/
- https://conservation.ibat-alliance.org
- http://www.keybiodiversityareas.org
- https://www.iucn.org/
- https://rsis.ramsar.org/

2.3 Robustness of this Assessment

This assessment was conducted using the best available information. However, it is acknowledged that new information may change the conservation status of a species and therefore change the assessment.

In particular, the WSP gap analysis has recommended, that, while overall ornithological observations are in line with Scottish National Heritage requirements, additional ornithological surveys should be completed between autumn 2019 and spring 2020. These studies should focus around flight activity surveys across a more balanced temporal spread and include additional vantage points to achieve a fully compliant spatial coverage.

Furthermore, a monitoring program will be implemented before and after commissioning of the Project. This Critical Habitat and Priority Biodiversity report will be updated as monitoring is undertaken.

3 Priority Biodiversity Features

Generally, Priority Biodiversity consists of features of high irreplaceability and/or vulnerability, but it is not sufficient to qualify an area as Critical Habitat. These include species which are important components of the natural environment, including any flyway. EBRD PR6 considers biodiversity as a priority for conservation and consequently a priority to consider in mitigation planning.

Guidance note to EBRD PR6 indicates to consider Vulnerable species (par. 12 (ii)) as "Species listed by the International Union for Conservation of Nature (IUCN) or any other national/regional lists (such as national Red Lists) as Vulnerable (VU) or equivalent. These include animal and plant species of community interest identified under the EU Habitats Directive (Annex II)."

It also interprets Significant biodiversity features identified by a broad set of stakeholders or governments (par. 12 (iii)) as "Key Biodiversity Areas and Important Bird and Biodiversity Areas; nationally and internationally important species or sites for conservation of biodiversity; many areas meeting natural habitat definitions of other international financial institutions."

This analysis systematically assesses the presence or absence of qualifying features under PR6 Criteria for Priority Biodiversity Features.



PR6 Criterion i – Threatened Habitats

EBRD PR6 (2014), Paragraph 12 defines Threatened Habitats as "habitats considered under pressure by national, regional or international assessments. These include natural and priority habitats identified under the EU Habitats Directive (Annex I).

Annex I of the EU Habitats Directive provides a list of "Natural Habitat Types of Community Interest Whose Conservation Requires the Designation of Special Areas of Conservation." Guidance on the interpretation of habitat types is given in the Interpretation Manual of European Union Habitats.

The project is located over 1.5 km from the Dnister Estuary. The Estuary would qualify as a priority habitat according to Annex I (Annex I, 11) given that it is listed under Natura 2000 code 1130ⁱ. However, it is noted that the project site does not include any part of the Dnister Estuary and the project site therefore does not trigger PBF Criterion. Furthermore the project site is located on agricultural land that has been subject to intense anthropogenic use.

It is also noted that the Dnister Delta is a listed Key Biodiversity area and an Important Bird Area (UA091) which includes the Lower Dnister National Park, the Northern part of the Dniester Liman Ramsar site (no. 765), the Dniester-Turunchuk Crossrivers Area Ramsar site (no. 764) and the Lower Dniester National Nature Park (UA0000039) Dnistrovskyi Lyman (UA0000141) Emerald site.

The project site does not include the Dnister Delta or any (part of the) above-mentioned areas. However, even though the project site does not trigger PBF criterion i, the assessment of criterion ii (see below) includes the potential triggers of priority biodiversity features as per criterion i in the Dnister Delta. This scope is set in order to appropriately manage risks to migratory soaring birds given that potential Priority Biodiversity Features of the Dnister Delta might migrate through the airways of the project site.

PR6 Criterion ii – Vulnerable Species

EBRD PR6 defines Vulnerable Species as "species listed by the International Union for Conservation of Nature (IUCN) or any other national/regional lists (such as national Red Lists) as Vulnerable (VU) or equivalent. These include animal and plant species of community interest identified under the EU Habitats Directive (Annex II)."

In this analysis we consider as Priority Biodiversity Features all species found on the site and its airway that are indicated in the European Red List of birds, in the Red book of Ukraine and in the IUCN list, as Vulnerable (VU), Endangered (EN), Critically endangered (CR) or equivalent.

