

**Moldova Energy Projects Implementation Unit**

**POWER SYSTEM DEVELOPMENT PROJECT**

**Credit No. 6380\_MD**

**Avian Risk Assessment and Mitigation Report  
for Construction Stage**

**Avian Information Summary Report**

**Chisinau  
Revised 2024**

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## ACRONYMS AND ABBREVIATIONS

AEWA	Agreement on the Conservation of African-Eurasian Migratory Waterbirds
CMS	The Convention on Conservation of Migratory Species of Wild Animals
BERN Convention	Convention on the Conservation of the European Wildlife and Natural Habitats
BIAS	Biodiversity Impact Assessment Study
BIRDS Directive	Council Directive 2009/147/EC on the conservation of wild birds
ESIA	Environmental and Social Impact Assessment Study
EU	European Union
GIS	Geographic Information Systems
HABITAT Directive	Council Directive 92/43/ CEE on the conservation of natural habitats and of wild fauna and flora
IBA	Important areas for birds (Special avifauna protection area) - natural area for the conservation, maintenance and, where appropriate, restoration of a favorable conservation status of bird species and specific habitats, in order to protect wild migratory bird species)
IUCN	International Union for the Conservation of Nature
OHL	Overhead transmission line
PSDP	Power System Development Project
RM	Republic of Moldova
SPNA	State Protected Natural Areas

## DEFINITIONS

Animal kingdom cadastre	In accordance of the Law on Animal kingdom no. 459/1996: The state cadastre of the animal kingdom contains all the information about the area, number of animals, the places of living and reproduction of the animals and their use.
Emerald Network	According to art. 2 of Law on ecological network no. 94/2007: <i>Emerald Network</i> - ecological network consisting of special conservation areas, being part of the national ecological network, representing the extension in non-EU countries of the coherent European ecological network of special conservation areas "NATURA 2000"
Fixed point method (Vantage point)	The method is used to make observations on birds from a fixed point in a favorable position, which allows the bird's flight activity to be observed without affecting its behavior.
Fixed point method combined with transect method	This method monitors nesting and wintering species. The number of transects is established according to: the total surface of the land; the particularities of the area (topography, vegetation, etc.)
National ecological network	According to art. 2 of Law on ecological network no. 94/2007: <i>National ecological network</i> - ecological network constituted at national level of territories of habitats, landscapes and their elements, united physically and functionally, which have a special importance from the scientific and aesthetic point of view, of the value and conservation of biological diversity, of maintaining the geosystemic balance.
Pan-European ecological network	According to art. 2 of Law on ecological network no. 94/2007: <i>Pan-European ecological network</i> - ecological network established at European level, which unites national ecological networks and consists of territories, physically and functionally united, representing natural and semi-natural elements of the landscape, which need to be conserved and managed to ensure the favorable condition of ecosystems, habitats, species and landscapes of European importance
Red Data Book of Moldova	The Red Data Book of Moldova is an official document including the list of disappeared, endangered, vulnerable, and rare species of plants and animals of the Republic of Moldova. It includes also general information about their status, condition, distribution, habitat, and methods for their protection.
Special avifauna protection area	In accordance of the art. 2 of the Law on the fund of natural protected areas by the State no. 1538/ 1998 (Law on Protected Areas): <i>Special avifauna protection area</i> - natural area intended for conservation, maintenance and, as the case may be, restoration in a favorable conservation status of bird species and specific habitats, in order to protect wild migratory bird species.
Wetland of international importance	In accordance of the art. 2 of the Law on the fund of natural protected areas by the State no. 1538/ 1998 (Law on Protected Areas): <i>wetland of international importance</i> - territory and / or body of water that includes different types of wetland ecosystems and meets the criteria for highlighting wetlands of international importance of the Ramsar Convention, having a rich biological diversity and having an important role as habitat for waterflow.

# 1 INTRODUCTION

## 1.1 Background and Context

The Power System Development Project (PSDP) is implemented for the purpose of improving electricity supply of the Republic of Moldova, according to the provisions of the Energy Strategy of the Republic of Moldova until 2030, approved via the Government Decision No. 102/2013.

The first stage of this study includes building an overhead electricity line 400 kV OHL Vulcănești – Chișinău.

The project includes the following:

### **Part 1: Construction of Overhead Power Line (OHTL)**

- a) the construction of about 158 km of high voltage overhead power line with a single circuit (400 kV) in the direction of Vulcanesti – Chisinau;
- b) consultancy services for the supervision of construction works included in Part 1 and Part 2 of the project.

### **Part 2: Modernization / Extension of two Electrical Substations**

- a) modernization of the 330 kV Chisinau electrical substation and b) extension of the Vulcanești 400 kV electrical substation.

The Feasibility Study & ESIA/ESMP and BIAS documentation, developed at the feasibility stage for which the Environment Agency issued the Environmental Permit no. 01/4745 of 31.12.2019<sup>1</sup>, identified a series of potential adverse impacts, including damages caused to State Protected Natural Areas (SPNA), habitats, and fauna species.

Thus, it was recommended to elaborate an additional special study on the risk to bird species and their habitats, for the 400 kV OHL corridor: ***Avian Risk Assessment and Mitigation Report for construction stage***, developed at the design stage, necessary for implementation at the construction period, which according to the requirements, established in the terms of reference, is composed of the following compartments: (i) Avian Risk Management Program, (ii) Avian Risk Monitoring Program, (iii) Avian Risk Mitigation Plan, (iv) Institutional Strengthening Program and (v) Avian Risk Management component for the Site Specific ESIA/ESMP.

## 1.2 The scope and goal of the report

The present Report reviews the impact in the OHL construction zone, especially in the localities estimated by BIAS as being with high risk of electrocution, collision, and other type of risk for habitats of species of birds critically endangered, endangered and vulnerable, according to IUCN and RM legislation classification. Hence, the areas of special monitoring interest have been established as follows:

- Water bodies: Lake Ecaterinovca, Lake Dezghincea, Lake Congazcic; Taraclia Lake, Comrat accumulation Lake, Cahul lake;
- Forestry fund: forests from Zloți and Costești; Vila Caracui;
- Emerald candidate sites: Bugeac steppe (Dezghingea), Hâncești and Tigheci forests;
- Candidate important bird areas: Purcari-Etulia, Congaz-Taraclia Lakes.

<sup>1</sup> Environmental Permit: <https://docs.google.com/document/d/1QUu6SITN5E5NPAel812BnLkKU1gC8DVTYy3La7YK8iQ/edit>

The study suggests estimating the areas with high potential risk at the stage of OHL construction, such as:

- important areas for birds (IBA), including those with high population levels and increased share of migrating species, especially during migrations; big losses are registered especially when the power lines cross important migration routes and corridors, such as river meadows, valleys between hills, canyons, etc.;
- wetlands, swamps, coastal areas, steppe zones, especially when the power lines separate the resting areas from the feeding ones or represent important feeding and resting areas, especially if they are near water;
- habitats of wintering and passage species, as well as of migrating species.

### **1.3 Evaluation criteria**

- a) Comparative analysis – risk of negative effects on species and on areas of ornithological interest;
- b) Performance requirements – objectives regarding protection and conservation of biodiversity, elimination, mitigation and decreasing the impact on biodiversity, and compensation of the significant residual impact for the purpose of removing the net losses of biodiversity. The following criteria were followed for this purpose:
  - Situation analysis at the stage of OHL construction, if the project will not lead to significant degradation of natural habitats from the viewpoint of their support capacity for populations of key species.
  - Situation analysis, if habitats will not become potentially unable to support viable populations of the native species at their current level.
- c) Assessment of the general impact – risks associated with power lines for important habitats and behavior of birds' species, including:
  - Electrocutation risk – species of birds which usually land on power pillars to rest, to feed themselves or to nest, may be subject to electrocutation effects;
  - Collision risk – species of birds may become victims of collision with high-, medium- and low voltage power lines;
  - Disturbance and loss of habitats – power lines may have negative impact on birds by disturbing and losing their habitats. These factors influence the growing, feeding and sheltering birds.

## 2 AVIAN RISK MANAGEMENT PROGRAM

### 2.1 Analysis of RM legal framework with aspects related to conservation of birds' species and their habitats and evaluation of such activities' impact

The following will be observed at the stage of OHL: national legislation in the environmental and forestry areas, strategic framework, especially in the area of conservation of biological diversity and national ecological networks, as well as the provisions of EU Directives and decisions/recommendations/notification of international treaties, to which the RM is a part, relevant for implementation of the OHL Construction Project.

#### *Normative framework*

The normative framework in the area of conservation and sustainable use of biodiversity with reference to protection of birds' species includes the following legislative acts:

- 1) Law No. 1515/1993 on Environment protection;
- 2) Law on Animal kingdom No. 439/1995;
- 3) Law No. 1538/1998 on Fund of natural areas protected by State;
- 4) Law No. 325/2005 on Red Book of the Republic of Moldova;
- 5) Law No. 94/2007 on Ecological network;
- 6) Law on Hunting and game fund No. 298/2018
- 7) Frame Regulation on Wetlands of International Importance, approved via the GD No. 665/2007

#### Law No. 1515/1993 on Environment protection

The measures for biodiversity conservation are set forth in: Chapter V. Protection of natural resources and conservation of biodiversity, Section 5 Conservation of biodiversity and protection of nature monuments.

#### Law on Animal kingdom No. 439/1995

It is the main normative act, which sets forth legal relations for protecting and preserving birds.

The main requirements for protection and use of animal kingdom resources, when planning and fulfilling measures which may affect animals' habitat and animal kingdom condition are set forth in art. 7 as follows:

- a) conservation of diversity of animal species which live naturally;
- b) protection and improvement of habitat, reproduction conditions and migration ways for animals;
- c) conservation of biocenoses' integrity;
- d) regulation of animals' number for the purpose of maintaining the ecological balance, population health protection and prevention of damages which may be caused to the national economy;
- e) complete reparation of damage caused to the animals' habitat and animal kingdom and allocation of special destination resources for restoring the number of animals or their living environment.

Articles 12,13 and 14 of the Law No. 439/1995 sets forth the measures for protecting and improving the habitats, reproduction conditions and migration ways of animals, at the stage of designing and executing the works for location of pipes, as well as for preventing animals' death due to production processes.

Art. 40. of the Law No. 439/1995 provides for liability in case of violation of legislation on protection and use of animal kingdom resources for individuals and legal entities guilty of: violation of rules for habitat protection, reproduction conditions and migration ways for animals; cruel treatment of animals;

building sites without observing the measures for protection of animal kingdom and its habitat and without performing the state ecological expertise of such sites' designs or without observing its requirements; failure to provide timely information to the state control bodies about the condition and number of animals, about the observed changes; failure to fulfill protection measures, as well as of indications coming from the state control bodies for animal kingdom protection and failure to repair all the caused damages and failure to allocate means for restoring the number of animals and their habitat.

Law No. 439/1995 is partially harmonized with articles 1, 3, 4, 7 and 8 of Directive 2009/147/ EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (Birds Directive).

According to the requirements of Birds Directive and international treaties (Bonn, Berne, CITES Conventions), derogations from the Law No. 439/1995 were developed through normative acts:

- Law No. 61/2011 for amending and completing certain legislative acts, according to which there was established the notion of "special protection area for birds – natural area meant for preserving, maintaining, and as appropriate, reducing to a favorable conservation status the species of birds and specific habitats, for the purpose of protecting species of wild migratory birds" – in art. 2 of the Law on Animal kingdom No. 439/1995 and art. 2 of the Law No. 1538/1998 on Fund of natural areas protected by State. The same law has completed with art. 82 of the Law No. 1538/1998 on Fund of natural areas protected by State; paragraph (3) with the following wording: "Special protection areas for birds shall be established in the wetlands of international importance, which represent natural spaces for protection of wild migratory birds. The special protection areas for birds shall be delimited according to criteria set by scientific institutions or scientists and approved by the central environmental authority".

- Law No. 237/2017 for amending and completing the Law on Animal Kingdom No. 439/1995: sets forth regulations on protection of migratory species of birds, by completing art. 14 paragraph 3: "It is prohibited to locate wind farms and power networks in the state protected natural areas and in the ways of intense migration of wild birds, and in case of existing power networks, it is necessary to locate visual signal devices by installing them over the crossing protection conductor of the white-red spherical beacons, made of fiberglass, with diameter of minimum 600 mm, and the distances between the beacons should be 50 m. The isolation chains should have a length of minimum 6 m, for the large birds not to close the circuit between the two conductors located at different potential". At the same time, the Law No. 237/2017 transposed the list of migratory species of birds from the Birds Directive by completing it with Annex No. 4<sup>1</sup>.

#### Law No. 1538/1998 on Fund of natural areas protected by State

The Law sets forth the legal basis for creation and operation of the state protected natural areas' fund, principles, mechanisms and conservation modalities. The law includes the protection measures for SPNA and their protection zones, in case of economic activities and construction of economic sites. All the state protected sites and objects are included in the annexes to the Law.

The Law No. 61/2011 amending and supplementing certain legislative acts amended the Law No. 1538/1998 providing in art.2 for the notion of "special protection area for birds – natural area meant for preserving, maintaining, and as appropriate, reducing to a favorable conservation status the species of birds and specific habitats, for the purpose of protecting species of wild migratory birds", and art. 82 was supplemented with paragraph (3) with the following wording: "Special protection areas for birds shall be established in the wetlands of international importance, which represent natural spaces for



protection of wild migratory birds. The special protection areas for birds shall be delimited according to criteria set by scientific institutions or scientists and approved by the central environmental authority”.

#### Law No. 325/2005 on Red Book of the Republic of Moldova

The law regulates social relations in the area of protecting, using and restoring species of plants and animals (including birds) which disappeared, are critically endangered, endangered, vulnerable, rare and undetermined, included in the Red Book of the Republic of Moldova, for the purpose of preventing their disappearance and ensuring the conservation of their genetic fund, and sets forth the legal basis for maintaining the Red Book, the duties of public authorities at all the levels and those of scientific institutions in the area.

#### Law on Hunting and game fund No. 298/2018

The Law sets forth the basic normative framework for protecting, preserving and using rationally the fauna of gaming interest (including birds’ species), as well as the right of persons and societies on hunting practice.

According to art. 15. paragraph (1): “Protection of fauna of gaming interest and its habitat shall be carried out for the purpose of maintaining and reproducing the respective fauna, by developing and carrying out special programs to provide for protections measures for fauna of gaming interest and its habitat, as well as by checking the observance of Hunting Rules for fauna species of gaming interest”.

Art.18 paragraph (1) sets forth that: “For the purpose of protection and sustainable management of fauna of gaming interest and its habitat, the following shall be prohibited:

- b) unjustified disturbance of tranquility of fauna of gaming interest, especially during the reproduction periods and those of raising youngsters;
- g) putting on fire vegetation, including reeds, bushes, stubble, etc.
- h) deterioration of wild birds’ nests or collecting their eggs;

#### Law No. 94/2007 on Ecological network

The Law is focused creating a legal framework for establishing and developing the national ecological network, as an integral part of the pan-European ecological network and local ecological networks, for establishing a regime for their management and protection.

IMPORTANT! According to the Ministry of Environment<sup>2</sup>, there was developed the draft *Law to amend certain normative acts*, by amending the Law No. 94/2007 on Ecological network, for the purpose of establishing the normative framework for creating the Emerald Network, including fields from this network, the list of sites and habitats protected at the national level, and establishing the activities for managing and monitoring the Emerald network. The draft Law partially transposes the requirements of the HABITATS Directive.

#### Frame-Regulation for wetlands of international importance, GD No. 665/2007

The Regulation sets forth in point 11 the basic principles for managing the Ramsar zones, as well as for: preventing negative effects of economic activities on Ramsar zones, supporting and encouraging activities for rational use of Ramsar zones, preserving and developing these zones in a sustainable way, undertaking necessary actions for preserving and improving biological diversity in Ramsar zones.

#### **Strategic framework**

The most important strategic documents in the biodiversity area are:

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<sup>2</sup> The draft normative act is posted on: <https://particip.gov.md/ro/document/stages/ministerul-mediului-anunta-consultarea-publica-avizarea-si-expertizarea-proiectului-de-lege-privind-modificarea-unor-acte-normative-nr-unic-620mm2021/8768>

- 1) Environmental Strategy for 2014-2023 and Action Plan for its implementation, approved by Government Decision No. 301/2014;
- 2) Strategy on Biological Diversity of the Republic of Moldova for 2015-2020 and Action Plan for its implementation, approved by Government Decision No. 274/2015;
- 3) National Program for establishing the national ecological network for 2011-2018, approved by Government Decision No. 593/2011;
- 4) Plan for Nistru River Basin District Management, approved by Government Decision No. 814/2017;
- 5) Plan for Danube-Prut River Basin District and Black Sea Basin District Management, approved by Government Decision No. 955/2018.

The mentioned strategic documents are developed in line with the RM commitments asswet under the RM-EU Association Agreement, by harmonizing the national legislation with the EU Directives and standards, as well as observing the requirements set in the international environmental treaties to which the Republic of Moldova is a part, and provide for measures, deadlines and institutions responsible for implementation of the respective actions from their Action Plans.

## **2.2 Analysis of legal framework of other states (neighboring states) with aspects related to preserving species of birds and their habitats and assessing the impacts from such activities, as compared to the requirements set in the RM normative acts**

### ➤ *Legal framework of Romania*

The legal framework in the area of protection and conservation of birds' species and their habitats is based on the provisions of the BIRDS Directive and HABITATS Directive, which are binding to be implemented by the EU states. At the same time, by ratifying international treaties (CBD, BERN, Bonn, AEW, CITES Conventions and other), Romania is responsible for implementing their decisions, notifications and regulations.

The main normative acts, similar to the RM legal framework on protection of birds and their habitats, include:

- Government Emergency Ordinance No. 195/2005 on Environment protection (Ch. 8 Conservation of biodiversity and protected natural areas);
- Government Emergency Ordinance No. 57/2007 on regime of protected natural areas, conservation of natural habitats, wild flora and fauna;
- Government Decision No. 1264/2007 on declaring special areas for birds' protection as an integral part of the European ecological network Natura 2000 in Romania (Annex 1 List of areas for special protection of birds);
- Government Decision No. 1586/2006 on including certain protected natural areas in the category of wetlands of international importance;
- Ministry of Environment, Water and Forestry Order No. 338/2013 approving regulations for sites of community importance and/or protected natural areas of national interest.

### ➤ *Legal framework of Ukraine*

- Law on Animal kingdom of Ukraine (Закон України про тваринного світу Nr. 2894/1991);
- Law on Environment Protection (Закон України про охорону навколишнього природного середовища Nr. 1264/1991);
- Law on Natural areas' fund (Закон України про природно-заповідний фонд України Nr. 2452/1992)

Just like the RM, Ukraine is involved in actions of transposing the provisions of EU legislation in the national legislation and implementing international treaties (CBD, BERN, Bonn, AEW, CITES Conventions and other). Some deviations from RM legislation is the fact that Ukraine, being a country with exit to the Black Sea, is part to more international treaties related to protection of maritime species and habitats.

### 2.3 Comparative analysis of requirements of international treaties to which the RM is part and EU legislation on protection of species of birds and their habitats

Republic of Moldova is part of 18 international conventions in the environmental area, out of which 10 promote directly conservation of biodiversity and natural patrimony.

The main international treaties related to protection of species of birds and their habitats are as follows:

1. Convention on the Conservation of European wildlife and natural habitats (Bern, 19 September 1979), ratified by Parliament Decision No. 1546/1993;
2. Convention on Biological Diversity (Rio de Janeiro, 5 June 1992), ratified by Parliament Decision No. 457/1995;
3. Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 2 February 1971), ratified by Parliament Decision No. 504/1999;
4. Convention on the conservation of migratory species of wild animals (Bonn, 1979) and Agreement on the conservation of populations of European Bats and Agreement on the conservation of African-Eurasian migratory waterbirds, ratified by Law No. 1244/2000;
5. Convention on international trade in endangered species of wild fauna and flora (CITES) (Washington, 1973), ratified by Law No. 1246/2000.