Table 1 shows the project area with Vulnerable status or equivalent. No species were observed that are considered Endangered or Critically Endangered (or the equivalent) in national or international lists (ERL, RBU, IUCN columns).

Table 2 shows the species requiring specific habitat conservation measures in the Dnister Delta according to IBA or Emerald Network lists and the observed numbers in the project area. No vulnerable species (Table 1) were observed in the 50m-200m interval. Only one species that requires specific habitat conservation (Emerald Network) in the Dnister Delta, the Duck hawk



(*Circus aeruginosus*), was observed flying in the 50m-200m interval of the wind turbine blades (details in the Environmental Report) and was observed only 4 times in spring (see Table 3).

Among the species that triggered the IBA criteria only 2 have been observed on the Project site: *Fulica Atra* and *Phalacrocorax Carbo*. Their trend is favourable according to IBA data from Birdlife (see Table 4). The *Fulica Atra* and *Phalacrocorax Carbo* have not been observed flying in the 50m-200m interval of the wind turbine blades (See in Table 3).

The project site does not trigger PR6 PBF Criterion ii given that no Vulnerable, Endangered, or Critically Endangered (or the equivalent) species were observed flying within the 50-200m range. It should also be noted that the vantage point survey vantage point locations were selected to cover a 25km span of the wind farm. The actual spatial influence of the wind farm will be significantly lower given that 26 wind turbines are sited and arranged into 4 groups which will cover less than half the 25 km span that was considered.

Table 1– List of species observed on the site and classified as vulnerable or worse in the Dnister Delta

				ERL	RBU		IUCN	Field observations on site						ield observ	vation 50m	-200m
English name	Scientific name	Status	cat.	trend		cat.	trend	Autumn	Winter	Spring	Summer	Nests	Autumn	Winter	Spring	Summer
Short-eared owl	Asio flammeus	m, w	VU	decreasing	Rare	LC	stable	1								
Common pochard	Aythya ferina	m, w, n	VU	decreasing		VU	decreasing		165	9						
Long-legged buzzard	Buteo rufinus	m, w, n	LC	increasing	Rare	LC	stable	1	2							
Duck hawk	Circus aeruginosus	m, w, n	LC	increasing		LC	increasing	3	2	18	2		0	0	4	0
Blue Hawk	Circus cyaneus	m	NT	decreasing	Rare	LC	decreasing	1	2	1						
Roller	Coracias garrulus	m, n	LC	decreasing	VU	LC	decreasing				11					
Woodpecker Syrian	Dendrocopos syriacus	m, n	LC	stable		LC	stable		1							
Red-footed Falcon	Falco vespertinus	m, n	NT	decreasing		NT	decreasing				8	1				
European Coot	Fulica atra	m, w, n	NT	decreasing		LC	increasing			60						
Oystercatcher	Haematopus ostralegus	m, n	VU	decreasing	VU	NT	decreasing			1						
White – Tailed Eagle	Haliaeetus albicilla	m, w, n	LC	increasing	Rare	LC	increasing	1	1							
Red-Backed Shrike	Lanius collurio	m, n	LC	stable		LC	decreasing				3					
Lesser Gray Shrike	Lanius minor	m, n	LC	stable		LC	decreasing				11	1				
Great Cormorant	Phalacrocorax carbo	m, w, n	LC	increasing		LC	increasing	2347	14		4					
Turtledove	Streptopelia turtur	m, n	LC	decreasing		VU	decreasing	12			21	2				



Source: Environmental Report¹⁰

Notes: Status: m - were met during seasonal migrations; w - were met in winter; n - were met in nesting period. RBU - Security status of the red data book of Ukraine: Rare - rare; VU - vulnerable; EN - endangered. IUCN - Conservation status the International Union for Conservation of Nature and ERL - Conservation status the European Red List: LC - least concerned; NT - near threatened; VU - vulnerable; EN - endangered; CR - critically. stable - the population status stable; decreasing - the number of populations is decreasing or increasing; unknown - the population status is unknown.

Table 2– List of species observed on the site requiring specific habitat conservation measures in the Dnister Delta¹¹

English name	Scientific	Status		Field o	bservations or	n site]	Field observat	ion 50m-200	m	Dnister	Estuary
Eligiisii liallic	name	Status	Autumn	Winter	Spring	Summer	Nests	Autumn	Winter	Spring	Summer	IBA	Emerald
Short-eared owl	Asio flammeus	m, w	1										c
Common pochard	Aythya ferina	m, w, n		165	9								
Long-legged buzzard	Buteo rufinus	m, w, n	1	2									
Duck hawk	Circus aeruginosus	m, w, n	3	2	18	2		0	0	4	0		c, r, w
Blue Hawk	Circus cyaneus	m	1	2	1								
Roller	Coracias garrulus	m, n				11							r
Woodpecker Syrian	Dendrocopos syriacus	m, n		1									р

¹⁰ Which is included in the appendix of the National EIA, available at: http://eia.menr.gov.ua/places/view/881

¹¹ Table includes all available information. Observation data not available in instances where cell does not contain a value.



Red-footed Falcon	Falco vespertinus	m, n				8	1				r
European Coot	Fulica atra	m, w, n			60					favourable	
Oystercatcher	Haematopus ostralegus	m, n			1						
White – Tailed Eagle	Haliaeetus albicilla	m, w, n	1	1							r, w
Red-Backed Shrike	Lanius collurio	m, n				3					c,r
Lesser Gray Shrike	Lanius minor	m, n				11	1				c,r
Great Cormorant	Phalacrocorax carbo	m, w, n	2347	14		4				near favourable	
Turtledove	Streptopelia turtur	m, n	12			21	2				

Source: Environmental Report¹², http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.eu, <

Notes: Status: m - were met during seasonal migrations; w - were met in winter; n - were met in nesting period. IBA - Important Bird Area . Emerald - Bern Convention Standing Committee Resolution 6 species for Emerald Network site "Dnister Delta": p=permanent, r=reproducing, c=concentration, w=wintering

¹² Which is included in the appendix of the National EIA, available at: http://eia.menr.gov.ua/places/view/881



Table 3 – Comprehensive list of species observed in the 50m-200m interval on the Project site (NB: Circus aeroginosus was observed on site and is included in the Emerald Network list)

English name	Scientific name	Statu s		ERL	RBU	RBU IUCN		Fiel		serva site	tions	on	Field		vation : 0m	50m-		nister stuary
			ca t	trend	No	ca t	trend	Autumn	Winter	Spring	Summer	Nests	Autumn	Winter	Spring	Summer	IBA	Emerald
Eurasian buzzard	Buteo buteo	m, w,	LC	stable	No	LC	stable	23	15	24	9	1	0	3	6	0		
Rough-legged buzzard	Buteo lagopus	m, w	LC	stable	No	LC	stable	2	16				0	2	0	0		
Duck hawk	Circus aeruginosus	m, w,	LC	increasin g	No	LC	increasin g	3	2	18	2		0	0	4	0		c, r, w
Common Gull	Larus ridibundus	m, w,	LC	stable	No	LC	unknow n	9532	61	258	62		0	0	7	0		

Source: Environmental Report¹³, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.europa.eu, http://emerald.eea.eu, <

¹³ Which is included in the appendix of the National EIA, available at: http://eia.menr.gov.ua/places/view/881

Table 4 – Dnister Delta IBA assessment

Condition of key/trigger populations (state)											
Scientific	Common	1992 population	2017 population	Units	Remaining	Result					
Anser anser	Greylag Goose	130	130	breeding pairs	100%	favourable					
Anas crecca	Common Teal	25000	3000	breeding pairs	12%	very unfavourable					
Fulica atra	Common Coot	2000	2000	breeding pairs	100%	favourable					
Plegadis falcinellus	Glossy Ibis	810	310	breeding pairs	39%	very unfavourable					
Nycticorax nycticorax	Black- crowned Night-heron	1750	200	breeding pairs	12%	very unfavourable					
Ardea purpurea	Purple Heron	125	100	breeding pairs	80%	near favourable					
Ardea alba	Great White Egret	220	110	breeding pairs	50%	unfavourable					
Phalacrocorax carbo	Great Cormorant	2500	2000	breeding pairs	80%	near favourable					

Source: http://datazone.birdlife.org/site/factsheet/dnister-delta-iba-ukraine/details