The RM legal framework is at the stage of harmonization with the provisions of international treaties and EU Directives. Table no. 1. specifies the provisions of international treaties and RM normative acts partially harmonized with them.

**Table no. 1.** Provisions of international treaties and RM normative acts partially harmonized with them

Name of international treaty		Provisions of international treaty	RM normative acts partially harmonized with international treaties
CBD	Convention on Biological Diversity	International environmental treaty under UNEP. CBD has 3 main goals: conservation of biological diversity; sustainable use of its components; correct and fair share of benefits resulting from genetic resources. The aim is to develop national strategies for conservation and sustainable use of biological diversity.	- Strategy on Biological Diversity of the Republic of Moldova for 2015-2020 and Action Plan for its implementation - Law No. 1515/1993 on Environment protection; - Law No. 1538/1998 on Fund of natural areas protected by State; - Law No. 325/2005 on Red Book of the Republic of Moldova
BERN Convention	Convention on the Conservation of European wildlife and natural habitats	International environmental treaty under the Council of Europe. The aim of the Convention refers to conservation of endangered migratory species in EU, their habitats and their migratory routes. The species covered by BERN Convention are included in 3 annexes, depending on their protection level.	- Law No. 1538/1998 on Fund of natural areas protected by State; - Law on Vegetal kingdom No. 239/2007 - Law on Animal kingdom No. 439/1995 - Law on Ecological network No. 94/2007 - Law No. 325/2005 on the Red Book of the Republic of Moldova
CMS	Convention on the conservation of migratory species of wild animals	International environmental treaty under UNEP. The aim is to preserve migratory species of wild animals, which need special attention due to their importance from environmental, ecological, genetic,	- Law on Animal kingdom No. 439/1995 - Law on Ecological network No. 94/2007 - Law No. 325/2005 on the Red Book of the Republic of Moldova

		scientific, recreational, cultural, social, educational and economic viewpoint. The species covered by CMS are included in 2 Annexes.	
	Related documents approved by COP CMS: <ul style="list-style-type: none"> <li>• <i>Resolution 10.11</i> on power lines and migratory birds adopted at COP10 in 2011;</li> <li>• <i>Resolution 7.4</i> on electrocution of migratory birds adopted at COP7 in 2002.</li> </ul>		
AEWA	Agreement on the conservation of African-Eurasian migratory waterbirds	International environmental treaty under UNEP. AEWA aims to preserve migratory water birds & their habitats in Europe, Africa, Middle East, Central Asia, etc. AEWA includes 2 Annexes. Species protected by AEWA are included in Annex 2.	<ul style="list-style-type: none"> <li>- Law on Animal kingdom No. 439/1995</li> <li>- Law on Ecological network No. 94/2007</li> <li>- Law No. 325/2005 on the Red Book of the Republic of Moldova</li> </ul>
	Related documents approved by MOP AEWA: <ul style="list-style-type: none"> <li>Resolution 5.11 on power lines and migratory water birds' species, adopted at MOP5 in 2012</li> </ul>		
CITES	Convention on international trade in endangered species of wild fauna and flora	International environmental treaty under UNEP. The aim of CITES refers to international trade of rare and endangered species of animals and plants, including birds. Species covered by CITES are included in 3 annexes, depending on their level of protection.	<ul style="list-style-type: none"> <li>- Law on Vegetal kingdom No. 239/2007</li> <li>- Law on Animal kingdom No. 439/1995</li> <li>- Law No. 325/2005 on the Red Book of the Republic of Moldova</li> </ul>
RAMSAR Convention	Convention on Wetlands of International Importance especially as Waterflow Habitat	International environmental treaty under UNESCO. The aim is to protect the wetlands as regulators of water regime as habitat for characteristic flora and fauna, especially for water birds.	<ul style="list-style-type: none"> <li>- Law No. 1538/1998 on Fund of natural areas protected by State;</li> <li>- Law on Ecological network No.94/ 2007</li> <li>- Frame Regulation on wetlands of international importance, approved via GD No. 665/2007</li> </ul>
BIRDS Directive	Directive 2009/147/ EC on the conservation of wild birds	BIRDS Directive ensures conservation of species of wild birds which naturally are found on the EU territory, for the purpose of fulfilling the community objectives for improving their life conditions and for sustainable development of the region. Directive has 6 Annexes. Protected species are included in Annexes I-III.	<ul style="list-style-type: none"> <li>- Law on Animal kingdom No. 439/1995</li> <li>- Law No. 1538/1998 on Fund of natural areas protected by State;</li> <li>- Law on Ecological network No.94/ 2007</li> <li>- National Program for establishing the national ecological network for 2011-2018</li> </ul>
HABITATS Directive	Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora	Habitats Directive ensures the conservation, protection & improvement of environment quality by preserving the natural habitats of wild fauna and flora species at the community level. Directive has 6 Annexes including types of protected species and habitats.	<ul style="list-style-type: none"> <li>- Law No. 1538/1998 on Fund of natural areas protected by State;</li> <li>- Law on Vegetal kingdom No. 239/2007</li> <li>- Law on Animal kingdom No. 439/1995</li> <li>- Law on Ecological network No.94/ 2007</li> <li>- Law No. 325/2005 on the Red Book of the Republic of Moldova</li> <li>- National Program for establishing the national ecological network for 2011-2018</li> </ul>

According to the requirements of international treaties, transposed in the RM legislation, it is prohibited to locate wind parks and power lines in state protected natural areas and on the migratory routes of birds, and the already existing power lines should be equipped with visual signaling devices, according to the recommendations of international conventions and agreements in the area of environment protection.

## 2.4 Analysis of National and Specific Reports (for species) developed and submitted by the RM to international treaties to which the RM is part (CMS, AEWA) referring to protection of species of birds and their habitats

For CMS, the RIM (ME together with ZI) developed the last 3 reports in 2019 as follows:

- CMS National Report of the Republic of Moldova of 27.08.2019<sup>3</sup>
- CMS National Report of the Republic of Moldova - Annex I Species List of 24.09.2019<sup>4</sup>
- CMS National Report of the Republic of Moldova - Annex II Species List of 24.09.2019<sup>5</sup>

By analyzing the respective reports, it has been established that 1 national report includes information about the country's progress in developing the normative framework and measures for conservation of migratory animals' species (including birds, except for the aquatic ones). While the 2 reports dedicated to information about species' status are not complete and include only brief information about the existence/appearance of animals' species in the RM.

For the purpose of implementing AEWA, the RM (ME together with ZI) has developed the following reports:

- AEWA National Report<sup>6</sup> of the Republic of Moldova (MOP 7) of 10.09.2018
- AEWA National Report of the Republic of Moldova for period 2018-2020 of 06.04.2020 and Reports on the population status of AEWA-listed (native) and non-native waterbird species in the Agreement area for the period 2013-2018, submitted to AEWA Secretariat on 14.05.2019.

These 2 reports were developed in 2019, 2020 and are to be approved at the Conference of Parties – MOP-8, and afterwards they will be published on the official site of AEWA.

The report on the population status of AEWA native and non-native waterbird species was developed based on official data provided by the Zoology Institute and submitted to the ME. It is a complete report indicating data about: existence/period of reproduction, period of record-keeping and monitoring, data from the last record-taking and the previous one, average number of youngsters in the nest, data about migration of species on the territory of the country, data if there are publications about species and record-keeping data, and if there are national projects or projects with joint themes with other states related to research of species.

## **2.5 Evaluation of areas of potential risk, crossed by the corridor of building the OHL and the adjacent zones (SPNA, Emerald Network candidate sites, RE) and establishing the major impact in them during the building stage**

### **2.5.1 Zones crossed by OHL 400 kV Vulcănești – Chișinău and potential risk**

The OHL route was divided in 3 sectors, starting from Vulcănești to Chisinau: southern, central and northern sectors.

#### **SOUTHERN SECTOR**

It covers the area located between Taraclia and Vulcănești (pillars 01 - 204). This sector is mainly crossed by agricultural fields, vineyards, orchards, pastures and grass meadows.

#### **❖ Balabanu – Vulcănești Zone (pillars 01 - 84)**

- just next to Jujnoe locality (pillar 18), OHL enters the territory of the IBA candidate zone “Purcari Etulia” (MD009) – mainly with agricultural fields. It is one of the most important zones for *Falco cherrug*. Other nesting species with protection status are: *Falco vespertinus*, *Buteo buteo*, *Circus aeruginosus*, *Falco subbuteo*, *Coracias garrulus* and other common species of birds (see the list of species in Table no.2).

<sup>3</sup> Source: [https://www.cms.int/sites/default/files/document/2019\\_CMS\\_National\\_Report\\_Moldova\\_Published.pdf](https://www.cms.int/sites/default/files/document/2019_CMS_National_Report_Moldova_Published.pdf)

<sup>4</sup> Source: [https://www.cms.int/sites/default/files/document/Section%20III%20Annex%20I\\_Republic%20of%20Moldova.pdf](https://www.cms.int/sites/default/files/document/Section%20III%20Annex%20I_Republic%20of%20Moldova.pdf)

<sup>5</sup> Source: [https://www.cms.int/sites/default/files/document/Section%20III%20Annex%20II\\_Republic%20of%20Moldova.pdf](https://www.cms.int/sites/default/files/document/Section%20III%20Annex%20II_Republic%20of%20Moldova.pdf)

<sup>6</sup> Source: <https://www.unep-awea.org/en/document/national-report-republic-moldova-mop7>

- just next to pillar 38, at about 1 km to south-east the SPNA “Steppe sector in Bugeac South” is located near v. Vinogradovca, which is considered to be a core zone of international importance, as a result of steppe habitats’ presence. The zone represents the area of the following species of birds, protected by international treaties: hen harrier (*Circus cyaneus L.*), goshawk (*Accipiter gentilis L.*), sparrow hawk (*Accipiter nisus L.*), common buzzard (*Buteo buteo L.*), common kestrel (*Falco tinnunculus L.*), honey buzzard (*Pernis apivorus L.*), short-toed snake-eagle (*Circaetus gallicus Gm*), Montagu’s harrier (*Circus pygargus L.*), lesser spotted eagle (*Aquila pomarina L.*), golden eagle (*Aquila chrysaetos L.*), lesser eagle (*Hieraaetus pennatus Gm.*), Saker falcon (*Falco cherrug L.*).
- between pillars 42 - 54 OHL is in parallel with the River Salcia Mare, which is crossed just next to pillars 54 - 56. Wetlands/swamps are located here, as well as steppe fields included in the SPNA “Steppe Sector in Bugeac North”, being included in the candidate Emerald site “Bugeac Steppe” (MD0000016), the birds’ list is in Table no. 2.

Hence, Balabanu – Vulcănești Zone (pillars 01 - 85) is of increased attention from the viewpoint of birds’ presence, with a big number of species from such groups as: day predators, aquatic and semi-aquatic species, waders, storks, passerine.

**Table no.2** Estimated bird species in the IBA site "Purcari Etulia" (MD009)

No	Name of species	Number of pairs / individuals	Status	Criteria IBA	SPEC	Red Book of the RM
1	Saker falcon ( <i>Falco cherrug</i> )	5-9p	Nesting	B2	1	CR
2	The red-footed falcon ( <i>Falco vespertinus</i> )	30-40	Nesting	B2	3	VU
3	European roller ( <i>Coracias garrulus</i> )	20-30p	Nesting	B2	2	VU
4	Red-backed shrike ( <i>Lanius collurio</i> )	250-300	Nesting	B2	3	NA
5	Lesser grey shrike ( <i>Lanius minor</i> )	150-180p	Nesting	B2	2	NA
6	Barred Warbler ( <i>Sylvia nisoria</i> )	20-35p	Nesting	B2	N	NA
7	Long-legged Buzzard ( <i>Buteo rufinus</i> )*	2-5p	Resident	B2	3	NA
8	Ortolan bunting ( <i>Emberiza hortulana</i> )	50-60p	Nesting	-	2	NA
9	Western marsh harrier ( <i>Circus aeruginosus</i> )	7-10p	Nesting	-	N	NA
10	Eurasian hobby ( <i>Falco subbuteo</i> )	8-10p	Nesting	-	N	NA

**Table legend:** P = pairs, CR - Critically endangered, VU - Vulnerable, NA - Not rated (data missing), SPEC –Species of European Conservation Concern

\* New nesting species for RM (Baltag and Ajder data 2011)

#### ❖ **Taraclia – Balabanu Zone (pillars 85 - 204)**

- OHL between pillars 85 - 204 goes down to south almost in parallel with IBA candidate “Congaz – Taraclia” (MD008) with distances from OHL up to IBA sites from 100 m up to 6.6 km. This areal includes important species of birds, the list of which is in Table no.3;
- OHL between pillars 133 - 138 cross Ialpușel River which flows in the River Ialpuș in the locality of immediate vicinity, Alexeevca; wetlands are present in the northern and southern part of the OHL, which are included in the SPNA “Steppe Sector in Bugeac North” (Dezghincea), Emerald candidate site “Bugeac Steppe” (MD0000016) , list of birds is provided in Table no.3.;
- the strip located between pillars 169 - 204 and IBA Congaz – Taraclia Lakes is crossed by the Chirsova Mare River Basin where a number of wetlands/swamps are located, Chirsovskoe Lake and other 2 lakes (the names are not known); they are included in the SPNA “Steppe

Sector in Bugeac North” (Dezghincea), Emerald candidate site “Bugeac Steppe” (MD0000016), list of birds is provided in Table no.3;

- to the west of the same section (pillars 169 - 204), at about 3.5 km, Coțofeni Lake is located (Cotovscoe locality).

Hence, Taraclia - Balabanu Zone (pillars 85 - 204) is of increased attention from the viewpoint of birds' presence, with a big number of species from such groups as: day predators, aquatic and semi-aquatic species, waders, storks, night predators, white stork, black stork, passerine.

**Table no.3.** Estimated species of birds in IBA „Congaz – Taraclia” site (MD008) and candidate Emerald side “Bugeac Steppe” (MD0000016)

No	Name of species	Number of pairs / individuals	Status	Criteria IBA	SPEC	Red Book of the RM
1	The red-footed falcon ( <i>Falco vespertinus</i> )	10-16p	Nesting	B2	3	VU
2	Ruddy shelduck ( <i>Tadorna ferruginea</i> )	1-3p	Nesting	B2	3	VU
3	Ortolan bunting ( <i>Emberiza hortulana</i> )	70-90	Nesting	B2	2	
4	Eurasian hobby ( <i>Falco subbuteo</i> )	1-3p	Nesting		N	
5	Red-backed shrike ( <i>Lanius collurio</i> )	50-60p	Nesting		3	
6	Lesser grey shrike ( <i>Lanius minor</i> )	25-40p	Nesting		2	
7	Tundra swan ( <i>Cygnus columbianus</i> ) *	8-14i	HiBerntion		3W	
8	Whooper Swan ( <i>Cygnus cygnus</i> )	6-8i	Migration, HiBerntion		N	VU
9	European roller ( <i>Coracias garrulus</i> )	8-12p	Nesting		2	
10	Barred Warbler ( <i>Sylvia nisoria</i> )	16-24p	Nesting		N	
11	Western marsh harrier ( <i>Circus aeruginosus</i> )	3-8p	Nesting		N	
12	Long-legged Buzzard ( <i>Buteo rufinus</i> )	1-3p	Nesting		3	
13	Peregrine falcon ( <i>Falco peregrinus</i> )	1-2i	Nesting		N	CR
14	Black Stork ( <i>Ciconia nigra</i> )	2-8i	Migration		2	CR
15	White-tailed eagle ( <i>Haliaeetus albicilla</i> )	2-4i	Migration		1	CR
16	Pied avocet ( <i>Recurvirostra avosetta</i> )	300-400i	Migration		N	VU
17	Black-winged stilt 1 ( <i>Himantopus himantopus</i> )	30-60i	Migration		N	VU
18	Red-breasted goose ( <i>Branta ruficollis</i> )	5-10i	Migration, HiBerntion		1W	VU
19	Ruff ( <i>Philomachus pugnax</i> )	160-200i	Migration		2	
20	black-throated divers ( <i>Gavia arctica</i> )	4-8i	HiBerntion		3	
21	Western Osprey ( <i>Pandion haliaetus</i> )	2-4i	Migration		3	CR

**Table legend:** P = pairs, CR - Critically endangered, VU - Vulnerable, NA - Not rated (data missing), SPEC – Species of European Conservation Concern,

\* New nesting species for RM (Baltag and Ajder data 2011)

## **CENTRAL SECTOR**

It covers the zone between Dimitrovca and Taraclia localities (pillars 205 - 328). OHL crosses mainly agricultural fields, vineyards and orchards, pastures and grass meadows. It is important to mention that just next to Dimitrovca locality, at a distance of about 5 km to the south from suggested power line (pillar 328) the SPNA “Steppe Sector in Bugeac North” starts, as well as the candidate Emerald site “Bugeac Steppe” (MD0000016), the list of birds is in Table no.3;

### ❖ **Borogani – Taraclia zone (pillars 205 - 257)**

- OHL route between pillars 224 – 230 is parallel to the lake/pond located in the southern part of Congazcicul de Jos locality placed in the Chirsova Mare River Basin (or near Sadâc locality to the east);
- OHL route between pillars 252 – 255 crosses the wetland/wet meadow, respectively Ialpuș River; some wetlands are present as well to the south of the respective segment of the line;
- to the west of OHL route, between pillars 229 – 257, at a distance of about 13 km, Capaclia Forest is located.

Groups of species to be taken into consideration: aquatic and semi-aquatic species, day predators, white stork, black stork, some passerines.

#### ❖ **Dimitrovca – Borogani zone (pillars 257 - 328)**

- next to OHL between pillars 260 – 264 at about 1 km, there is a pond on the affluent of Ialpușel River;
- another aspect to be considered, especially for big day predators, to the west from OHL between pillars 257 – 268, at about 9 km, the Capaclia Forest is located;
- OHL route between pillars 272 – 274 is located at about 270 m distance from Iazul din Sus which is on Ialpușel River, near Borogani locality; the pond is included in “Steppe Sector in Bugeac North”, candidate Emerald site “Bugeac Steppe” (MD0000016);
- OHL route between pillars 300 – 302 is located at a distance of 200 m from Dezghingea Lake;
- OHL route between pillars 314 – 311 crosses an aquatic zone located in the meadow of Ialpușel Mare River. It seems that in the past, several fishing pools were located in this zone, which are now abandoned and probably represent a refuge for many species of birds. It is important that at the north, as well as at the south, a number of wetlands/swamps are present in the meadow of Ialpușel River, respectively 2 lakes: Cenac and Topala.

Groups of species to be taken into consideration: day predators and white stork, black stork, aquatic and semi-aquatic species, waders, some passerines.

#### ✚ **NORTHERN SECTOR**

Covers the zone between Chisinau mun. (Brăila locality, Băcioi commune) until next to Dimitrovca locality. This sector crosses mainly agricultural fields, vineyards and orchards, as well as pastures and grass meadows.

#### ❖ **Lipoveni – Dimitrovca zone (pillars 328 - 416):**

- OHL route between pillars 355 – 357 crosses Ecaterinovca lake, located in the meadow of Cogâlnic River;
- OHL route between pillars 392 – 395 is located at a distance of about 700 – 800m next to a lake in Hârtop village, Gura Galbenei locality, near Cogâlnic River ();
- OHL route between pillars 408 – 410 is located near a forest strip (800m) next to Gura Galbenei locality.

Groups of species to be taken into consideration: day predators and white stork, black stork, aquatic and semi-aquatic species, some passerines.