PR6 PBF Criterion iii – Significant Biodiversity Features Identified by a Broad Set of Stakeholders or Governments

EBRD PR6 defines significant biodiversity features identified by a broad set of stakeholders or governments as « Key Biodiversity Areas and Important Bird and Biodiversity Areas; nationally and internationally important species or sites for conservation of biodiversity; many areas meeting natural habitat definitions of other international financial institutions . »

The Dnister Delta is listed as a Key Biodiversity area and an Important Bird Area (UA091) which would trigger Criterion iii, however the project site is located over 1.5 km away from the Dnister Delta. Consequently, the project site does not trigger PBF Criterion iii.

In addition to evaluating potential Priority Biodiversity Features as identified by government and financial stakeholders, the Ukrainian Society for the Protection of Birds (the national Birdlife International partner organization) was consulted about the project. In their report "ACT of Ecological and Ornithological Survey of the Planned Wind Field of the Dnister Wind Power Plant (Dnister WPP) with a Total Installed Capacity of 100 MW Bilhorod-Dnistrovskiy" dated 13.04.2019 they conclude:

According to the environmental impact assessment of the construction and operation of the Dnister WPP, it should be noted that potential impacts on the environment (air, geological and soil, water, physical, technological and social impacts) are expected to be within normal limits, however, there is still the need to minimize the risks for ornithofauna of the region which is quite diverse ...



It is extremely important to form a system of monitoring, assessment and forecast of the state of biodiversity in the territories of wind power plants within the planned wind field of the Dnister wind power plant during the construction and within at least three years of operation of the Dnister WPP.

4. Critical Habitat

This Critical Habitat assessment seeks to identify the presence or absence of Critical Habitatqualifying features according to PR6 Criteria i-vi. PR6. This assessment is conducted at the landscape scale, including the airway, and includes a systematic analysis of each criteria.

Generally, the guidance note to EBRD PR6 defines Critical Habitat as: *Habitats of significant importance to endangered or critically endangered species* (par. 14 (ii)) as:

Areas supporting species at high risk of extinction (Critically Endangered or Endangered) on the IUCN Red List of Threatened species (or equivalent national/regional systems).

It also interprets Habitats supporting globally significant (concentrations of) migratory or congregatory species (par. 14 (iv)) as:

Areas that support a significant proportion of a species' population, where that species cyclically and predictably moves from one geographical area to another (including within the same ecosystem), or areas that support large groups of a species' population that gather on a cyclical or otherwise regular and/or predictable basis. For example:

- o Global-level Key Biodiversity Areas and Important Bird and Biodiversity Areas identified for congregatory species
- Wetlands of International Importance designated under criteria 5 or 6 of the Ramsar Convention.

In particular Criterion 5 of the Ramsar Convention states:

A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

In order to assess the presence or absence of Critical Habitat-qualifying features a systematic review against each criterion (i-vi) was conducted.

PR6 Criterion i – Highly threatened and/or unique ecosystems

According to the EBRD Guidance Note on PR6, highly threatened or unique ecosystems are considered "ecosystems that are at risk of significantly decreasing in area or quality; have a small spatial extent; and/or contain concentrations of biome-restricted species."

Some examples include:

- Ecosystems listed as, or meeting criteria for, Endangered or Critically Endangered by the IUCN Red List of Ecosystems



- Areas recognized as priorities in official regional or national plans, such as National Biodiversity Strategy and Action Plans
- Areas determined to be of high priority/significance based on systematic conservation planning carried out by government bodies, recognized academic institutions and/or other relevant qualified organizations (including international-recognized NGOs).

The project site does not qualify for criterion i because it does not include nationally or internationally important species or sites for conservation of biodiversity. Furthermore within the Project are no endangered or critically endangered birds were observed.

It is noted that the Dnister Delta is indeed an area recognized as a priority in official regional and national plans given that the Dnister Delta includes the Lower Dniester National Nature Park; this does not trigger criterion i given that the project site does not include an part of the Lower Dniester National Nature Park and the project is located over 1.5 km away from the Dnister Delta.

PR6 Criterion ii - Critically Endangered and Endangered Species

According to the EBRD Guidance Note on PR6, habitats of significant importance to endangered or critically endangered species are "areas supporting species at high risk of extinction (Critically Endangered or Endangered) on the IUCN Red List of Threatened species (or equivalent national/regional systems)."

Some examples include:

- Alliance for Zero Extinction sites
- Animal and plant species of community interest in need of strict protection as listed in EU Habitats Directive (Annex IV).

The project does not qualify for criterion ii because no critically endangered or endangered birds were observed on the project site. Table 1 shows species that were observed on site and are considered vulnerable, endangered or critically endangered (or the equivalent) according to the IUCN, ERL, and RBU. Table 1 also indicates the number of these birds that were observed within the 50-200m range. Table 4 includes a comprehensive list of birds observed flying in the 50m-200m interval of the wind turbines blades on the project site.

Furthermore, the project site does not contain any species listed in Annex IV of the EU Habitats Directive and the site is not considered an AZE site (Alliance for Zero Extinction). An AEZ site is a site that holds the "last-remaining populations of 1,483 of the Earth's most threatened species.¹⁴" These sites are based on species groups that have been globally assessed by the IUCN Red List.

PR6 Criterion iii – Endemic and/or Restricted-Range Species

Habitats of significant importance to endemic or geographically restricted species are defined in EBRD's PR6 Guidance Note as "areas holding a significant proportion of the global range or population of species qualifying as restricted-range under Birdlife of IUCN criteria."

Examples include:

- Alliance for Zero Extinction sites

¹⁴ Alliance for Zero Extinction sites website: http://zeroextinction.org/



- Global-level Key Biodiversity Areas and Important Bird and Biodiversity Areas identified for restricted-range species.

The project site does not qualify for criterion iii given that it does not include Key Biodiversity Areas or Important Bird and Biodiversity Areas. Furthermore, the project site is not an AZE site.

It is noted that the Dnister Delta is indeed a listed Key Biodiversity area and an Important Bird Area (UA091), and includes the Northern part of the Dniester Liman Ramsar site (no. 765), the Dniester-Turunchuk Crossrivers Area Ramsar site (no. 764), and the Dnistrovskyi Lyman Emerald site (UA0000141).

The project site does not include the Dnister Delta or any part of the above-mentioned areas and therefore does not trigger criterion iii. Furthermore, the project is located over 1.5 km from the Dnister Delta.

PR6 Criterion iv – Migratory Species and/or Congregatory Species

According to the EBRD PR6 Guidance Note, habitats supporting globally significant (concentrations of) migratory or congregatory species are "areas that support a significant proportion of a species' population, where that species cyclically and predictably moves from one geographical area to another (including within the same ecosystem), or areas that support large groups of a species' population that gather on a cyclical or otherwise regular and/or predictable basis.

Examples include:

- Global-level Key Biodiversity Areas and Important Bird and Biodiversity Areas identified for congregatory species
- Wetlands of International Importance designated under the Ramsar Convention

The scope of the analysis includes the Dnister Delta because species of potential significance could possibly use the airways of the project site to migrate through the project site; however sensitive species are only relevant insofar as they are actually observed on the project site.

Table 2 shows the species requiring specific habitat conservation (IBA and Emerald site) measures in the Dnister Delta (located over 1.5 km from the project) and the number of times a species was observed on the project site, if at all. Among the species in the Dnister Delta that triggered the IBA criteria, only 2 have been observed on the project sire: *Fulica Atra* and *Phalacrocorax Carbo*. Their trend is favorable (see Table 4). These species have not been observed flying in the 50m-200m interval of the wind turbine blades (see Table 3).

Furthermore, in consideration of Ramsar Criteria 5 and 6, it is noted that the Dnister delta hosts more than 15,000 total pairs of breeding waterbirds according to Birdlife. ¹⁵Criterion 5 of the Ramsar Convention states that "A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

According to Criterion 6 of the Ramsar Convention "A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird." Consequently, it was assessed whether of the airway above

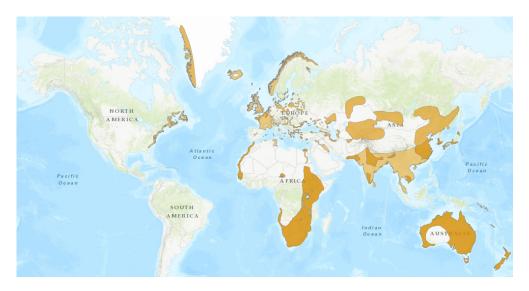
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¹⁵ http://datazone.birdlife.org



the Project site potentially supports 1% or more of the individuals in a population of one vulnerable species or subspecies.