#### ❖ **Brăila – Lipoveni zone (pillars 416 - 511):**

- to the west of OHL section between pillars 390 – 446 the SPNA – Landscape reservation “Hâncești Forest” is located, included in the candidate Emerald site “Hâncești Forest” (MD0000019), at a distance of about 6 – 8 km;



- OHL between pillars 416 - 444 goes down to Zloți Forest, the nearest pillar being at a distance of 130 m (pillar 443), and the most distant pillar being at 2,8 km (pillar 416);
- OHL between pillars 444 – 462 crosses agricultural fields on a distance of about 5 km located on a strip between 2 forest bodies: Zloți Forest and Costești Forest; the strip between the 2 forests has a width of 1,3 km;
- OHL between pillars 461 - 462 crosses a forest strip of 300 m;
- next to pillar 484, two wetlands are present at a distance of 200 m and respectively 620 m, situated near Zîmbreni village;
- Ișnovăț river meadow is located at a distance of about 600 m from Chisinau station 330/110/35/kV. OHL between pillars 509 – 510 will cross a river sector of 80 m width (with the meadow); the zone is located at a distance of 460 m from Brăila locality and 320 m from Străisteni.

Groups of species to be taken into consideration: day predators, night predators, white stork, black stork, waders, some passerines.

### 2.5.2 State Protected Natural Areas (SPNA) from OHL construction zone

Total surface of SPNAs in the RM is 189,4 thousand ha (5.64% of the country's territory) and includes 313 natural objects and complexes. The national legal framework (Law No. 1538/1998 on Fund of natural areas protected by State) sets forth 12 categories of SPNAs, out of which 6 categories comply with IUCN classification, 3 categories are national and 2 categories are international importance (Ramsar sites and biosphere reserves). Out of the 313 SPNAs in RM, 66 are included in the IUCN Official List of protected areas. RM has 5 scientific reserves („Codrii”, „Plaiul Fagului”, „Pădurea Domneasca”, „Prutul de Jos”, „Iagorîc”), 1- National Park “Orhei” and 1- biosphere reserve “Prutul de Jos” (UNESCO).

To assess the potential impact on biodiversity, there were considered the protected natural areas already included in the national network and candidate Emerald sites (including IBA) crossed by the power line or located at 10 km on one side and other side of it. Table no. 4. provides for SPNA considered in assessing the impact at the OHL construction stage.

**Table nr. 4.** SPNA considered in assessing the impact at the OHL construction stage

LPA (raion, UTA)	Category of protected area	Name of protected area/ for SPNA – no. of annex from Law No.1538/1998	Place where it is located / including the location in the forest fund	The surface of protected object	Distance from OHL (km)	Possible impact by ESIA
Ialoveni	Landscape reserve	Cărbuna – Annex 5 of the Law No. 1538/1998	Located: between Cărbuna village FF- the forestry district Zloți, Villa Milești-Răzeni, parcels 1-4, 9.	607,00	10,20	There is no potential negative impact.
Ialoveni	Forestry natural reserve	Molești – Răzeni – Annex 4 of the Law No. 1538/ 1998	Located: FF- the forestry district Răzeni, Villa Molești-Răzeni, parcels 30-32; 33	250,70	6,15	There is a potential impact for some bird species
Ialoveni	Forestry natural reserve	Molești – Annex 4 of the Law No. 1538/ 1998	Located: at 2 km south from Molești village, FF- the forestry district Răzeni,	5,00	6,15	There is no potential negative impact.

			Villa Molești-Răzeni, parcel 11, parcel 12.			
<b>Ialoveni</b>	Geological monument of nature	Outcrop Costești – Annex 3 of the Law No. 1538/ 1998	Located: at the north from Costești village, on the left coast of Botna river valley, near the road to Mileștii Mici	1,00	3,71	There is no potential negative impact.
<b>Cimișlia</b>	Geological monument of nature	„Coțofana” Ravine – Annex 3 of the Law No 1538/ 1998	Located: to the east from Gura Galbenei village, FF- the forestry district Zloți, Coțofana, parcel 33,34	10,00	0,63	There is no potential negative impact.
<b>Hîncești</b>	Forestry natural reserve	Villa Caracui – Annex 4 of Law No. 1538/ 1998	Located: FF- the forestry district Bozieni, Villa Caracui, parcel 37	84,00	8,40	Nu există impact potențial negativ
<b>Hîncești</b>	Landscape reserve	Hîncești Forest – Annex 5 of Law no.1538/ 1998.	Located: between Lăpușna and Mereșeni, FF- the forestry district Logănești, parcels 35-37, 42-44; the forestry district Mereșeni, parcels 1-5, 8-13,16-23, 26-31,33-39,41-45	4.499,00	8,40	There is no potential negative impact
<b>UTA Găgăuzia Comrat</b>	Geological monument of nature	Geologic section from Ialpuș River valley – Annex 3 of Law no.1538/ 1998	Located: Comrat city, left slope of Ialpuș River valley; FF- the forestry district Comrat, parcel 34, sub-parcel 11	5,60	5,61	There is no potential negative impact
<b>UTA Găgăuzia Comrat</b>	Aria with multi-functional management/ representative sector with steppe vegetation	Steppe Sector in Bugeac North (Dezghingea) – Annex 7 of Law no. 1538/ 1998	Located: Dezghingea village, 3 km north of the animal complex	15,00	3,45	There is no potential negative impact.
<b>UTA Găgăuzia Comrat</b>	Aria with multi-functional management /representative sector with steppe vegetation	Steppe Sector in Bugeac North – Annex 7 of Law No. 1538/ 1998	Located: Bugeac village at the border with Cimișlia rayon	4,00	3,45	There is a potential impact for some bird species
<b>Cantemir</b>	Botanical monument of nature	Cîietu – Annex 3 of the Law no. 1538/1998	Located: FF- the forestry district Moscovei, parcel 25, sub-parcel 15	4,00	9,15	There is no potential negative impact
<b>Cahul</b>	Geological monument of nature	Fossil site near Moscovei village – Annex 3 of Law no. 1538/ 1998	Located: between villages Moscovei and Dermengi, village Moscovei, FF- parcel 18, sub-parcels 2, 3	10,00	11,05	There is no potential negative impact.
<b>Cahul</b>	Geological monument of nature	Outcrop Tartaul Ravine – Annex 3 of the Law No. 1538/ 1998	Located: at 2 km north from Tartaul de Salcie village, on the left slope of Salcia River	2,00	6,50	There is no potential negative impact
<b>Cahul</b>	Forestry natural reserve	Bolgrad Lyceum – Annex 3 of Law no. 1538/ 1998	Located: near village Frumușica, the forestry district Moscovei, parcel 26	54,00	10,00	There is no potential negative impact.
<b>Cahul</b>	Botanical monument of nature	Borceag – Annex 3 of the Law no. 1538/1998	Located: the forestry district Moscovei, parcel 32, sub-parcel 2; parcel 31	11,30	1,85	There is no potential negative impact.

<b>Taraclia</b>	Geological monument of nature	Mușaitu Ravine – Annex 3 of the Law no. 1538/1998	Located: in the middle part of Musaitu village	5,00	2,75	There is no potential negative impact
<b>Taraclia</b>	Geological monument of nature	Budăi Ravine – Annex 3 of the Law no. 1538/1998	Located: western margin of Budăi village, on the right coast of Salcia River	5,00	6,40	There is no potential negative impact
<b>Taraclia</b>	Aria with multi-functional management /representative sector with steppe vegetation	Steppe Sector in Bugeac South Annex 4 of the Law no. 1538/1998	Located: near village Vinogradovca	50,00	1,00	There is a potential impact for some bird species

### 2.5.3 Emerald Network and Important Bird Areas (IBA) in OHL construction zone

Currently, the RM legislation did not approve the list of Emerald Network and Important Bird Areas (IBA). At the same time, RM is involved, together with NIS and Eastern Europe countries, in implementing the EC and EU Cooperation Programme for establishing the Emerald Network, according the requirements of the Berne Convention and HABITATS Directive, as part of Nature Network 2000 of EU. The 48 Emerald candidate sites, including also the 12 suggested Important Bird Areas, were accepted by the Permanent Committee of the Council of Europe 2016 (T-PVS/PA (2016) 11)<sup>7</sup>.

The map of Important Bird Areas in RM may be found in Figure no. 1.

It should be mentioned that, the draft *Law for amending specific normative acts* is at the stage to be drafted/endorsed, via modification of the Law No. 94/2007 on Ecological Network, for the purpose of establishing the normative framework to set up the Emerald Network, including the fields from this network, the list of protected sites and habitats at the national level and establishing the activities for managing and monitoring the Emerald Network. The draft Law transposes partially the requirements of the HABITATS Directive. According to the mentioned draft Law, the Emerald Network is composed of Special Conservation Areas and Special Bird Protection Areas included in the Emerald site.

Hence, the following has been established as important for the OHL construction stage: 3 – candidate sites for Emerald Network and 4 – Important Bird Areas (IBA)- See Table no. 5. The 400 kV OHL route was diverted to the feasibility stage to avoid direct crossing of the Emerald sites and thus the OHL does not pass directly through these sites, but in their immediate vicinity (Table 5).

**Table no. 5:** Emerald Network candidate sites and Important Bird Areas (IBA) considered at the OHL construction stage

<b>Emerald Network site/ Important Bird Area</b>	<b>Surface (ha)</b>	<b>Distance to OHL route</b>	<b>Observations</b>
<b>Siturile candidate din Rețeaua Emerald</b>			
MD0000016 Bugeac Steppe	49.610,00	200 m - 7 km	Covers the following areas: - State Protected Areas / areas with multifunctional management: Steppe Sector in Bugeac North (Dezghingea), Steppe Sector in Bugeac North, Steppe Sector in Bugeac South - IBAs: MD008 Congaz-Taraclia Lakes, MD009 Purcari-Etulia (partial overlap).

<sup>7</sup> Source: <https://rm.coe.int/pa11e-2021-updated-list-officially-adopted-emerald-sites-final/1680a4be3d>

			Beyond Dimitrivca, power line is parallel with this site up to Vulcănești, on distances that vary between 200 m up to 7 km and the zone located between pillars 54-56 crosses the wetlands included in the site.
MD0000019 Hîncești Forest	11.350,00	6 – 8 km	Covers the following areas: - State protected areas: Hîncești Forest and Caracui Villa - IBA: MD010 Hîncești Forest Located to the west of the power line between pillars 390- 446, at about 6 – 8 km.
MD0000009 Tigheci Forests	6.466,00		Covers IBA: Tigheci Forests Pillars 257-268 are parallel to the site.
<b>Important Bird Areas</b>			
MD009 Purcari-Etulia	55.400,00	crossing	The power line crosses MD009 Purcari-Etulia at Jujnoi (pillar 18).
MD008 Congaz-Tărăclia	3.800,00	100 m - 6,6 km;	OHL is parallel to the site along 35 km.
MD011 Tigheci Forests	4.280,00		Power pillars 257 – 268 are parallel to the site.
MD010 Hîncești Forest	14.400,00	6 – 8 km	Located to the west from the power line between pillars 390-446, at about 6 – 8 km.

#### 2.5.4 National Ecological Network from OHL construction zone

The National Ecological Network of the RM is established based on **Law No. 94/2007 on Ecological Network**. The regime for managing and protecting the national ecological network, established in the law, stipulated in art. 18, para. (2) letter. a) that it is prohibited to build buildings, infrastructure sites, **communication routes** within the perimeter of ecological corridors, as well as other activities which impede or limit animals' natural migration.

The National Program for establishing the national ecological network for 2011-2018 was approved based on GD No. 593/2011, which sets forth actions for establishing the ecological network for the period up to 2018.

De facto, due to certain managerial and financial problems, the implementation of a number of Program actions failed, especially the delimitation and official mapping of Network elements.

The positioning of the project area towards the ecological corridors and core zones in the analyzed area is provided in Figure no. 2.

According to the data from Figure no.2, the OHL route goes near the following zones of the ecological network:

- core zone *Musaitu Ravine*, which coincides with the SPNA – geological monument of nature “*Musaitu Ravine*”, located at about 2.75 km of the OHL;
- core zone *Taraclia accumulation Lake*, located at about 1.9 km of the OHL;
- core zone *Congaz accumulation Lake*, located at about 3.96 km of the OHL;
- core zone *Comrat accumulation Lake*, located at about 3.17 km of the OHL;
- core zone *Dezghingea – Bugeac Steppe*, which coincides with SPNA “*Steppe Sector in Bugeac North (Dezghingea)*”, located at about 3.45 km of the OHL;
- core zone *Cărbuna*, which coincides with SPNA – Landscape reserve “*Cărbuna*”, located at about 10.20 km of the OHL;
- core zone *Molești - Răzeni*, which coincides with SPNA – Forestry natural reserve “*Molești – Răzeni*” located at about 6.15 km of the OHL.

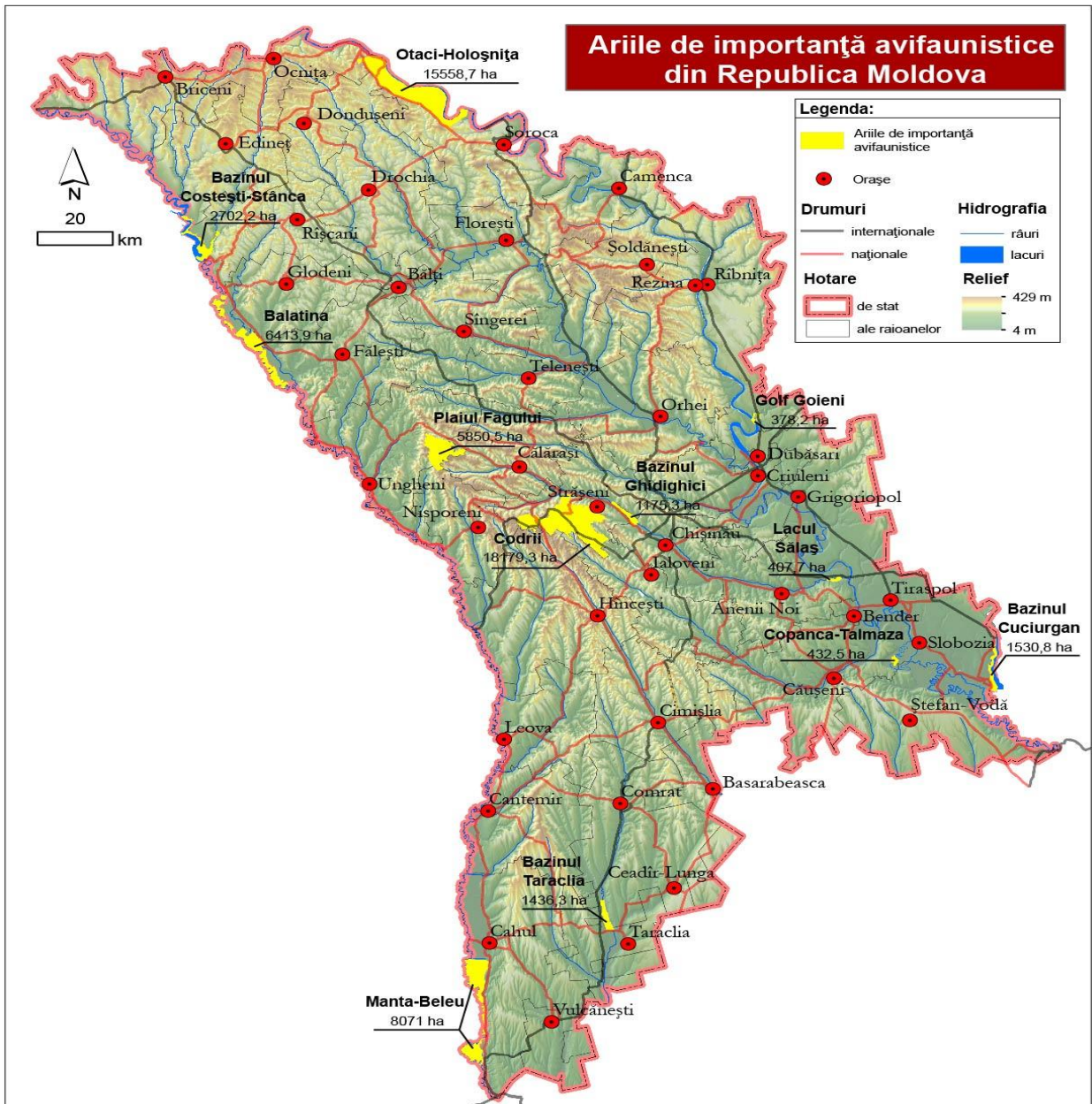


Figure no. 1. The Map of Important Bird Areas in RM



Figure no.2. National Ecological Network in the analyzed area of OHL<sup>8</sup>

## 2.6 Analysis of scientific data on populations of species protected on the RM territory, as compared to the IUCN, AEWA, CMS, BERNE data and establishing the potential impact on these species at the OHL construction stage

### ➤ Assessing the situation regarding the status of birds' species & protection measures in the RM

Due to geographic positioning and the presence of diverse habitats on the territory of the RM, optimal conditions area ensured for a big number of species of birds, many of them being critically endangered, endangered and vulnerable not only on the territory of the RM, but also at the European and world level. Moreover, many characteristic species of birds are at the limit of their areal, being much more vulnerable and endangered than other populations of these species from the RM neighboring states.











<sup>8</sup> Source: Processing by Core Areas of the National Ecological Network. Author AO "Biotica"

**About 14,800 species of animals are reported in the RM. Out of the total number – 281 are species of birds, of which 104 are migratory aquatic species**




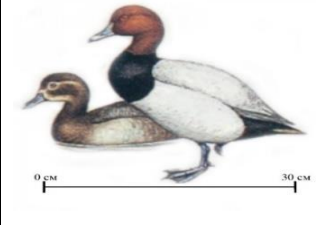










The status of birds' species in the RM, registered at the international level in the Red List of IUCN, sets forth 3 Endangered species, 7 Vulnerable species and 5 Near Threatened species.

Table no. 6 provides for the status of birds' species in the RM included in the IUCN List (IUCN Red list of threatened species of birds<sup>9</sup>), being the most endangered species at the world level.




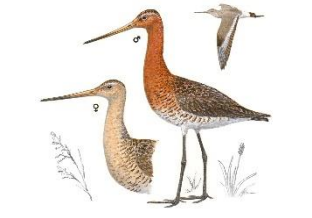


**Table nr. 6.** the status of birds' species in the RM included in the **IUCN List 3.1**

<i>Species/Status of the RB of the RM</i>	<i>Status IUCN</i>	<i>Imaginile Speciei</i>	
<b>Endangered species (EN) according to IUCN</b>			
<p><i>Falco cherrug</i> (Șoim dunărean / Saker Falcon)            Status: Critically Endangered (CR)            Summer guest. In the passage. The population is estimated at 5-10 pairs - nesting.</p>	<p>Extinct      Threatened      Least Concern            EX EW CR EN VU NT LC  <u>Endangered (IUCN 3.1)</u></p>		
<p><i>Neophron percnopterus</i> (Hoitar /Egyptian Vulture)            Status: Critically Endangered (CR)            Population trend: decreasing.</p>	<p>Extinct      Threatened      Least Concern            EX EW CR EN VU NT LC  <u>Endangered (IUCN 3.1)</u></p>		
<p><i>Oxyura leucocephala</i> (Rață-cu-cap-alb/Headed Ducks            Status: Critically Endangered (CR)            In the autumn passage. It is now considered an extinct species</p>	<p>Extinct      Threatened      Least Concern            EX EW CR EN VU NT LC  <u>Endangered (IUCN 3.1)</u></p>		
<b>Vulnerable species (VU) according to IUCN</b>			
<p><i>Anser erythropus</i> (Gârlițamică/Lesser White-fronted Goose)            Status: Vulnerabile (VU)            In the spring passage and in the autumn one, winters 30-90 e.g.</p>	<p>Extinct      Threatened      Least Concern            EX EW CR EN VU NT LC  <u>Vulnerable (IUCN 3.1)</u></p>		
<p><i>Aquila clanga</i> (Great Spotted Eagle)            Status: Critically Endangered (CR)            Very rare. Population trend: decreasing</p>	<p>Extinct      Threatened      Least Concern            EX EW CR EN VU NT LC  <u>Vulnerable (IUCN 3.1)</u></p>		

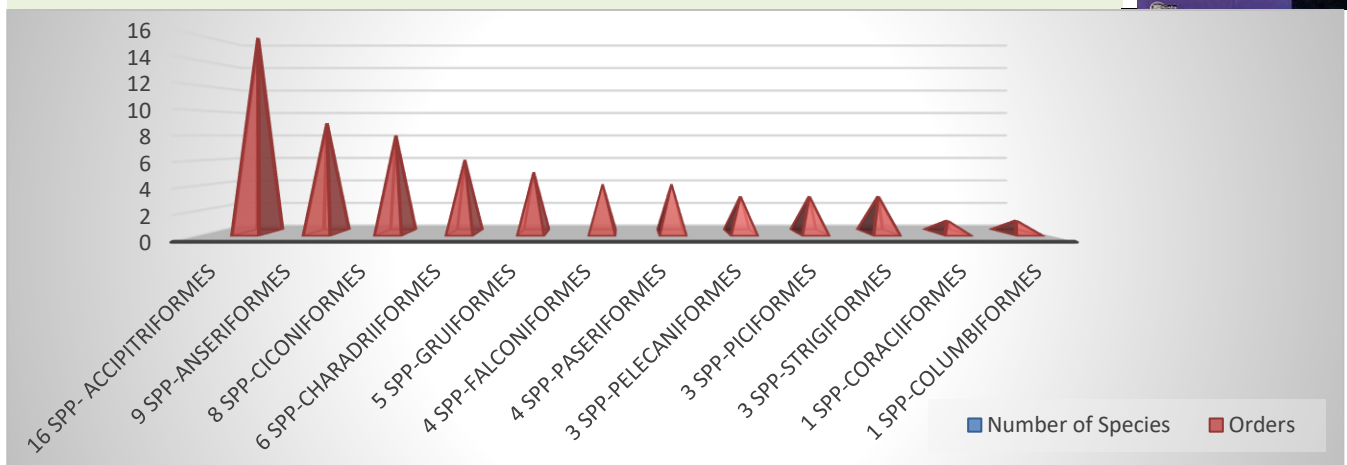
<sup>9</sup> [www.iucnredlist.org](http://www.iucnredlist.org)

<p><b><i>Aquila heliaca</i></b> (Acvilă-de-câmp/ Eastern imperial eagle)            Status: Critic periclitată (CR)            Very rare. Population trend: decreasing</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> NT LC</p> <p><b>Vulnerable (IUCN 3.1)</b></p>		
<p><b><i>Aythya ferina</i></b> (Rață-cu-cap-castaniu/common pochard)            Not included in the RB.            It nests in spring and autumn.            They nest 100-120 pairs,            winter 50-200 ex.</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> NT LC</p> <p><b>Vulnerable (IUCN 3.1)</b></p>		
<p><b><i>Branta ruficollis</i></b> (Gâscă-cu-gât-roșu /Red-breasted Goose)            Status: Vulnerabile (VU)            Very rare. Population trend: decreasing.</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> NT LC</p> <p><b>Vulnerable (IUCN 3.1)</b></p>		
<p><b><i>Falco verspertinus</i></b>            (Vânturelul-de-seara/Red-footed Falcon )            Status: Vulnerabile (VU)            Summer guest, nest. In the passage. The nesting population is estimated at 70-90 pairs</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> NT LC</p> <p><b>Vulnerable (IUCN 3.1)</b></p>		
<p><b><i>Otis tarda</i></b> (Dropie/Great bustard)            Status: Critically Endangered (CR)            Very rare, endangered species.            It no longer nests in the Republic of Moldova.</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> NT LC</p> <p><b>Vulnerable (IUCN 3.1)</b></p>		
<p><b><i>Pelecanus crispis</i></b> (Pelicanul creț/Dalmatian pelican)            Status: Critically Endangered (CR)            Dozens of specimens in the ponds of the lower course of the Prut that appear episodically in summer and autumn after food from the Danube Delta.</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> NT LC</p> <p><b>Vulnerable (IUCN 3.1)</b></p>		
<b>Near Threatened species (NT) according to IUCN</b>			
<p><b><i>Aegypius monachus</i></b>            (Cinereous Vulture)            Not included in the RB.            Accidental species. It does not nest.</p>	<p>Extinct      Threatened      Least Concern</p> <p>EX EW CR EN <b>VU</b> <b>NT</b> LC</p>		



<p><b><i>Anthus pratensis</i></b> (Fâsă de luncă/Water pipit Not included in the RB. Summer guest, nest. In the passage.</p>	<p>Extinct      Threatened      Least Concern EX EW CR EN VU NT LC <b>NT</b> Near Threatened (IUCN 3.1)</p>		
<p><b><i>Limosa limosa</i></b> (Sitar de mal/black-tailed godwit) Not included in the RB. Summer guest, nest. In the passage.</p>	<p>Extinct      Threatened      Least Concern EX EW CR EN VU NT LC <b>NT</b> Near Threatened (IUCN 3.1)</p>		
<p><b><i>Turdus iliacus</i></b> (Sturzul viilor /Redwing) Not included in the RB. In the passage of spring and autumn. Less often a winter guest.</p>	<p>Extinct      Threatened      Least Concern EX EW CR EN VU NT LC <b>NT</b> Near Threatened (IUCN 3.1)</p>		

In the Republic of Moldova there is a list of endangered species, included in the 3rd edition of the Red Book of the Republic of Moldova, published in 2015 and in Law no. 1538/1996 on the Fund of natural areas protected by the state. This red list is much larger than the IUCN Red List, as many species that are common outside of Moldova are rare within its borders. The current edition of the Red Book of the Republic of Moldova includes 62 species of birds from 12 orders (Figure no. 3).



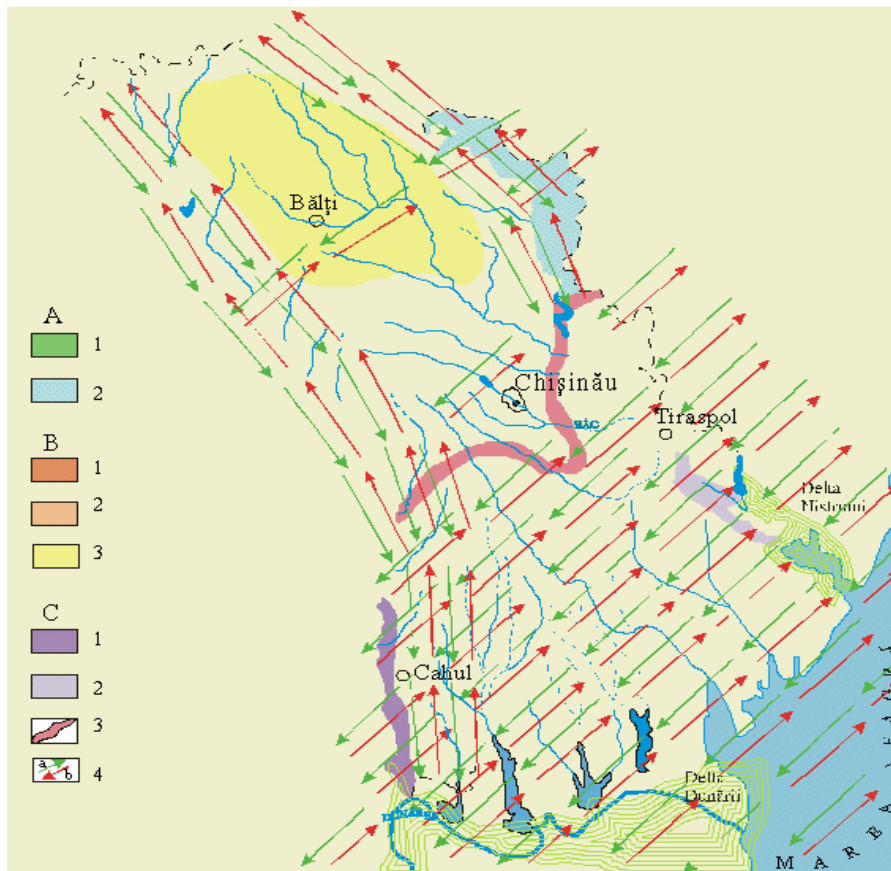
**Figure no.3.** Orders of bird species, included in the 3rd Edition of the RB of the RM (2015)

### ➤ **Birds' migration routes**

RM is crossed by three migration segments: Sarmatic, Pontic and East-Elbic, which represent the main East-European migration ways for wild birds. In the southern part of Moldova, the three routes get intercrossed, hence being the zone registering the most intense migration in the country (Figure no.4). Recent research shows that during this period of time, the lakes in the country host about 23 species of birds, over 40.000 birds/year.

Conclusions: Nearby the OHL construction zone, the situation was established and evaluated for 18 SPNA, of which: 3 areas with multifunctional management, 9 monuments of nature, 2 landscape reserves and 4 forestry natural reserves.

Table no.6 sets forth the data about the SPNA taking into consideration when establishing the impact at the stage of OHL construction, presence of birds' species and possible impact at the construction stage and their images in Figure no.5.



**Figure no.4.** Bird migration routes

The legend: A - Steppe forest area: forest zoogeographic sectors: 1 - Codrii, 2 - Râbnița; B - Steppe area: steppe zoogeographic sectors: 1 - Bugeac, 2 - Tiraspol, 3 - Bălți; C - Interzonal zoogeographic sector: 1 - Lower Prut, 2 - Lower Dniester, 3 - Interzonal boundary, 4 - migratory flow of birds: a) autumn, b) spring

**Table no.6.** Protected natural areas considered when establishing the impact at the construction stage

LPA (Rayon, ATU)	Category of protected area	Name of protected area/ for SPNA – no. of annex from Law No.1538/1998	Surface of protected objects	Distance from OHL (km)	Possible impact at the construction stage Presence of birds' species
Ialoveni	Landscape reserve	Cărbuna – Annex 5 of the Law No. 1538/ 1998 Located: between Cărbuna village and the forestry district Zloți, Villa Milești- Răzeni, parcels 1-4, 9	607,00	10,20	<b><i>There is no potential negative impact.</i></b> Justification: located in the central part of the country, at 35 km south from Chisinau, in the limits of Codrilor Bâcului Plateau, the reserve is of high interest from the viewpoint of diversification of vegetation and habitats – steppe and steppe forests, but does not represent an important zone for given species of birds. There are species of bats, but the distance to the OHL route is over 10 km.
Ialoveni	Forestry natural reserve	Molești – Răzeni – Annex 4 of the Law No. 1538/ 1998	250,70	6,15	<b><i>There is potential impact for certain species of birds.</i></b> Located at 6,15 km from the project area, Molești – Răzeni is an area with

		Located: in the forestry district Răzeni, Villa Molești-Răzeni, parcels 30-32; 33			fundamental natural forests of sessile oak. 49 species of birds are nesting on this territory, out of them 5 species are summer guests, and 8 are migratory species protected by international treaties: Northern goshawk ( <i>Accipiter gentilis</i> ), Eurasian sparrowhawk ( <i>Accipiter nisus L.</i> ), common buzzard ( <i>Buteo buteo L.</i> ), common kestrel ( <i>Falco tinnunculus L.</i> ), European honey buzzard ( <i>Pernis apivorus L.</i> ), lesser spotted eagle ( <i>Aquila pomarina Brehm.</i> ), stock dove ( <i>Columba oenas L.</i> ). It is recommended to monitor permanently the existence and the status of birds' species from this zone at the construction stage.
<b>Ialoveni</b>	Forestry natural reserve	Molești – Annex 4 of the Law No. 1538/ 1998 Located: at 2 km south from Molești village, the forestry district Răzeni, Villa Molești-Răzeni, parcel 11, parcel 12.	5,00	6,15	<b><i>There is no potential negative impact.</i></b> Justification: zone, appointed as protected area for forestry habitats, is located at 6,15 km from the project area.
<b>Ialoveni</b>	Geologic monument of nature	Outcrop Costești – Annex 3 of the Law No. 1538/ 1998 Located: at the north from Costești village, on the left coast of Botna river valley, near the road to Mileștii Mici	1,00	3,71	<b><i>There is no potential negative impact.</i></b> Justification: geologic monument is located on 1 ha to the north of Costești village, on the left side of Botna River valley, near the road to Mileștii Mici.
<b>Cimișlia</b>	Geologic monument of nature	„Coțofana” Ravine – Annex 3 of the Law No 1538/ 1998 Located: to the east from Gura Galbenei village, FF- the forestry district Zloți, Coțofana, parcel 33,34	10,00	0,63	<b><i>There is no potential negative impact.</i></b> Justification: fauna complex from this paleontological site may be attributed to the fauna complex with hipparion of turolian type from Western Europe. A rich complex of fossil mammals was discovered here.
<b>Hîncești</b>	Forestry natural reserve	Villa Caracui – Annex 4 of Law No. 1538/ 1998. Located: the forestry district Bozieni, Villa Caracui, parcel 37	84,00	8,40	<b><i>There is no potential negative impact.</i></b> Justification: forest located at 8,40 km from the project zone is dominated by oak species. There were registered as well mixing species: pedunculated oak ( <i>Quercus robur</i> ), tatarian maple ( <i>Acer tataricum</i> ), cherry ( <i>Cerasus avium</i> )
<b>Hîncești</b>	Landscape reserve	Hîncești Forest – Annex 5 of Law no.1538/ 1998. Located: between Lăpușna and Mereșeni, the forestry district Logănești, parcels 35-37, 42-44; the forestry district Mereșeni, parcels 1-5, 8-13,16-23, 26-31,33-39, 41-45	4.499,00		<b><i>There is no potential negative impact.</i></b> Hîncești Forest is dominated by species of oak and has a major landscape importance. The presence of rare species of birds is not established.
<b>UTA Găgăuzia Comrat</b>	Geological monument of nature	Geologic section from Ialpuș River valley – Annex 3 of Law no.1538/ 1998 Located: Comrat city, left slope of Ialpuș River valley, the forestry district Comrat, parcel 34, sub-parcel 11	5,60	5,61	<b><i>There is no potential negative impact.</i></b> Justification: located at 4 km to the north of Comrat city on the left slope of Ialpuș River valley, is considered to be the benchmark paleontological geological location of the Upper Myocene from the south of the RM. The presence of rare species of birds is not established.
<b>UTA Găgăuzia Comrat</b>	Aria with multi-functional	Steppe Sector in Bugeac North (Dezghingea) – Annex 7 of Law no. 1538/ 1998	15,00	3,45	<b><i>There is potential impact for certain species of birds.</i></b>

	management/ representative sector with steppe vegetation	Located: Dezghingea village, 3 km north of the animal complex			Justification: continental steppes located at 3,45 km from the project zone shelter a number of species of about 23 species of summer guests, which may be affected by the presence of power lines, especially, via collision or electrocution. It is recommended to permanently monitor the existence and status of species of birds in this zone.
<b>UTA Găgăuzia Comrat</b>	Aria with multi- functional management/ representative sector with steppe vegetation	Steppe Sector in Bugeac North – Annex 7 of Law No. 1538/ 1998 Located: Bugeac village at the border with Cimișlia rayon	4,00	3,45	<b><i>There is potential impact for certain species of birds.</i></b> About 18 species of birds make their nests on this territory, out of which 5 migratory species, and 12 species are observed in RM for feeding short flies (summer trophic migrations). Some of these species – hen harrier ( <i>Circus cyaneus L.</i> ) are included in the RB of the RM. It is recommended to monitor permanently the existence and status of these species of birds in this zone.
<b>Cantemir</b>	Botanical monument of nature	Cîietu – Annex 3 of the Law no. 1538/ 1998 Located: the forestry district Moscovei, parcel 25, sub-parcel 15	4,00	9,15	<b><i>There is no potential negative impact.</i></b> Justification: forest situated at 9.15 km from the project zone represents a forest sector of oak with cherry, with secular common oaks ( <i>Quercus robur</i> ). The presence of rare species of birds is not established.
<b>Cahul</b>	Geological monument of nature	Fossil site near Moscovei village – Annex 3 of Law no. 1538/ 1998 Located: between villages Moscovei and Dermengi, village Moscovei, parcel 18, sub-parcels 2, 3	10,00	11,05	<b><i>There is no potential negative impact.</i></b> Justification: presents a scientific interest due to presence of Pliocene alluvial deposits, which contain important fossils of some representatives which are characteristic and significant for the fauna complex. The presence of rare species of birds is not established.
<b>Cahul</b>	Geological monument of nature	Outcrop Tartaul Ravine – Annex 3 of the Law No. 1538/ 1998 Located: at 2 km north from Tartaul de Salcie village, on the left slope of Salcia River	2,00	6,50	<b><i>There is no potential negative impact.</i></b> The outcrop Tartaul Ravine is considered to be a benchmark geological location of etulia clays and a layer of coal with crude sulfur crystals, needing a detailed study. Several powerful sources of drinking water are located on the territory of the protected area. The presence of rare species of birds is not established.
<b>Cahul</b>	Forestry natural reserve	Bolgrad Lyceum – Annex 3 of Law no. 1538/ 1998 Located: near village Frumușica, the forestry district Moscovei, parcel 26	54,00	10,00	<b><i>There is no potential negative impact.</i></b> Justification: forestry habitats located at 10,00 km from the project zone include valuable natural-fundamental stands of downy oak ( <i>Quercus pubescens</i> ) and grayish oak ( <i>Quercus pedunculiflora</i> ), characteristic for forests from the southern of Moldova. The presence of rare species of birds is not established.
<b>Cahul</b>	Botanical monument of nature	Borceag – Annex 3 of the Law no. 1538/ 1998 – Annex 3 of the Law no. 1538/1998	11,30	1,85	<b><i>There is no potential negative impact.</i></b> Justification: forestry habitats located at 1,85 km from the project zone are prevailed by species of downy oak

		Located: the forestry district Moscovei, parcel 32, sub-parcel 2; parcel 31			<i>(Quercus pubescens)</i> and grayish oak <i>(Quercus pedunculiflora)</i> . The presence of rare species of birds is not established.
<b>Taraclia</b>	Geological monument of nature	Muşaitu Ravine – Annex 3 of the Law no. 1538/1998 Located: in the middle part of Musaitu village	5,00	2,75	<b><i>There is no potential negative impact.</i></b> Musaitu Ravine is located in Musaitu village, on the right slope of Salcia Mare River. The main criteria for which the location in Musaitu Ravine was declared monument of nature are the marine clay deposits with fruits, seeds and fossilized leave prints of different plants and brown coal lenses. The presence of rare species of birds is not established.
<b>Taraclia</b>	Geological monument of nature	Budăi Ravine – Annex 3 of the Law no. 1538/1998 Located: western margin of Budăi village, on the right coast of Salcia River	5,00	6,40	<b><i>There is no potential negative impact.</i></b> Budăi Ravine is located at the western margin of Budăi village, on the right side of Salcia Mare River. The main criteria for which the location in Budăi Ravine was declared monument of nature are the old alluvial deposits of Inferior Pliocene, containing skeletal remains of reptiles and mammals. The presence of rare species of birds is not established.
<b>Taraclia</b>	Aria with multi-functional management/ representative sector with steppe vegetation	Steppe Sector in Bugeac South Annex 4 of the Law no. 1538/1998 Located: near village Vinogradovca	50,00	1,00	<b><i>There is potential impact on certain species of birds</i></b> Because the zone represents the area of the following species of birds, protected at the national level and international treaties: hen harrier ( <i>Circus cyaneus L.</i> ), Northern goshawk ( <i>Accipiter gentilis L.</i> ), Eurasian sparrowhawk ( <i>Accipiter nisus L.</i> ), common buzzard ( <i>Buteo buteo L.</i> ), common kestrel ( <i>Falco tinnunculus L.</i> ), European honey buzzard ( <i>Pernis apivorus L.</i> ), short-toed eagle ( <i>Circus gallicus Gm.</i> ), Montagu's harrier ( <i>Circus pygargus L.</i> ), lesser spotted eagle ( <i>Aquila pomarina L.</i> ), golden eagle ( <i>Aquila chrysaetos L.</i> ), booted eagle ( <i>Hieraetus pennatus Gm.</i> ) and especially: <b>saker falcon (<i>Falco cherrug L.</i>)</b> , it is recommended to permanently monitor the existence and status of birds' species from this zone at the construction stage.