Figure 4 – Global geographic range of the Great Cormorant



From Table 5 below one can see that the only potential candidate for this 1% threshold among birds classified as vulnerable or requiring specific habitat conservation measures could be the Great Cormorant ("Least Concerned" with increasing trend as per European Red List and IUCN list / not listed in the Red Book of Ukraine), but only if one consider its European-wide population in absence of data for its global population which is much larger as Europe is only a fraction of its habitats can be seen in the map above. It should also be noted that the Great Cormorant is listed "Least Concerned with increasing trends" both globally and European-wide.

The Great Cormorant was not observed above 50m, in the relevant range in the wind turbine rotor.

Table 5– Population of species observed on the site and classified as vulnerable or worse or requiring specific habitat conservation measures in the Dnister Delta

		IU	CN	Global	population	European	population		Field observations on site					observat	ion 50m	-200m
English name	Scientific name							Autu	Wint	Sprin	Summ	Nest	Autu	Wint	Sprin	Summ
		cat.	trend	min	max	min	max	mn	er	g	er	S	mn	er	g	er
Short-eared owl	Asio flammeus	LC	sta ble	350,000	2,000,000	109,000	372,000	1								
Common pochard	Aythya ferina	VU	decre asing			397,000	570,000		165	9						
Long-legged buzzard	Buteo rufinus	LC	sta ble	100,000	500 ,00	23,700	38,400	1	2							
Duck hawk	Circus aeruginosus	LC	incre asing	500,000	1,000,000	199,000	367,000	3	2	18	2		0	0	4	0
Blue Hawk	Circus cyaneus	LC	decre asing	100,000	500,000	60,000	109,000	1	2	1						
Roller	Coracias garrulus	LC	decre asing	100,000	500,000	75,400	158,000				11					
Woodpecker Syrian	Dendrocopos syriacus	LC	stable	600,000	1,500,000	563,000	1,310,000		1							
Falcon	Falco vespertinus	NT	decre asing			60,600	127,000				8	1				
European Coot	Fulica atra	LC	incre asing			1,890,000	3,090,000			60						
Oystercatcher	Haematopus ostralegus	NT	decre asing			568,000	708,000			1						
White – Tailed Eagle	Haliaeetus albicilla	LC	incre asing	20,000	50,000	17,900	24,500	1	1							
Red-Backed Shrike	Lanius collurio	LC	decre asing	24,000,000	48,000,000	14,900,000	28,600,000				3					
Lesser Gray Shrike	Lanius minor	LC	decre asing	1,200,000	3,300,000	662,000	1,790,000				11	1				
Great Cormorant	Phalacrocorax carbo	LC	incre asing			803,000	1,020,000	2347	14		4					
Turtledove	Streptopelia turtur	VU	decre asing	13,000,000	48,000,000	6,310,000	11,900,000	12			21	2				

Source: www.iucnredlist.org



If one considers all birds having being observed flying in the 50m-200m interval we find the following species:

Table 6 – Comprehensive list of species observed in the 50m-200m interval on the Project site

English name	Scientific name	Stat us	I	ERL	RB U	П	JCN	Fie	ld ob	serva site	itions	s on	Field		vation 0m	50m-		ister uary	Glo popul	obal ation	1%	
			ca t.	trend		ca t.	trend	Autumn	Winter	Spring	Summer	Nests	Autumn	Winter	Spring	Summer	IBA	Emerald	min	max	min	max
Eurasian buzzard	Buteo buteo	m, w,	LC	stable	no	LC	stable	23	15	24	9	1	0	3	6	0			2,100,000	3,700,000	21,000	37,000
Rough-legged buzzard	Buteo lagopus	m, w	LC	stable	no	LC	stable	2	16				0	2	0	0			300,000	1,000,000	3,000	10,000
Duck hawk	Circus aeruginosus	m, w,	LC	increasi ng	no	LC	increasi ng	3	2	18	2		0	0	4	0		c, r, w	500,000	1,000,000	5,000	10,000
Common Gull	Larus ridibundus	m, w, n	LC	stable	no	LC	unkno wn	953 2	61	258	62		0	0	7	0			2,670,000	3,980,000	26,700	39,800

The threshold of 1% of the species population in the 50m-200m interval is not met by any of the four species listed above in Table 6.

The project site does not qualify for criterion iv given that it does not include Key Biodiversity Areas or Important Bird and Biodiversity Areas. Additionally, the project site does not trigger Ramsar Convention Criterion 5 or 6.

Criterion v – Areas Associated with Key Evolutionary Processes

The EBRD PR6 Guidance Note defines areas associated with key evolutionary processes as "areas with landscape features that might be associated with particular evolutionary processes or populations of species that are especially distinct and may be of special conservation concern given their distinct evolutionary history."

Examples include:

- Isolated lakes or mountaintops
- Populations of species listed as priorities by the Edge of Existence programme

No quantitative thresholds exist for this criterion, so this CHA has relied upon the expert opinion and qualitative judgment of the experts who wrote the Environmental Report, which is contained in the Annex of the National Environmental Impact Assessment¹⁶.

The project site does not trigger criterion v given that based on all available information the project area is not associated with key evolutionary processes. The project site is located on agricultural land that has been subject to intense anthropogenic use and does not include isolated lakes, mountaintops, or species in the Edge of Existence program.

Criterion vi – Vital Ecological Functions

Criterion vi states that ecological functions that are vital for the viability of critical-habitat qualifying features also qualify as Critical Habitat.

EBRD PR6 Guidance Note define vital ecological functions as "ecological functions without which critical biodiversity features could not persist. For example: where essential for critical biodiversity features, riparian zones and rivers, dispersal or migration corridors, hydrological regimes, seasonal refuges or food sources, keystone or habitat-forming species."

The project site does not meet criterion vi given that the project site is agricultural land. The project site is located

5. Implications

The Environmental Report (which is contained as an appendix in the National EIA¹⁷) analyzes the collision risk for birds based on Scottish National Heritage methodology for the 4 species of birds that have been observed within the wind turbine rotor range (from 50m to 200m) (see Table 7). The four species include the *Buteo buteo* (Eurasian buzzard), *Buteo lagopus* (Roughlegged buzzard), *Circus aeruginosus* (Duck hawk) and *Larus ridibundus* (Common gull).

¹⁶ National EIA available at: http://eia.menr.gov.ua/places/view/881

¹⁷ Report On Environmental Impact Assessment Dniester Wind-Power Station In Bilgorod-Dnistrovsky District of Odesa Region" available at: http://eia.menr.gov.ua/places/view/881



Table 7 – The number of different species of birds collision on the territory of the wind farm during one year

Species	Season	The time of flight through the rotor, seconds	The probability of collision with the rotor	Quantity of collisions by season	Quantity of collisions for the year
	Winter	0.128	0.116	0.25	
Buteo buteo	Spring	0.144	0.135	0.44	0.69
Duteo vuteo	Summer	0	0	0	0.09
	Autumn	0	0	0	
	Winter	0.141	0.133	0.38	
Putas Isaanus	Spring	0	0	0	0.38
Buteo lagopus	Summer	0	0	0	0.58
	Autumn	0	0	0	
	Winter	0	0	0	
Cinous assussinosus	Spring	0.144	0.135	0.34	0.34
Circus aeruginosus	Summer	0	0	0	0.54
	Autumn	0	0	0,	
	Winter	0	0	0	
Larus ridibundus	Spring	0.144	0.126	0.72	0.72
Larus riaibunaus	Summer	0	0	0	0.72
	Autumn	0	0	0	

Of the 4 species found within the wind turbine range only the Duck hawk (*Circus aeruginosus*) is listed as requiring special protection in the Dnister Delta but it is not in the Red Book of Ukraine and mentioned as Least Concerned with increasing trend by both the European Red List and the IUCN, it is listed by the Emerald Network Bern Standing Committee Resolution 6 for the Dnister Delta, which is outside the Project site, but that the Project may impact through impact in its airway at wind turbine rotor range. Even so we are speaking of one potential kill every three years for a species with between half and one million individuals. Collision expectations for the other three species at wind turbine rotor range are also very low.