**Figure no.5.** Imagines of the SNPA from the LEA construction area

Steppe Sector in Bugeac South	Hînceşti Forest
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Zona de stepa a Republicii Moldova!

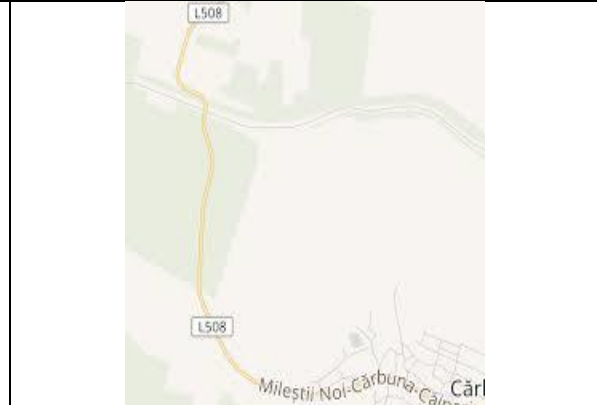
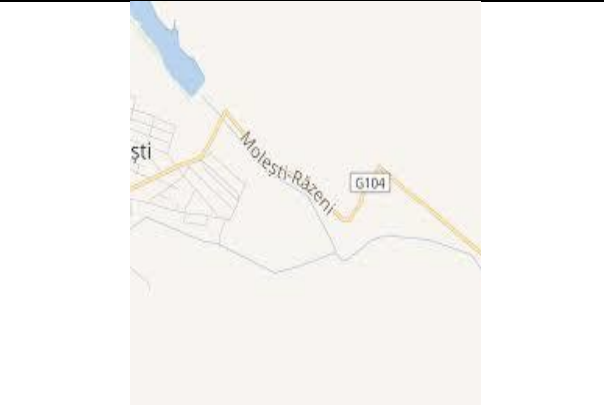
Așezarea geografică

- Ocupă partea de Sud a teritoriului Republicii Moldova.



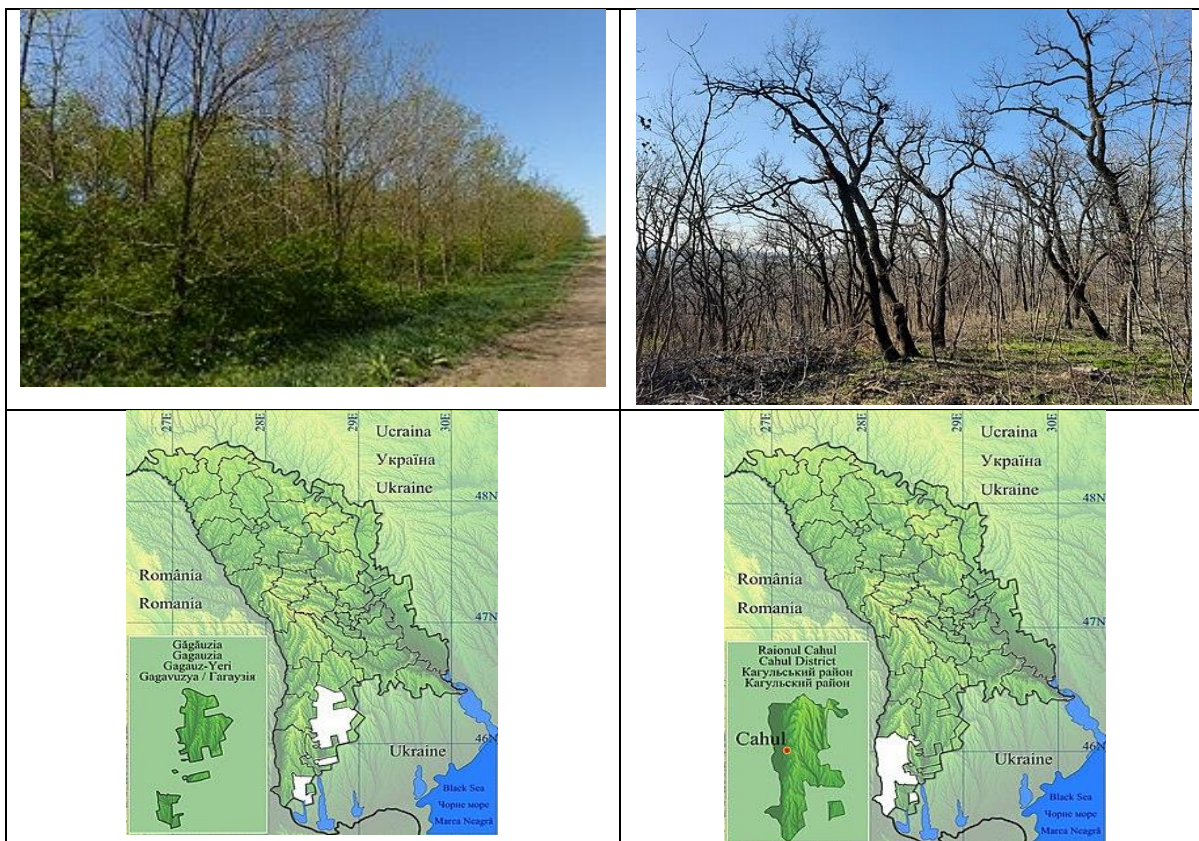
Forestry natural reserve „Molești-Rezeni”

Landscape reserve „Cărbuna”



Forestry natural reserve „Liceul Bolgrad”

Monument of nature „Borceag”



Analyzing the bird species present in the RM in relation to the study area and the existing data on the impact of power lines on them resulted in a list of species that may be affected by the implementation of the project LEA400 kV Vulcanesti - Chisinau. These species with their legal protection status at national level - RC of the Republic of Moldova 3rd edition and at international level according to IUCN, Bern, Bonn (SCM), CITES and the Birds Directive are presented in Annexes no.1 and no. 2.

### 3 AVIAN RISK MONITORING PROGRAM

*Monitoring aim:* to verify/evaluate the impact on the initial characteristics of habitats and birds' species on the OHL location area and the possible impact during the construction period.

#### 3.1 Methods of data collection and analysis for monitoring bird species and their habitats

Data collection and analysis was performed for the OHL route, using the following methods:

- Analysis of the final route of the OHL and examination of the data established by the project documentation and feasibility studies;
- Examination of the National Reports on Bird Species prepared by the RM and submitted to Secretariats of treaty's CMS and AEWA (prepared on the basis of official data from the Institute of Zoology) and overlapping data with data from LEA studies and documentation (ESIA and SEIB).
- Analysis of data on bird species in the HABITATS Directive and the BIRDS Directive, for species identified in the field;
- Assessment of key places /areas occupied by bird habitats in relation to the type of ecosystem (aquatic, forestry, steppe, etc.), present in the perimeter of the OHL site and in their vicinity.
- Analysis of the data from the Cadastre of the animal kingdom related to the targeted areas.
- Interviews with representatives of the Environment Agency, responsible for maintaining the cadastre and monitoring of the animal kingdom: some data and information were collected through direct contact with these representatives and scientists.

#### 3.2 Assessment of key places/areas occupied by bird habitats in relation to the type of ecosystem, in the perimeter of the OHL sites and in their vicinity

The OHL traverses mostly agricultural lands and meadows, but also some areas with valuable habitats for bird species, such as lakes/ponds, steppe habitats, forest curtains, etc. For this reason, the impact assessment was carried out on an area of 10 km on both sides of the OHL route, taking into account the protected natural areas in the area and the requirements for the protection of migratory bird species.

Near the construction area of the OHL were established and evaluated the situation for the main areas and locations for monitoring bird species and their habitats, presented in Table no.6.

**Table no. 6.** Locations and species that were monitored on the OHL route

Area	Location	Species/groups of species that may be affected
Brăila-Lipoveni	Near the forests of Zloți and Costești	Predators, owls, black storks
Lipoveni - Dimitrovca	Crossing Lake Ecaterinovca	Waterfowl, storks, crows, egrets
Dimitrovca - Borogani	Wetlands crossing (near Cenac village)	Ciconiide (Ciconiiforme), berze, cocostârci, egrete
	Almost 200 m from Lake Dezghincea	Waterfowl, storks, crows, egrets
Borogani - Taraclia	The lake below the village of Congazcicul de Jos	Waterfowl, storks, crows, egrets
The southern part of the OHL	Along the IBA Congaz Lakes - Taraclia Cross the IBA Purcari - Etulia	Waterfowl, pelicans, black and white, storks, predators, geese, Saker falcon







In order to identify the sensitive / target species, the area of which is widespread in the construction area of the OHL, the data from:



- National and species-specific reports of bird species, submitted by the Republic of Moldova to the CMS and AEWA Secretariats;
- Official information on the evidence and Cadastre of bird species, prepared by the Institute of Zoology (IZ);
- Data on the inventory of ANPS, within the project (GEF) and UNDP Moldova: “Strengthening the Institutional Capacities and Effectiveness of the Management of the Protected Areas System in Moldova”, carried out in the period 2009-2013;
- Data from the ANPS Cadastre, prepared by the Institute of Ecology and Geography;
- Available bibliographic sources on the state of biodiversity and protected natural areas on the territory of the Republic of Moldova;
- Data from ESIA and SEIB, other information of experts on bird species in Moldova.

The main species of endangered birds, the area of which extends near the construction area of the OHL, especially in the steppe area of Bujac (ANPS: "Molești-Rezeni", "The steppe sector in the north of Bugeac" and "Sector of steppe in the south of Bugeac ”), are: Northern goshawk (*Accipiter gentilis L.*) Eurasian sparrowhawk (*Accipiter nisus L.*), common buzzard (*Buteo buteo L.*), common kestrel (*Falco tinnunculus L.*), European honey buzzard (*Pernis apivorus L.*), short-toed eagle (*Circaetus gallicus Gm*), hen harrier (*Circus cyaneus L.*), Montagu’s harrier (*Circus pygargus L.*), lesser spotted eagle (*Aquila pomarina L.*), golden eagle (*Aquila chrysaetos L.*), booted eagle (*Hieraaetus pennatus Gm.*), saker falcon (*Falco cherrug L.*), red-footed falcon (*Falco vespertinus*) and stock Dove (*Columba oenas L.*), their protection status and image being shown in Figure no.6.

**Figure no. 6.** Endangered bird species with the area near the OHL construction area

<b>Booted eagle (<i>Hieraaetus pennatus L.</i>)</b>		<b>Lesser spotted eagle (<i>Aquila pomarina L.</i>)</b>	
<b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b> It is a species that prefers as a habitat not very dense forest bodies, interspersed with open meadows. It nests.		<b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b> As a habitat, it prefers nesting forests and pastures / meadows and agricultural lands for feeding.	
<b>Golden eagle (<i>Aquila chrysaetos L.</i>)</b>		<b>Saker falcon (<i>Falco cherrug L.</i>)</b>	
<b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b> It is a species that prefers a habitat with not very dense wooded areas, flat areas and hilly and rocky pastures.		<b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b> It is a species that prefers as a habitat illuminated forest bodies and rocky slopes and on the electric pillars in the southern part of the RM.	
<b>European honey buzzard (<i>Pernis apivorus</i>)</b>		<b>Short-toed eagle (<i>Circaetus gallicus</i>)</b>	
<b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b> As a habitat, it prefers deciduous and mixed forests and river meadows, hayfields and agricultural lands for food. It migrates from the RM in September.		<b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b> It nests in trees and rocks. Its favorite food is snakes, even venomous ones.	
<b>Montagu’s harrier (<i>Circus pygargus L.</i>)</b>		<b>Hen harrier (<i>Circus cyaneus L.</i>)</b>	

<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>It is a species that prefers wetlands. It can also be found in steppes, agricultural lands. It nests in wetlands.</p>		<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>As a habitat, it prefers meadows / pastures, but also swampy areas, agricultural lands. Winter in open areas</p>	
<b>Common buzzard (<i>Buteo buteo L.</i>)</b>		<b>Common kestrel (<i>Falco tinnunculus L.</i>)</b>	
<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>As a habitat, it prefers forests, plains, pastures / meadows and agricultural lands.</p>		<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>It nests in bright habitats, such as pastures or farmland, orchards. It can also nest in localities.</p>	
<b>Northern goshawk (<i>Accipiter gentilis</i>)</b>		<b>Sparrowhawk (<i>Accipiter nisus L.</i>)</b>	
<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>As a habitat, it prefers forests with large meadows and adjacent open spaces, plains, meadows bordered by hedges, swamps and lakes with forested banks.</p>		<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>It is a widespread species in hilly forests and very rarely in low altitude areas. It occurs more frequently in winter</p>	
<b>Red-footed falcon (<i>Falco vespertinus</i>)</b>		<b>Stock Dove (<i>Columba oenas L.</i>)</b>	
<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>As a habitat, it prefers forests with large meadows and orchards near the rivers. Summer species, it nests in the Republic of Moldova.</p>		<p><b>Status: RB of the RM, CITES (Annex II), Bird Directive (Annex I), Bern Convention (Annex II), CMS (Annex II)</b></p> <p>Summer bird. They make their nests in tree hollows and holes in the limestone walls of rivers or use nesting nests.</p>	

### 3.3 Monitoring the birds' species in the field of the OHL

The monitoring of the bird species in the territory was organized in the period: end of December-beginning of March, so that it was possible to evaluate only the winter birds (sedentary and migratory birds wintering on the RM territory).

The data were collected with a necessary frequency to capture the essential aspects of species' biology, during the periods which ensure the biggest volume of information relevant for research.

Hence, several visits were organized in the field to monitor the birds' species, which are wintering in the study area, by applying the fixed-point method combined with the transects' method. For the birds' species from aquatic habitats (lakes, ponds) only the fixed-point method was used.

As for the daytime period, the evaluation was organized between 10 and 15 o'clock, when there is sufficient light for a good identification of species and precise counting. Every observation was carried out in favor of key habitats and species, and afterwards the secondary ones.

For a better identification of species, especially in case of water bodies (lakes, ponds), the binocular of type (FU7x50FMTRSX2) was used.

Figure no.7. shows the images regarding the examination of the land of the forest and aquatic ecosystems in the OHL area, by the monitoring team with the help of binoculars, as well as images regarding the meetings with the representatives of the forestry authorities from the territory.

**Figure no.7. Images of monitoring activities, by observation, in the field of the OHL**



The monitoring sheets (a total of 14), with information on the observations on birds in the construction area of the OHL are set out in Tables no. 7-12.

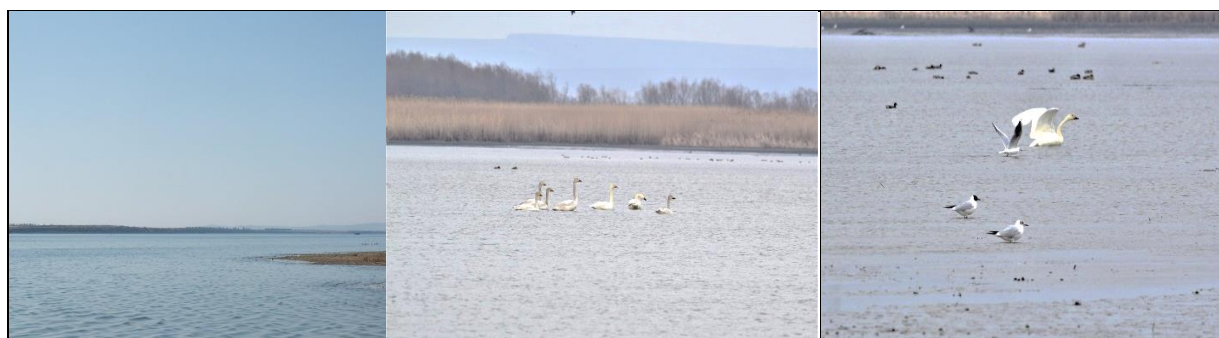
**Table no. 7. Monitoring of bird species in the Vulcănești - Balabanu-Taraclia OHL Area (between pillars 01 - 205)**

**Sheet no.1.** for the monitoring of bird species in the **Lake Cahul** (part of the RM)

Type of ecosystem			Acvatic cu stufărișuri		
Estimated distance to the object under construction			12 km		
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 12.12.2021  From hour 10:00 to hour 11:00	Scattered clouds, light breeze T, + 6 <sup>o</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> )- 150 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -20 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa 60 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
		Black-headed gull ( <i>Chroicocephalus ridibundus</i> –150 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
Date: 09.01.2022	Frosty, weak moderate wind	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 20 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated

From hour 9:30 to hour 10:30	T, - 5 <sup>0</sup>	Whooper swan- <i>Cygnus cygnus</i> - 20 ex.	On water Quiet behavior	No risk	The risk was not estimated
Date: 27.02.2022 From hour 9:30 to hour 10:30	Frosty, weak moderate wind T, + 9 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> )-96 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> - 2 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Black-headed gull ( <i>Chroicocephalus ridibundus</i> ) – 100 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa - 10 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated

**Figura no.8.** Lake Cahul, during the observation period



**Sheet no.1** for the monitoring of bird species in Lake Congaz

Type of ecosystem		Aquatic ecosystem with reeds			
Estimated distance to the object under construction		6, 6 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 14.12.2021 From hour 12:00 to hour 13:30	Slightly cloudy sky, weak moderate wind T, + 6 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> )-150 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> - 4 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa 50 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
		Coots (gen. <i>Fulica</i> ) -120 ex.	On the water and in flight over the lake	No risk	The risk was not estimated
23.01.2022	Frosty, T, - 5 <sup>0</sup>	No birds were observed. Frozen lake.			
Date: 25.02.2022 From hour 11:30 to hour 13:00	Frosty, weak moderate wind T, + 9 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 30 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -2 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Coots (genus <i>Fulica</i> ) -60 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated

**Figura nr.9.** Congaz Lake, during the observation period



**Sheet no.2** for the monitoring of bird species in the *Taraclia accumulation Lake*

Type of ecosystem			Aquatic ecosystem with reeds		
Estimated distance to the object under construction			12 km		
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 12.12.2021 From hour 9:00 to hour 10:00	Slightly cloudy sky, weak moderate wind, T, +6 <sup>o</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck <i>Anas platyrhynchos</i> ) - 4ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa 30 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
22.01.2022	Frosty, vînt slab, T - 5 <sup>o</sup>	No birds were observed. Frozen lake.			
27.02.2022 From hour 9:30 to hour 10:30	Weak moderate wind, T, + 9 <sup>o</sup>	Ducks, genus <i>Anas</i> and <i>Anser</i> - 30 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -2 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Coots (gen. <i>Fulica</i> ) -20 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated

**Figura no.10.** Taraclia accumulation Lake, during the observation period



**Table no. 8.** Monitoring of bird species in the *Taraclia-Borogani OHL Area (between pillars (206 - 256))*

**Sheet no.4** for the monitoring of bird species in the *Congazcic Lake*

Type of ecosystem			Aquatic ecosystem with reeds		
Estimated distance to the object under construction			600 m		
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions

Date: 12.12.2021 From hour 12:00 to hour 13:30	Slightly cloudy sky, weak moderate wind T, + 6 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) și <i>Anser</i> -60 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -4 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Wild geese	Flying in flocks (without passage)	No risk	The risk was not estimated
22.01.2022	Frosty T - 5 <sup>0</sup>	No birds were observed. Frozen lake.			
Date: 27.02.2022 From hour 11:30 to hour 13:00	Frosty, weak moderate wind T, + 9 <sup>0</sup>	Ducks, genus <i>Anas</i> and <i>Anser</i> - 30 ex.	On the water and in flight over the lake	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -2 ex.	On water Quiet behavior	No risk	The risk was not estimated

**Figura nr.11.** Congazcic Lake, during the observation period



**Table no. 9.** Monitoring of bird species in the *Borogani - Dimitrovca* OHL Area (between pillars 257 – 328)

**Sheet no.5** for the monitoring of bird species in the *Dezghincea Lake*

Type of ecosystem		Aquatic ecosystem with reeds			
Estimated distance to the object under construction		3,45 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 12.12.2021 From hour 12:00 to hour 13:30	Slightly cloudy sky, weak moderate wind T, + 6 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 40 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -4 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Wild geese, 60 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
22.01.2022	Frosty, T- 5 <sup>0</sup>	No birds were observed. Frozen lake.			
Date: 26.02.2022 From hour 9:30 to hour 11:00	Frosty, weak moderate wind T, + 7 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 10 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -2 ex.	On water Quiet behavior	No risk	The risk was not estimated

**Figura no.12.** Dezghincea Lake, during the observation period



**Table no. 10.** Monitoring of bird species in the *Borogani -Dimitrovca OHL Area (between pillars 257 – 328)*

**Sheet no.6** for the monitoring of bird species in the *Javgur Lake, from the Ialpuș River (located near Javgur Village)*

Type of ecosystem		Aquatic ecosystem with reeds			
Estimated distance to the object under construction		4, 35 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 14.12.2021 From hour 12:00 to hour 13:30	Slightly cloudy sky, weak moderate wind T, + 6°	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 80 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -4 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa 50 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
		Cormorants (Cormoran mare- <i>Phalacrocorax carbo</i> ) -2 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
23.01.2022	Frosty, T - 5 °	N-au fost semnalate păsări pe lac înghețat.			
Date: 26.02.2022 From hour 11:30 to hour 13:00	Frosty, weak moderate wind T, + 7°	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 20 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> - 2 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Cormorants (Cormoran mare- <i>Phalacrocorax carbo</i> ) -2 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Coots (gen. <i>Fulica</i> ) -10 ex.	On the water and in flight over the lake	No risk	The risk was not estimated

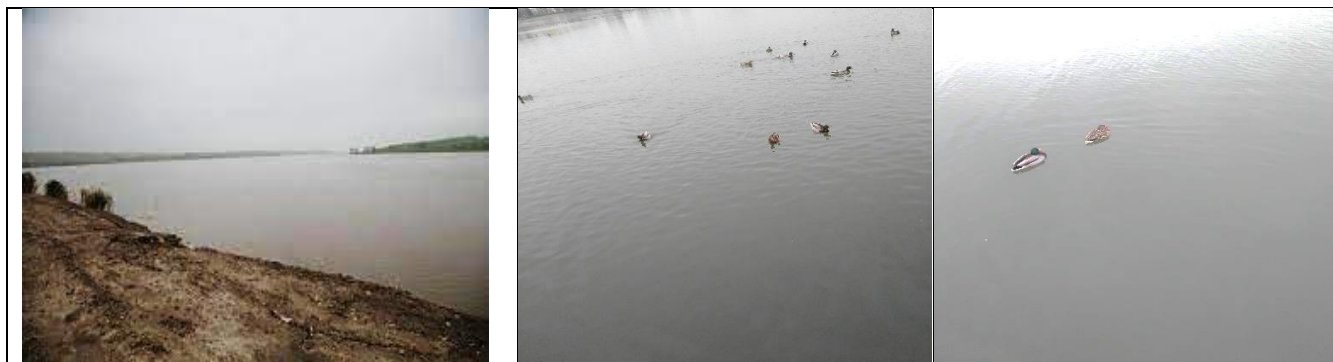
**Figura no.13.** Javgur Lake, during the observation period



**Sheet no.7** for the monitoring of bird species in the *Topala Lake*

Type of ecosystem		Aquatic ecosystem with reeds			
Estimated distance to the object under construction		4, 35 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. Populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 14.12.2021 From hour 14:00 to hour 15:30	Slightly cloudy sky, weak moderate wind T, + 6 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 80 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -4 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa 50 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
		Cormorants (Cormoran mare- <i>Phalacrocorax carbo</i> ) -2 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
24.01.2022	Frosty, T - 5 <sup>0</sup>	No birds were observed. Frozen lake			
Date: 26.02.2022 From hour 13:30 to hour 15:00	Frosty, weak moderate wind T, + 9 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 20 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> -2 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Coots (gen. <i>Fulica</i> ) 160 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated

**Figura no.14.** Topala Lake, during the observation period



**Sheet no.8** for the monitoring of bird species in the *Capaclia Forest (part of the "Codrii Tigheci" Landscape Reserve)*

Type of ecosystem		Forest ecosystem			
Estimated distance to the object under construction		8,5 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date 19.12.2021 From hour 10:30 to hour 13:00	Cloudless, Frosty, wet, T, + 2 <sup>0</sup>	Great tit ( <i>Parus major</i> ) – 3 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Big tits -2 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated
Date 20.02.2022 From hour 11:00 to hour 14:00	Cloudless, Frosty, wet, T +12 <sup>0</sup>	Song thrush ( <i>Turdus philomelos</i> )– 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated

**Figura no.15.** Capaclia Forest, during the observation period





**Table no. 10.** Monitoring of bird species in the *Dimitrovca – Lipoveni OHL Area (between pillars 328 - 416)*

*Sheet no.9* for monitoring the bird species from *Lake Ecaterinovca, from the meadow of Cogâlnic district*

Type of ecosystem			Aquatic ecosystem with reeds		
<i>Estimated distance to the object under construction</i>			Travesează lacul		
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
Date: 14.12.2021 From hour 12:00 to hour 13:30	Slightly cloudy sky, weak moderate wind T, + 6 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck <i>Anas platyrhynchos</i> ) - 80ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Wild geese, circa 50 ex.	Flying in flocks (without passage)	No risk	The risk was not estimated
16.01.2022	T, - 6 <sup>0</sup>	No birds were observed. Frozen lake			
Date: 25.02.2022 From hour 11:30 to hour 13:00	Frosty, weak moderate wind T, + 9 <sup>0</sup>	Ducks, genus <i>Anas</i> (especially the Great Duck - <i>Anas platyrhynchos</i> ) - 20ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated
		Whooper swan- <i>Cygnus cygnus</i> - 2 ex.	On water Quiet behavior	No risk	The risk was not estimated
		Cormorants (Cormoran mare- <i>Phalacrocorax carbo</i> ) -2 ex.	On the water and in flight over the lake Quiet behavior	No risk	The risk was not estimated

**Figura no.16.** Ecaterinovca Lake, during the observation period



**Table no.12.** Monitoring of bird species from the *Lipoveni Brăila OHL Area (pillars 417 - 511)*

*Sheet no.10* for monitoring the bird species from *Hâncești Forest (part of the “Hâncești Forest” Landscape Reserve)*

Type of ecosystem			Forest ecosystem		
<i>Estimated distance to the object under construction</i>			7.3 km		
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions

21.12.2021 From hour 10:00 to hour 13:00	Cloudless, Frosty, wet, T, + 2 <sup>o</sup>	Long-tailed tit ( <i>Aegithalos caudatos</i> ) -2 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Eurasian nuthatch ( <i>Sitta europaea</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 20 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated
24.02.2022 From hour 10:00 to hour 13:00	Cloudless, Frosty, wet, T, + 12 <sup>o</sup>	Song thrush ( <i>Turdus philomelos</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated

**Figura no.17.** Hâncești Forest, during the observation period



**Sheet no. 11** for monitoring bird species in *Vila Caracui Forest (part of the "Vila Caracui" Forest Nature Reserve)*

Type of ecosystem		Forest ecosystem			
Estimated distance to the object under construction		8 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
22.12.2021 From hour 10-00 to hour 13-00	Cloudless, Frosty, wet, T, + 2 <sup>o</sup>	Long-tailed tit ( <i>Aegithalos caudatos</i> ) -2 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Eurasian nuthatch ( <i>Sitta europaea</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 20 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated
25.02.2022 From hour 10-00 to hour 13-00	Cloudless, Frosty, wet, T, + 12 <sup>o</sup>	Song thrush ( <i>Turdus philomelos</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated

**Figura no.18.** Vila Caracui, during the observation period



**Sheet no. 12.** for monitoring the bird species from *Vila Molești-Rezeni Forest (part of the “Molești” Forest Nature Reserve and the “Molești-Rezeni” Landscape Reserve)*

Type of ecosystem		Forest ecosystem			
Estimated distance to the object under construction		2 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
22.12.2021 From hour 10-00 to hour 13-00	Cloudless, Frosty, wet, T, + 2 <sup>0</sup>	Long-tailed tit ( <i>Aegithalos caudatos</i> ) -2 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Eurasian nuthatch ( <i>Sitta europaea</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 20 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated
25.02.2022 From hour 10-00 to hour 13-00	Cloudless, Frosty, wet, T, + 12 <sup>0</sup>	Song thrush ( <i>Turdus philomelos</i> ) – 1 ex.	On the tree. In search of food..	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated

**Figura no.19.** Vila Molești-Rezeni Forest, during the observation period



**Sheet no.13** monitoring of bird species in the *Forest Zloți*

Type of ecosystem		Forest ecosystem			
Estimated distance to the object under construction		2 km			
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. Populations	Activity / Behavior of birds	Estimated risks	Conclusions
22.12.2021 From hour 10-00 to hour 13-00	Cloudless, Frosty, wet, T, + 2 <sup>0</sup>	Common blackbird ( <i>Turdus merula</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Great spotted woodpecker ( <i>Dendrocopos major</i> ) -1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated
25.02.2022 From hour 10-00 to hour 13	Cloudless, Frosty, wet, T, + 12 <sup>0</sup>	Gray press ( <i>Emberiza calandra</i> ) – 1 ex.	On the tree. In search of food.	No risk	The risk was not estimated
		Field Sparrow ( <i>Passer montanus</i> ) - 25 ex.	At the edge of the forest, on fruit bushes.	No risk	The risk was not estimated

**Figura nr.20.** Pădurea Zloți, during the observation period



**Sheet no.13** monitoring of bird species in the **Forest Costești**

Type of ecosystem			Forest ecosystem		
Estimated distance to the object under construction			5 km		
Date/time of observations	Meteorological conditions	Bird species (or family / genus) and no. populations	Activity / Behavior of birds	Estimated risks	Conclusions
22.12.2021 From hour 13-00 to hour 15-00	Cloudless, Frosty, wet, T, + 1 <sup>0</sup>	Western jackdaw ( <i>Coloeus monedula</i> ) -2 ex.	On the tree. In search of food.	No risk	Common species, not at risk
		Eurasian jay ( <i>Garrulus glandarius</i> ) -1 ex.	On the tree. In search of food.	No risk	Common species, not at risk
		Field Sparrow ( <i>Passer montanus</i> ) - 30 ex.	At the edge of the forest, on fruit bushes.	No risk	Common species, not at risk
25.02.2022 From hour 13-30 to hour 15-00	Cloudless, Frosty, wet, T, + 12 <sup>0</sup>	Gray press ( <i>Emberiza calandra</i> ) – 1 ex.	On the tree. In search of food.	No risk	Common species, not at risk
		Field Sparrow ( <i>Passer montanus</i> ) - 25 ex.	At the edge of the forest, on fruit bushes.	No risk	Common species, not at risk

**Figura no.21.** Costești Forest, during the observation period



Conclusion: It is important to continue the period of additional study in the field during the entire construction period for monitoring the status of birds' species. The data shall be collected with necessary frequency to capture the essential aspects of species' biology during the period of time which would ensure the biggest volume of information relevant for research, especially during the birds' migration periods in spring and autumn time. All the observations will be carried out in favor of key habitats and species, and afterwards the secondary ones.

## 4 AVIAN RISK MITIGATION PLAN

For the purpose of assessing the impact on birds' species in the OHL construction zone, especially in the localities estimated with high risk of electrocution and collision, the following zone of special monitoring interest were established for the habitats of birds' species critically endangered, endangered and vulnerable, according to the RM legislation and IUCN:

- Water bodies: Ecaterinovca lake, Dezghincea lake, the lake down to Congazcicul de Jos; two ponds in Zâmbreni village;
- SPNA from the forestry fund: forests from Hîncești, Ialoveni, Cahul, Cimișlia; ATU Găgăuzia;
- Candidate Emerald sites: Bugeac Steppe (Dezghingea), Hîncești and Tigheci forests;
- IBA candidates: Purcari-Etulia, Congaz-Taraclia lakes;




### 4.1 Assessing the electrocution risk

Up to 32 birds' species were identified in the analyzed zone, which may be subject to electrocution risk. 12 of them have the status of *Critically endangered (CR)*, and 1 – endangered (EN) and 3 – vulnerable (VU) according to their status of rarity in the RM (Red Book, 3<sup>rd</sup> edition), the list and image of which are provided in Table no.13, and other species have the status of low concern (LC), being mainly some common species for RM.

A lot of electrocutions on the designed high voltage line may occur during the periods with unfavorable weather conditions, during the spring migration and autumn migration time, as a result of the electrical arc formation, when the birds intend to stay on lines or pillars. To limit the mortality risk, as a result of the electrocution during these periods, it is necessary to undertake measures to reduce the impact, hence ensuring observance of environmental and biodiversity conservation conditions imposed by international treaties and set forth in the national legislation.

The species of birds with special protection status, included in the CR of the RM (3rd Edition), susceptible to being electrocuted, are exposed in Table no. 13.

**Table no.13.** Species of birds with special protection status, included in the RB of the RM (3rd Edition), likely to be electrocuted

Species name Latin / Romanian / English			Accidents caused by electric shock, according to CMS and NABU	Image of bird species
<i>Critically endangered species (CR)</i>				
<i>Aquila pomarina</i>	Acvila tipatoare mica	Lesser spotted eagle	II	
<i>Aquila clanga</i>	Acvila tipatoare mare	Greater spotted eagle	II	
<i>Aquila chrysaetos</i>	Acvila de munte	Golden Eagle	II	

<i>Asio flammeus</i>	Ciuf de câmpie	Short-eared owl	III	
<i>Ciconia nigra</i>	Cocostatrc negru	Black Stork	III	
<i>Circaetus gallicus</i>	Șerpar	Short-toed snake eagle	III	
<i>Circus pygargus</i>	Eretele sur	Montagu Harrier	III	
<i>Falco cherrug</i>	Șoim dunărean	Saker falcon	III	
<i>Falco peregrinus</i>	Șoim calator	Peregrine Falcon	II-III	
<i>Haliaeetus albicilla</i>	Codalb	White-tailed eagle	III	
<i>Pandion halialetterus</i>	Uliganul pescar	Osprey	III	
<i>Hieraaetus pennatus Gm.</i>	Acvila pitica	Booted eagle	II-III	
<i>Endangered species (EN)</i>				
<i>Pernis apivorus.</i>	Viespar	European honey buzzard	0-I	
<i>Vulnerable species (VU)</i>				
<i>Ciconia ciconia</i>	Cocostatrc alb	White Stork	III	
<i>Falco verspertinus</i>	Vânturelul-de-seara	Red-footed Falcon	II-III	
<i>Milvus nigrans</i>	Gaie bruna	Black kite	III	

Legend: 0 = no accident data, but species are listed in various bibliographic sources as being susceptible to electrocution. I = reported accidents, but not an obvious threat to bird populations. II = many accidents at local or regional level, but which do not have a significant impact on the general population of species III = accidents are a major factor in mortality; it can lead to the extinction of the species at the regional level or on a larger scale. CR - critically endangered, VU - Vulnerable, EN - endangered, NA - no data available

The species exposed in Table no. 14 have a very rare or rare presence on the territory of the RM, often with a short stay, during their migration period, being included in the Annexes of Law no. 439/1995, also have IUCN status - with law concern (LC).

**Table no.14.** Rare bird species, with special protection status according to Law no. 1538/1998 and Law 439/1995, which could be electrocuted

Species name Latin / Romanian / English			Accidents caused by electric shock, according to CMS and NABU	Image of bird species
<i>Accipiter brevipes</i>	Uliu cu picioare scurte	Levant Sparrowhawk	0	
<i>Aegypius monachus</i>	Vultur negru	Cinereous vulture	0	
<i>Asio otus</i>	Ciuf de padure	Long-eared owl	0	
<i>Athene noctua</i>	Cucuveaua comuna	Little Owl	0-I	
<i>Buteo buteo</i>	Sorecar comun	Common Buzzard	III	
<i>Buteo lagopus</i>	Sorecar incaltat	Rough-legged Buzzard	III	
<i>Buteo rufinus</i>	Șorecar mare	long-legged buzzard	III	
<i>Corvus corax</i>	Corb	Common Raven	0	
<i>Falco columbarius</i>	Șoimuleter de iarna	Merlin	II-III	
<i>Falco subbuteo</i>	Șoimul rândunelelor	Eurasian Hobby	II-III	
<i>Falco tinnunculus</i>	Vânturelul roșu	Common Kestrel	II-III	
<i>Gyps fulvus</i>	Vultur sur	Griffon vulture	0	
<i>Otus scops</i>	Ciuf pitic	Eurasian scops owl	0	
<i>Strix uralensis</i>	Huhurezul mare	Ural owl	0	

Conclusion: The majority of electrocutions on the designed high voltage line may occur during the periods with unfavorable weather conditions, during the spring migration and autumn migration time, as a result of the electrical arc formation, when the birds intend to stay on lines or pillars. To limit the mortality risk, as a result of the electrocution during these periods, it is necessary to undertake measures to reduce the impact during the entire construction period, hence ensuring observance of environmental and biodiversity conservation conditions/policies imposed by international conventions.

## 4.2 Assessing the collision risk








Taking into account that the suggested high voltage line is positioned perpendicularly to the birds' migration way, the analysis of the fields near the OHL, could not exclude none of the birds' species susceptible to collision, even though for some of them the produced impact may be low with no significant negative effects for birds' populations.

The data from the following sources were analyzed:

- National reports to treaties: CMS and AEWA;
- International results/research regarding species and their risk for collision with high voltage line;
- Biological and behavioral characteristics of species susceptible to collision with high voltage line as related to OHL placement.


Hence, there were identified up to 162 birds' species, which may suffer due to collision with high voltage lines, at a higher or lower scale, with additional 29 species considered to be accidental, rare or very rare for the RM. Out of this number, 15 species are critically endangered, 4 are endangered and 16 are vulnerable, according to their status in the RM (Red Book). It is considered to detail the possible impact for the following species: great white pelican (*Pelecanus onocrotalus*), Dalmatian pelican (*Pelecanus crispus*), black stork (*Ciconia nigra*), saker falcon (*Falco cherrug*) and European roller (*Coracias garullus*). The list of bird species susceptible to the risk of collision are mentioned in Table no.15 (included in the RB of the RM) and Table no.16 (included in Law no.1538/1998).