6. Conclusions

The present report provides a detailed review of potential triggering of Priority Biodiversity Features and Critical Habitat under PR6 par 12 (iii) and par. 14 (iv) (relating to migratory species), in the airway of the Project Site in particular within the range of the wind turbine rotor (from 50m to 200m).

The Project has been sited over 1.5 km away from the shoreline of the Dnistr Estuary. The results of the migratory bird studies, contained within the Environmental Report (which is contained as an appendix in the National EIA¹⁸), conclude that wetland bird species are the dominant species of migratory birds in transit. These wetland birds rarely visit the Project area and their main flight path is above the waters of the Dnister Estuary with a flight altitude above 200m. Given that the migratory concentrations are composed of near-water bird species, whose flight paths take place only within the water and coastal areas of the Dnistr estuary, the Project is not expected to interfere with the flight paths of these birds given the considerable distance between the Project boundary and the shoreline of the Estuary.

¹⁸ Report On Environmental Impact Assessment Dniester Wind-Power Station In Bilgorod-Dnistrovsky District of Odesa Region" available at: http://eia.menr.gov.ua/places/view/881



No Priority Biodiversity Features are involved in the Project: The Project site does not include *significant biodiversity features identified by a broad set of stakeholders or governments* or in other terms, it does not include *Key Biodiversity Areas, Important Bird and Biodiversity Areas, nationally and internationally important species, or sites for conservation of biodiversity.*

No vulnerable species were observed in the 50m-200m interval (the range of the wind turbine rotor), while only one species requiring specific habitat conservation measures (Emerald Network) was flying in the 50m-200m interval. This species, Duck hawk (*Circus aeruginosus*), was spotted only 4 times in spring, resulting in an assessment of a "hardly material" collision expectation of one every three years. Other bird populations observed in the 50m-200m interval are far from reaching the 1% threshold. Indeed, this report will be updated as monitoring is undertaken.

The Project site does not feature any Critical Habitats or endangered or critically endangered species. However, the Dnister Delta, which is in proximity to the Project site, fulfills one of the Criteria of Critical Habitat with more than 20,000 waterbirds. Critical Habitats include *habitats* (including its airways) *supporting globally significant (concentrations of) migratory or congregatory species*, ie. *Areas that support a significant proportion of a species' population*. The Project site airways are likely to support near to 1% of the European population of the Great Comorant (*Phalacrocorax carbo*) but not of the global species population as per the Criterion 6 of the Ramsar site Criteria and in any case site findings showed they have been observed to fly lower than the wind turbine rotor range.

To ascertain these conclusions it is very important to follow a robust monitoring program. Ornithological experts will be consulted to develop a monitoring program in accordance with Eurobats and Scottish National Heritage guidance and other international standards including those of EBRD. This monitoring program shall be implemented for three years under the oversight of independent expert (s). This report will be updated as monitoring is undertaken to take into account new information and reassess the conclusions here within.

The Ukrainian Society for the Protection of Birds (the national Birdlife International partner organization) was consulted about the project. In their report "ACT of Ecological and Ornithological Survey of the Planned Wind Field of the Dnister Wind Power Plant (Dnister WPP) with a Total Installed Capacity of 100 MW Bilhorod-Dnistrovskiy" dated 13.04.2019 they conclude:

According to the environmental impact assessment of the construction and operation of the Dnister WPP, it should be noted that potential impacts on the environment (air, geological and soil, water, physical, technological and social impacts) are expected to be within normal limits, however, there is still the need to minimize the risks for ornithofauna of the region which is quite diverse ...

It is extremely important to form a system of monitoring, assessment and forecast of the state of biodiversity in the territories of wind power plants within the planned wind field of the Dnister wind power plant during the construction and within at least three years of operation of the Dnister WPP.

Following this step-by-step approach and developing these biodiversity documents will enable the Project to match in full the industry good-practice standards for biodiversity (EBRD PR6).