**Table no.15.** Species of birds with special protection status, included in the RB of the RM (3rd Edition), susceptible to increased risk of collision

Species name Latin / Romanian / English		Accidents caused by electric shock, according to CMS and NABU	Image of bird species	Species name Latin / Romanian / English
<i>Critically endangered species (CR)</i>				
<i>Aquila pomarina</i>	Acvila tipatoare mica/ Lesser spotted eagle	Toate habitatele și terenurile	II	
<i>Aquila clanga</i>	Acvila tipatoare mare/ Greater spotted eagle	Toate habitatele și terenurile	II	
<i>Aquila chrysaetos</i>	Acvila de munte/ Golden Eagle	Toate habitatele și terenurile	II	
<i>Aythya nyroca</i>	Rață-roșie/ Ferruginous Duck	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Ardea alba</i>	Stârc- alb/ Great egret	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Asio flammeus</i>	Ciuf de câmpie/ Short-eared owl	Habitat forestier, păduri deschise	0	
<i>Ciconia nigra</i>	Cocostatrc negru/ Black Stork	Habitat acvatic și palustic, alte terenuri	III	



<i>Circaetus gallicus</i>	Șerpar/ Short-toed snake eagle	În apropierea habitatelor forestiere, alte habitatele și terenuri	II	
<i>Circus cyaneus</i>	Erete vînat/ Hen harrier	Habitat forestier, alte habitatele și terenuri	II	
<i>Circus pygargus</i>	Eretele sur/ Montagu Harrier	Toate habitatele și terenurile	II	
<i>Columba oenas</i>	Stock dove	Toate habitatele și terenurile	0	
<i>Falco peregrinus</i>	Șoim calator/ Peregrine Falcon	Toate habitatele și terenurile	II	
<i>Falco cherrug</i>	Șoim dunărean/ Saker falcon	Toate habitatele și terenurile	II	
<i>Haliaeetus albicilla</i>	Codalb/ White-tailed eagle	În apropierea habitatelor forestiere	II	
<i>Pandion halialetterus</i>	Uliganul pescar/ Osprey	În apropierea habitatelor forestiere	II	
<i>Pelecanus crispis</i>	Pelicanul creț/ Dalmatian pelican	Habitat acvatic, alte zone wete	II-III	
<i>Platalea leucorodia</i>	Lopătar/ Eurasian spoonbill	Habitat acvatic, alte zone wete	II	
<i>Plegadis falcinellus</i>	Țigănuș/ Glossy ibis	Habitat acvatic, alte zone wete	0	
<i>Hieraaetus pennatus Gm.</i>	Acvila pitica/ Booted eagle	În apropierea habitatelor forestiere	II	
<i>Endangered species (EN)</i>				
<i>Ardeola ralloides</i>	Stârc galben/ Guacco heron	În apropierea habitatelor acvatice, alte zone wete	0	
<i>Crex crex</i>	Cristel de camp/ Corncrake	În apropierea habitatelor acvatice, alte zone wete	II	
<i>Dryocopus martius</i>	Ciocanitoare neagra/ Black Woodpecker	În apropierea habitatelor forestiere, alte habitatele și terenuri	I-II	
<i>Pelecanus onocrotalus</i>	Pelicanul comun/ Great whine pelican	Habitat acvatic, alte zone wete	II-III	
<i>Pernis apivorus.</i>	Viespar	European honey buzzard	0-I	
<i>Vulnerable species (VU)</i>				
<i>Anser anser</i>	Gâsca de vară/ Greylag goose	În apropierea habitatelor acvatice, altor zone wete	II	

<i>Anser erythropus</i>	Gârliță mică/ Lesser White-fronted goose	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Ardea purpurea</i>	Stârc- roșu/ Purple Heron	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Botaurus stellaris</i>	Buhai-de-baltă/ Eurasian Bittern	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Branta ruficollis</i>	Gâscă-cu-gât-roșu/ Red-breaster goose	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Ciconia ciconia</i>	Cocostatrc alb	În apropierea habitatelor acvatice, altor zone wete	III	
<i>Coracias garrulus</i>	Dumbrăveanca/ European roller	În toate habitatele	II	
<i>Cygnus olor</i>	Lebăda-de-vară/ Mute swan	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Cygnus Cygnus</i>	Lebăda-albă/ Sworn swan	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Dendrocopos medius</i>	Ciocănițoarea pestriță mijlocie/ Middle Spotted Woodpecker	În apropierea habitatelor forestiere, pașiștilor	I-II	
<i>Falco verspertinus</i>	Vânturelul-de-seara	În toate habitatele	II	
<i>Milvus migrans</i>	Gaiie bruna/ Black kite	În toate habitatele	II	
<i>Netta rufina</i>	Rață-cu-ciuf/ Red-crested pochard	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Himantopus himantopus</i>	Piciorong/ Black-winged stilt	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Recurvirostra avosetta</i>	Ciocîntors/ Pied avocet	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Tadorna feruginea</i>	Călifar-roșu/ Ruddy shelduck	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Tadorna tadorna</i>	Călifar-alb/ Shelduck	În apropierea habitatelor acvatice, altor zone wete	0	

**Table no.16.** Rare bird species, with special protection status according to Law no. 1538/1998 and Law 439/1995 or international treaties, susceptible susceptible to increased risk of collision

Species name Latin / Romanian / English	Accidents caused by electric shock, according to CMS and NABU	Image of bird species	Species name Latin / Romanian / English
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<i>Anas crecca</i>	Rața mica/ Green-winged Teal	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Anas clypeata</i>	Rața lingurar/ Northern Shoveler	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Anas querquedula</i>	Rața cârâitoare/ Garganey	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Anas penelope</i>	Rața fluierătoare/ Eurasian wigeon	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Anas platyrhynchos</i>	Rața comună/ Common Mallard	În apropierea habitatelor acvatice, altor zone wete	II	
<i>Anas strepera</i>	Rața pestriță/ Gadwall	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Dendrocopos leucotos</i>	Ciocănițoarea cu spate alb/ White-backed woodpecker	În apropierea habitatelor forestiere, pajiștilor	I-II	
<i>Dendrocopos siriacus</i>	Ciocănițoarea de grădină/ Syrian Woodpecker	În apropierea habitatelor forestiere, pajiștilor	I-II	
<i>Egretta alba</i>	Egretă albă/ Great Egret	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Egretta garzetta</i>	Egretă mică/ Little Egret	În apropierea habitatelor acvatice, altor zone wete	0	
<i>Falco columbarius</i>	Șoimuleț de iarnă/ Merlin	În toate habitatele	II	
<i>Gyps fulvus</i>	Vultur sur/ Griffon vulture	În apropierea habitatelor forestiere, pajiștilor	II	
<i>Grus grus</i>	Cocor/ Common crane	În toate habitatele	III	

The number of species which may be victims of collision shows that magnitude of the impact induced by a poorly designed high voltage line, with no measure to reduce the impact. Imposing measures to reduce impact for these species will cover/ ensure the protection for the rest of migratory, nesting or sedentary species in the analyzed area – birds' species may become victims of collision with high, medium and low voltage lines.

### 4.3 Assessing the risk for habitat loss

OHL 400 kV needs to consider a protection corridor made of land plot and air space limited by vertical plans, by both sides of the electricity distribution line from the marginal conductors without deviations. This distance is 30 m and fits directly the requirements of the *Regulation for protection of electricity network*, approved by GD No. 514/2002.

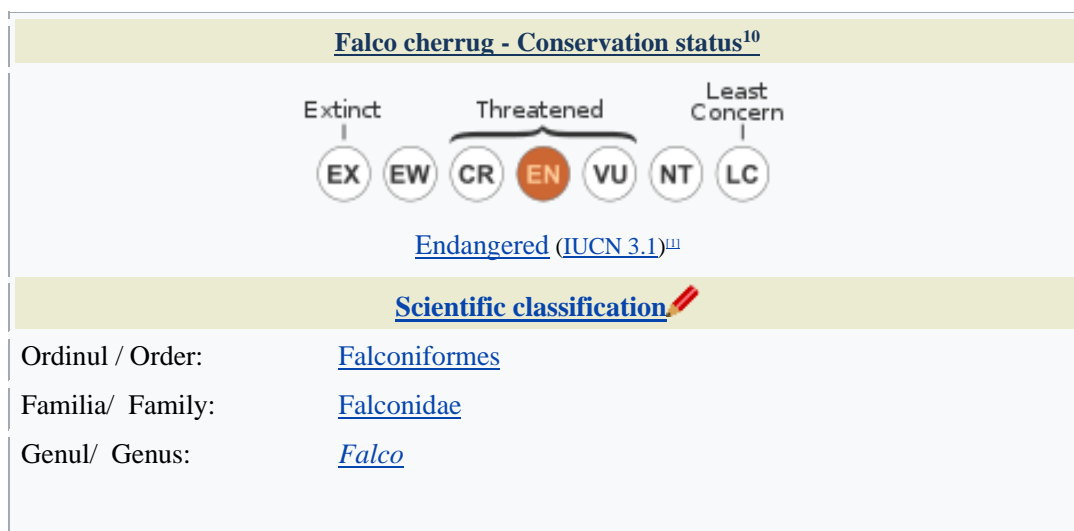
This means that there is a land corridor of 75m, 30m by each side of the marginal conductors and afterwards the space between the marginal conductors of pillars (1 m or 15.5 m), which will represent the habitats affected directly and indirectly. The main type of affected field is the agricultural land plot – about 64% - agricultural habitats, other fields used for vineyards or orchards together under the category of "other fields" (including steppe, meadow and pasture habitats) represent about 20% of affected fields (habitats). The measures suggested for reducing the risk of electrocution and collision of birds are provided in Table no. 17.

**Table no. 17.** Recommended measures to reduce the risk of electrocution and collision of birds

<b>Zone</b>	<b>Location (including SPNA, Emerald Site; IBA, FF)</b>	<b>Families /Genus of target species that may be affected</b>	<b>Estimated risk</b>	<b>Measures suggested to mitigate the impact</b>
<b>Zone between pillars 01–84 Vulcănești - Balabanu</b>	<b>SPNA</b> “Steppe Sector in Bugeac North” <b>IBA</b> Purcari – Etulia Emerald Site „Bugeac Steppe”	<i>Fam. Falconiformes</i> (hawks especially <i>saker falcon</i> ) <i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Accipitridae</i> (eagle, short-toed eagle, harrier, buzzard); <i>Order Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices to reduce the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 01 – 84, - Devices for protecting birds against electrocution in the air pockets and on the external phase.
<b>Zone between pillars 85–204 Balabanu-Taraclia</b>	<b>SPNA</b> Steppe Sector in Bugeac North” , Emerald site “Bugeac Steppe”; <b>IBA</b> „Congaz – Taraclia”	<i>Fam. Falconiformes</i> (hawks, especially saker falcon), <i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Accipitridae</i> (eagle, short-toed eagle, harrier, buzzard); <i>Order Passeriformes</i> (a big number of common species).	Electrocution Collison	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 85 – 205, - Devices for protecting birds against electrocution in the air pockets and on the external phase.
<b>Zone between pillars 205 – 257 Taraclia - Borogani</b>	<b>SPNA</b> “Steppe Sector in Bugeac North”, Emerald site “Bugeac Steppe” Wetland zone in the southern part of the locality Congazcicul de Jos (Chirsova Mare river district) and Ialpuș river. Lake Congazcic.	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Ciconidae</i> (stork); <i>Order Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 205 – 257, - Devices for protecting birds against electrocution in the air pockets and on the external phase.
<b>Zone between pillars 258 – 327 Borogani - Dimitrovca</b>	<b>Emerald site:</b> “Bugeac Steppe” Lake Dezghincea. Wetland zone: Iazul din Sus located on Ialpușel river, v. Borogani, 2 lakes: Cenac and Topala. Forest body: Forest Capaclia	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose);	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 258 – 327.

		<i>Fam. Ciconidae</i> (stork); <i>Order Passeriformes</i> (a big number of common species)		- Devices for protecting birds against electrocution in the air pockets and on the external phase.
<b>Zone between pillars 328 – 416</b>  <b>Dimitrovca - Lipoveni</b>	SPNA Geological monument of nature “Coțofana” Ravine , crossing the lake Ecaterinovca, Cogâlnic river. Crossing Ișnovăț Valley Forest body: Zloți.	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (duck, goose, white-fronted goose); <i>Order Passeriformes</i> (a big number of common species)	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 10 m on the line between pillars 328 – 354 and a distance of 25 m between pillars 355- 416, - Devices for protecting birds against electrocution in the air pockets and on the external phase.
<b>Zone between pillars 417 – 511</b> <b>Lipoveni Brăila</b>	SPNA: Landscape reserves „Caracui” and „Hâncești Forest”. Natural Forestry reserve „Molești”, „Molești – Răzeni”, „Vila Caracui” , Emerald site, 2 ponds near village Zâmbreni, Forest bodies: Hîncești, Costești and Zloți.	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Accipitridae</i> (eagle, short-toed eagle, harrier); <i>Order Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 417 – 509, - Devices for protecting birds against electrocution in the air pockets and on the external phase.

With special reference to **Saker falcon (*Falco cherrug*)** – according to the IUCN Red List, the saker falcon (*Falco cherrug*) has a conservation status as endangered species (EN).



According to the data from BirdLife International 2015, based on information from scientific article: Zubcov Nicolai, Munteanu Andrei, Crudu Vasillii, Bogdea Larisa, Sochircă Natalia. [On the State of Rare and Endangered Diurnal Birds of Prey in Moldova](#), ASM Bulletin. Science of Life. No. 1 (322), 2014<sup>11</sup>, *Falco cherrug* is a summer guest, which is nesting here in the passage, and the nesting population is estimated only for 5-10 pairs.

According to the mentioned research, it is estimated that the entire population of *Falco cherrug* is nesting in IBA Site “Purcari-Etulia”. Recent research shows that the majority of pairs are nesting in the south-western part of the site, the area where the OHL starts. According to data, the collision risk of the species

<sup>10</sup> BirdLife International (2017). "*Falco cherrug*". *IUCN Red List of Threatened Species*. 2017: e.T22696495A110525916. doi:10.2305/IUCN.UK.2017-1.RLTS.T22696495A110525916.en. Retrieved 12 November 2021.

<sup>11</sup> Source for article publication: [https://ibn.idsi.md/sites/default/files/imag\\_file/On%20the%20state%20of%20rare%20and%20endangered%20diurnal%20birds.pdf](https://ibn.idsi.md/sites/default/files/imag_file/On%20the%20state%20of%20rare%20and%20endangered%20diurnal%20birds.pdf)

may provoke a significant impact in the area of intense migration of the species, but does not affect generally its population.

In this situation, for the entire period of OHL construction, a monitoring is imposed for the OHL segment “IBA Purcari –Etulia”, in order to exclude any impact on this species and other endangered species, included in the RB of RM, 3d edition.

The measures suggested for reducing the risk of electrocution and collision of birds of the *Falco cherrug* species are provided in Table no.17.

**Table no. 17.** Specific measures to reduce risks for *Falco cherrug* species

Zone	Location	Risks	Measures suggested for reducing the risk on the species
Southern part of OHL <b>Zone: between pillars 01 – 205</b>	IBA Purcari – Etulia	Injuries and deaths caused by electrocution and collision lead to reducing the level of population; disturbances during the construction period	<ol style="list-style-type: none"> <li>1. Installing special devices to reduce the risk for birds: <ul style="list-style-type: none"> <li>- Alarms for birds, positioned at a distance of 20 - 25 m,</li> <li>- Devices for birds’ protection against electrocution in air pockets and on the external phase.</li> </ul> </li> <li>2. Installing pillars <b>01 – 205</b>, outside the nesting period (March – July)</li> <li>3. In case of building the OHL in the segment of pillars <b>01 – 205</b>, it will not be possible to avoid during the resting and nesting period of the species on the RM territory, hence it is necessary to have an expert present to monitor the status of the species and to diminish the impact.</li> <li>4. It is recommended to develop a leaflet with the image and description of the species and measures to avoid the impact and to disseminate to OHL builders.</li> </ol>

***More detailed information about the Saker falcon -Falco cherrug species - and about the installation of artificial nests for this species and other species of predators, is presented in Annex no.4.***

#### **4.4 Constructions/devices suggested for reducing impact of birds’ electrocution/collision**

Birds’ electrocution on high voltage lines and accidents caused by electrocution are still at a high level. The literature provides for the following causes of incidents:

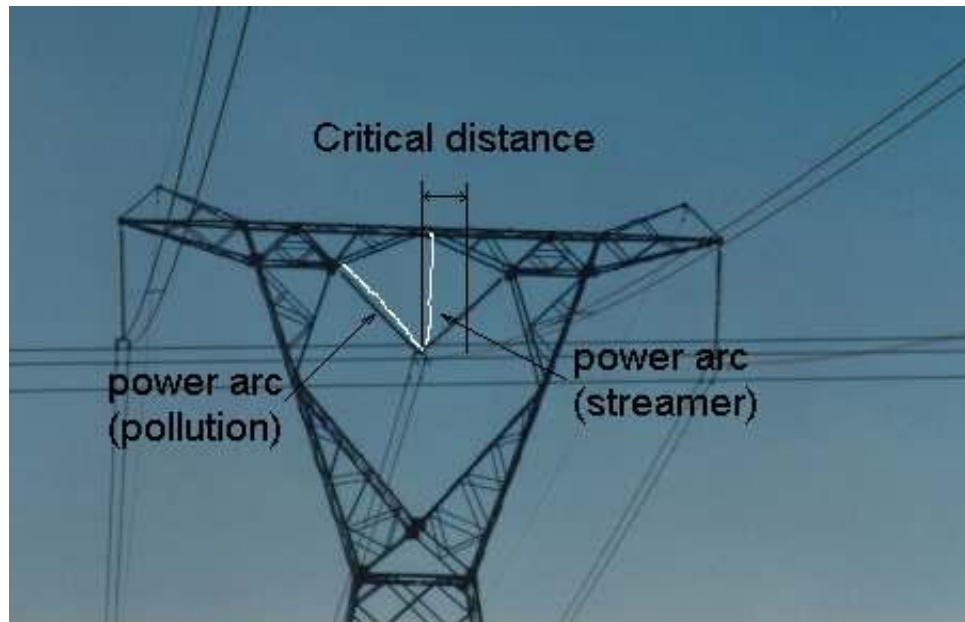
- relatively small distances between under-voltage elements and grounded metallic elements;
- birds’ fast flight, which cannot avoid the OHL;
- birds’ flight in fog;
- birds’ flight in flocks,
- nests on pillars, provoking short circuits (e.g. majority of storks’ nests are on OHL pillars),
- nests located directly on non-insulated conductors, provoking short circuits and corrosions of conducts due to acid nature of excrements, and the nests hinder the maintenance works.

The pillar design plays a major role in the accidents related to birds’ electrocution.

The vertically configured designs, with an ample space of perforation on the upper part of the pillar, away from folded arms, register fewer accidents as compared to the models which are horizontally configured. The reason would be the fact that in case of the last ones, the birds go relatively closer to the conductors, hence increasing the voltage risk. While in case of the first ones, depending on the design, the birds use first of all the available space from the upper part of the pillar, hence reducing the voltage

risk. In a similar way, the pillars of suspension type with transversal chain do not register almost any birds' electrocution, probably due to unavailability of a convenient space for birds over the conductors.

As well, research has shown that the air pockets of only one meter, on both sides of the conductor, should protect against possible electrocution of birds. As protections for birds are provided for lengths of 500 mm, 750 mm and 1000 mm due to practical reasons, their installation just at one meter on both sides of the conductor's central line became a standard for all electricity lines (the critical distance may be analyzed in the below image). No space over 150 mm should be left between two adjacent protections, as it is seen in Figure no.22



**Figure no. 22.1** Critical distance between the conductors of the pillar, against electric shock

It should be mentioned that the electricity lines and pillars may be beneficial for birds, such as storks, predators and ravens, for nesting, landing or stationing, especially in the areas where the natural sites for nesting or stationing are rare, such as cropped land plots and fields.

A measure which proved to have reasonable success in reducing the risk of collision is the one of equip the grounding wire with anti-collision devices.

There are more devices available for marking the electricity lines, such as:

**Stationery devices**

<p>Stationery devices are mechanically more sustainable than the dynamic devices, as they have no element of wear and tear, which would be present inevitably in case of moving parts. Nevertheless, they have limited success due to the fact that they are less visible, especially the small ones. The example is in Figure no.23.</p>	<p>A photograph showing a red, coiled metal device, labeled "Large pigtail", resting on a metal grid surface. The device consists of several loops of thick red metal wire.</p>
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**Figure no.23.** The example of stationery devices

**Dynamic devices**

Dynamic devices (usually called birds' defenders) have moving components, unlike the stationary devices, which have none of this. Dynamic devices are very efficient in reducing collisions, as it seems that birds see them very well, probably due to their movement which catches the attention. "Alarm for birds " allows them detecting the power line at a bigger distance and to adjust the altitude correspondingly. They are especially recommended in the areas where ducks and geese migrate, which actually represent a big part of collision victims. This is especially important, as most of the ducks pass the electricity lines during the night time, and the devices increase the visibility of lines during night time. Examples are in Figure no.24.



**Figure no.24.** Examples of dynamic devices

**Conclusions:** Important areas for birds, such as forestry, aquatic, march habitats, IBA and other wetlands, reeds, will not be affected directly by the OHL 400 kV.

It is considered that none of these habitats of rare, endangered and vulnerable species will be affected substantially by loss of nesting places. Nevertheless, there is potential risk for losing feeding/resting habitats for some common species of migratory birds, at the stage of OHL construction, but with no numerical impact on this species.

The most vulnerable habitats for birds' impact are estimated in the following zones for OHL construction: **Balabanu – Vulcănești zone (pillars 01 - 85), Taraclia – Balabanu zone (pillars 85 - 204), Dimitrovca – Borocani zone (pillars 257 - 328) and Brăila – Lipoveni zone (pillars 416 - 511).**

These zones represent the habitat for the following birds' species, protected by international treaties: **hen harrier (*Circus cyaneus L.*), northern goshawk (*Accipiter gentilis L.*), Eurasian sparrowhawk (*Accipiter nisus L.*), common buzzard (*Buteo buteo L.*), common kestrel (*Falco tinnunculus L.*), European honey buzzard (*Pernis apivorus L.*), short-toed snake eagle (*Circaetus gallicus Gm*), Montagu's harrier (*Circus pygargus L.*), lesser spotted eagle (*Aquila pomarina L.*), golden eagle (*Aquila chrysaetos L.*), booted eagle (*Hieraaetus pennatus Gm.*), saker falcon (*Falco cherrug L.*)**



## 5 INSTITUTIONAL STRENGTHENING PROGRAM

The Institutional Strengthening Program includes data about institutions/organizations involved in carrying out project activities at the OHL construction stage. For this purpose, the roles and competence of institution/organization for the OHL construction stage are set, for organizing the activities at the construction site so as to mitigate the impact in birds' habitats.

Information on the Institutional Strengthening Program for OHL construction stage is included in Table no. 18.

**Table no. 18.** Institutional Strengthening Program for OHL construction stage

Name of institution/ organization	Role/competence of institution/organization at the construction stage	Main segment for activity organization in the OHL construction zone	Actions/recommendations for organizing OHL construction activities to mitigate the impact on birds' habitats
<b>Ministry of Energy</b> <b>MEPIU</b>	Development and implementation of the state policy in the area of sustainable energy development in the RM.	<ul style="list-style-type: none"> <li>- Coordination of activities for developing and implementing the documentation for OHL construction.</li> <li>- Review of project documentation, especially ESIA/ESMPs<sup>12</sup> specific for OHL construction</li> </ul>	<ul style="list-style-type: none"> <li>- Coordination of activities of factors engaged in drafting and implementing project documentation, especially the ESIA/ESMP specific for OHL construction;</li> <li>- Cooperation with responsible institutions, especially the SE "Moldelectrica" and LPAs at the OHL construction stage;</li> <li>- Reviewing and monitoring actions set/recommended in experts' reports, for OHL construction stage;</li> <li>- MEPIU will submit for review and coordination to the Environment Agency, ESIA/ESMP documentation specific for the OHL construction stage and will organize public consultations in this respect.</li> </ul>
SE „Moldelectrica”	Promotion of state policies in the area of sustainable energy development and ensuring the most efficient and safe supply of electricity for RM population.	<ul style="list-style-type: none"> <li>- Fulfilling activities for OHL construction.</li> <li>- Coordination of actions of stakeholders involved in OHL construction stage.</li> </ul>	<ul style="list-style-type: none"> <li>- Implementation of an environmental management system in accordance with international best practices on environmental protection (ISO 14001) which will take into account the requirements specified in the Site Specific ESIA / ESMPs,</li> <li>- Implementation of the provisions of the project documentation, especially of provisions of the ESIA / ESMP specific for operational stage of the OHL;</li> <li>- Strictly follow the recommendations of the experts in the Site Specific ESIA/ESMP documentation, in particular the Aviation Risk Reduction Report for the operational phase,</li> <li>- Execution in the territory of all recommendations, established in the ESIA/ESMP specific for construction for bird species protection and the reduction of the avian risk.</li> </ul>
<b>Ministry of Environment</b> Environmental Agency  Agency “Moldsilva” with	Development and implementation of state policies in the area of environment protection and sustainable development of natural resources, including	<ul style="list-style-type: none"> <li>- Review of project documentation, especially the ESIA/ESMPs specific for sites of the 400 kV OHL</li> <li>- Coordination and approval of project documentation,</li> </ul>	<ul style="list-style-type: none"> <li>- Environmental Agency will review and coordinate ESIA documentation for OHL construction stage, drafted by MEPIU;</li> <li>- SE „Moldelectrica” will cooperate with forestry enterprises from the field, subordinated to “Moldsilva” for the purpose of reducing the avian risk, on the fields of the</li> </ul>

<sup>12</sup> Source: <https://www.mepiu.md/rom/proiecte-curente/proiectul-de-dezvoltare-a-sistemului-electroenergetic-pdse>

<p>subordinated enterprises in the field,</p> <p>Environment Protection Inspectorate (EPI)</p>	<p>conservation of biodiversity and protection of state protected natural areas</p>	<p>especially ESIA/ESMP specific for OHL construction.</p>	<p>state forestry fund and forestry SPNA, in the adjacent zones to the OHL construction;</p> <ul style="list-style-type: none"> <li>- Environmental Agency will submit, as appropriate, upon the request of MEPIU or SE „Moldelectrica” the data from the SPNA and Animal Kingdom cadaster that it is responsible for;</li> <li>- Forestry enterprises in the field, subordinated to “Moldsilva” Agency will monitor on the state forestry fund fields and forestry SPNA, in areas adjacent to OHL construction, the status of habitats of birds’ species at the stage of OHL construction and in case of impact, will alert the representatives of the SE “Moldelectrica” about the established impact,</li> <li>- EPI will perform the ecological control in the field at the stage of OHL construction.</li> </ul>
<p><b>Institute of Zoology</b></p>	<p>Coordination and carrying out of fundamental and applied scientific research in the area of zoology, entomology, ichthyology, ecology, etc.</p>	<ul style="list-style-type: none"> <li>- Performing the record keeping and monitoring of animal kingdom, especially of birds’ species included in the RB of the RM,</li> <li>- Developing the animal kingdom cadaster, including of Classes – Birds and keeping the database in this respect</li> </ul>	<ul style="list-style-type: none"> <li>- Provision of data for record keeping of birds’ species, especially of the endangered and vulnerable ones, included in the RB of the RM, upon the request of MEPIU experts;</li> <li>- Provision of scientific and logistical support, especially for informing/engaging the employees in OHL construction;</li> <li>- At the construction stage, as appropriate, upon the request of the SE “Moldelectrica”, will have experts from the ZI to determine certain species of birds from the OHL zone impacted by construction activities;</li> <li>- At the stage of performing the record keeping of the status of habitats and nesting places of birds’ species, will alarm the institutions responsible for environment, especially the Inspectorate for Environment Protection, about the cases of injury/death of birds and other animals and will immediately inform „Moldelectrica” about the estimated impact.</li> </ul>
<p><b>Association of Hunters and Fishers of Moldova</b></p>	<p>Coordination and carrying out of protection measures and reproduction of gaming species, including the birds’ species and activities to regulate the hunting of birds’ species</p>	<ul style="list-style-type: none"> <li>- Performing the record keeping of gaming species from animal kingdom, including birds’ species for hunting, especially the aquatic ones,</li> <li>- Organization of bio-technical measures for feeding and reproducing animals’ species, including birds.</li> </ul>	<p>At the stage of keeping the record about the status of habitats and nesting places for hunting birds’ species, will alarm the institutions responsible for environment, especially the Inspectorate for Environment Protection, about the cases of injury/death of birds and other animals, and will immediately inform “Moldelectrica” about the estimated impact.</p>
<p><b>LPAs</b></p> <ul style="list-style-type: none"> <li>• Chisinau,</li> <li>• Ialoveni,</li> <li>• Hâncești,</li> <li>• Cimișlia,</li> <li>• Cahul</li> <li>• Leova</li> <li>• Taraclia</li> <li>• ATU Găgăuzia</li> </ul>	<p>Responsibility in carrying out the state policy in the energy and environmental areas at the local level, according to the competences set in the <i>Law No. 436/2006 on local public administration</i> and other normative acts in this respect.</p>	<ul style="list-style-type: none"> <li>- Fulfilling the recommendations for environment protection and sustainable management of SPNA, whose holders would be LPAs as set in the environmental and forestry legislation.</li> <li>- Coordination of activities with central public authorities and factors involved at the OHL construction stage</li> </ul>	<ul style="list-style-type: none"> <li>- Cooperation with SE “Moldelectrica” and MEPIU and provision of support at the OHL construction stage;</li> <li>- Participation in public consultations, and other discussions and meetings in the field with the responsible for developing project recommendations for OHL construction, especially ESIA documentation;</li> <li>- Carrying out in the field the recommendations for protection of birds’ species and mitigation of avian risk, established in the ESIA;</li> <li>- Urgent information of representatives of the EPI and SE „Moldelectrica” about the</li> </ul>

			cases of injury/death of birds and other animals in the OHL construction zone and immediate information of „Moldelectrica” about the estimated impact.
<b>Contractor</b>	For the detailed design stage: 1. Elaborates the detailed project, 2. Elaborates the Plan for the organization of works on site (Method Statement) 3. Develop staff training plan on biodiversity & bird protection under the ESDP Plan	For the Construction stage: 1. Develop the Biodiversity and Bird Protection Plan and other environmental plans 2. Conduct training with Contractor staff on biodiversity and bird protection and other measures set out in ESMP	- Implementation, in agreement with the Engineer supervising the construction works, the Biodiversity and Birds Protection Plan and other environmental plans and reporting to MEPIU regarding environmental performances. - Reporting monthly to the MEPIU regarding performances on the implementation of environmental and social plans (SS / ESIA / ESMPs).
<b>The engineer who will supervise the construction work</b>	1. Make field visits on the LEA route. 2. Reports monthly to UCIPE, on the performance regarding the implementation of environmental and social plans (the Site Specific ESIA/ESMPs) based on a monthly report (MPR).	Monitoring the implementation of the measures set out in the ESIA / ESMP Reports on measures to protect birds and other requirements set out in the ESIA/ESMPs specific for construction and operational stages.	- Implementation the Biodiversity and Birds Protection Plan and other environmental plans and reporting to MEPIU regarding environmental performances. 2. Reporting monthly to the MEPIU regarding performances on the implementation of environmental and social plans (ESIA / ESMPs specific for construction sites).
<b>Bird protection consultant</b>	Identifies the measures for birds protection during the construction phase	Monitoring the implementation of the measures set out in the ESIA / ESMP Site Specific Site Report by conducting site visits in port construction phase to verify that the equipment installed for alarm and other utilities for bird protection have been fully implemented, etc.	- Participation in the procedure of public consultation of the ESIA / ESMP Site Specific report and provide support for obtaining the approval from the Environment Agency (as appropriate). - Development of information sheets (brochures) to inform of the contractor and site workers about the determination and monitoring of endangered and vulnerable bird species in the OHL area. - Participation in the training of the contractor and site workers in the field of environment and biodiversity conservation and the preparation of instructional materials for this purpose.

**Note:** All actions, proposed for the organization of activities in the construction of OHL, to mitigate the impact on bird habitats will be carried out by the specialized central authorities, according to the powers established by the legislation in their areas of competence.

For LPAs and NPOs, the actions proposed for the organization of activities in the construction of OHL have an aspect of recommendation, according to the requirements of the legislation.

## 6 AVIAN RISK MANAGEMENT COMPONENT FOR THE SITE SPECIFIC ESIA/ESMPs

The specific component of avian risk management for the Site Specific ESIA/ESMP represents a summary of reviewing the impact on natural ecosystems and habitats of birds' species, which may be affected during the construction period and aims to establish the risk for OHL cones/locations and to develop the Avian Risk Mitigation Plan.

The following has been developed for this purpose: the necessary measures to reduce the impact; responsible people for performing these measures and recommendations for mitigating the impact on the habitat of birds' species.

The data obtained at the stage of monitoring the birds' species in the OHL construction zone were used in the elaboration of the Avar Risk Mitigation Plan.

The Avian Risk Mitigation Plan at the construction stage is included in Tables no. 19 and 20.

### **Conclusions:**

**1. At the OHL construction stage, the birds' habitats from the fields of the SPNA, IBA, Emerald network sites, state forestry fund, adjacent to the OHL construction zone, will not be affected directly.**

**No birds' species of conservative importance will be affected by loss of nesting habitats. The loss of feeding/resting habitats will be minimal, and the associated risks are very low. Nevertheless, it is necessary to have continuous monitoring for construction stage, according to recommendations set forth in Tables no. 19 and 20.**

**2. Power lines, pillars and towers may also have a benefic impact for birds, especially for storks, predators and corvids, both for locating the nests, as well as for stationing and supervisions, especially in the areas with rare natural nests and stationing sublayers, such as cropped plots, orchards, steppes and fields. The most frequent reasons for which the birds use the electricity network structures as nesting are: lack of alternative places for nesting, such as trees or routes. The electrical structures provide solid platforms necessary for birds to build their nests, especially appreciated in the zones in which the natural habitats do not provide such conditions. In these situations, the birds most frequently opt deliberately for electricity structure in the detriment of the natural ones.**

**Hence, we recommend creating nesting places on the power pillars, especially in the zones of pillars 01-204 (Vulcănești-Balabanu-Taraclia), for predator species, storks, crows and other, especially for *Falco cherrurg*.**

**Monitoring and assessing the effects of the measures meant to mitigate the risks should be carried out in the field, during the construction period, in the area of SPNA IBA, Emerald network sites, to supervise the status of the species' habitats and eventually to set forth additional and urgent measures, as provided in Table no. 19 and for forest ecosystems (from the state forest fund) in Table no.20**

**Monitoring and assessment of the effects of risk mitigation measures shall be carried out in the field, during construction, in ANPS IBA areas, Emerald Network Sites, in order to monitor the status of species habitats and possibly establish additional and urgent measures, as established. in Table no. 19 and for forest ecosystems (from the state forest fund) in Table no.20.**

**Table No. 19. Plan for mitigating the risk in the OHL construction zones adjacent to SPNA, IBA and Emerald Network sites**

Zone	Location (including SPNA, Emerald Site; IBA, FF)	Type of ecosystem/Habitats, Species/groups of species that may be affected	Estimated risk	Measures suggested to mitigate the impact	Responsible for carrying out measures	Recommendation for mitigating the impact, according to legislation requirements
<b>Zone between pillars 01 – 84 Vulcănești - Balabanu</b>	SPNA “Steppe Sector in Bugeac North” IBA Purcari – Etulia Emerald Site „Bugeac Steppe” FF – Forest body: Comrat	<i>Fam. Falconiformes</i> (hawks especially <i>saker falcon</i> ) <i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Accipitridae</i> (eagle, short-toed eagle, harrier, buzzard); <i>Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices to reduce the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 01 – 84, - Devices for protecting birds against electrocution in the air pockets and on the external phase. - Placing nests on electrical towers especially for saker falcon, other predators and storks, according to the model established in Annex no.4.	Company executing construction works  The engineer who will supervise the construction work	Enforcing the provisions from the <b>Law on Animal kingdom No. 439/1995</b> :  1) Article 14, para. (3): in case of existing power networks, it is necessary to locate visual signal devices by installing them over the crossing protection conductor of the white-red spherical beacons, made of fiberglass, with diameter of minimum 600 mm, and the distances between the beacons should be 50 m. The isolation chains should have a length of minimum 6 m, for the large birds not to close the circuit located at different potential” 2) Article 14, para. (3): The following measures shall be established to protect the species included in the Red Book: „c) prohibit to disturb animals in their natural habitat, especially in the period of reproduction, hibernation and migration”;
<b>Zone between pillars 85 – 204 Balabanu-Taraclia</b>	SPNA Steppe Sector in Bugeac North”, Emerald site “Bugeac Steppe”; IBA „Congaz – Taraclia”	<i>Fam. Falconiformes</i> (hawks, especially saker falcon), <i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Accipitridae</i> (eagle, short-toed eagle, harrier, buzzard); <i>Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 85 – 205, - Devices for protecting birds against electrocution in the air pockets and on the external phase. - Placing nests on electrical towers especially for saker falcon, other predators and storks.	Company executing construction works  The engineer who will supervise the construction work	3) Article 40: “Individuals and legal entities guilty for: b) violation of rules for habitat protection, reproduction conditions and migration ways of animals”;
<b>Zone between pillars 205 – 257 Taraclia - Borogani</b>	SPNA “Steppe Sector in Bugeac North” Emerald site “Bugeac Steppe” Wetland zone in the southern part of the locality Congazcicul de Jos (Chirsova Mare river district) and Ialpu river.	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Ciconidae</i> (stork); <i>Passeriformes</i> (a big	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 205 – 257, - Devices for protecting birds against electrocution in the	Company executing construction works  The engineer who will supervise the construction work	l) construction of sites without observing the measures for protection of animal kingdom

	Lake Congazcic.	number of common species).		air pockets and on the external phase.		and their habitats and without performing the state ecological expertise for such sites' projects or without observing the set requirements – shall be subject to criminal, administrative, material and disciplinary liability, in the modality and quantum set by law.
<b>Zone between pillars 258 – 327 Borogani - Dimitrovca</b>	<b>Emerald site:</b> “Bugeac Steppe” Lake Dezghincea. Wetland zone: Iazul din Sus located on Ialpuigel river, v. Borogani, 2 lakes: Cenac and Topala. <b>FF:</b> Forest body: Capaclia Forest	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (swan, duck, goose, white-fronted goose); <i>Fam. Ciconidae</i> (stork); <i>Passeriformes</i> (a big number of common species)	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 258 – 327. Devices for protecting birds against electrocution in the air pockets and on the external phase. - Placing nests on electrical towers, especially for herons and storks.	Company executing construction works  The engineer who will supervise the construction work	
<b>Zone between pillars 328 – 416 Dimitrovca - Lipoveni</b>	SPNA Geological monument of nature “Coțofana” Ravine, crossing the lake Ecaterinovca, Cogâlnic river. Crossing Ișnovăț Valley <b>FF:</b> Forest body: Zloți.	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Ciconidae</i> (stork); <i>Fam. Anatidae</i> (duck, goose, white-fronted goose); <i>Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 10 m on the line between pillars 328 – 354 and a distance of 25 m between pillars 355- 416, - Devices for protecting birds against electrocution in the air pockets and on the external phase.	Company executing construction works  The engineer who will supervise the construction work	
<b>Zone between pillars 417 – 511 Lipoveni Brăila</b>	SPNA: Landscape reserves „Caracui” and „Hâncești Forest”. Forestry natural reserve „Molești”, „Molești – Răzeni”, „Vila Caracui”, Emerald site 2 ponds near village Zâmbreni, Forest bodies: Hîncești, Costești and Zloți.	<i>Fam. Ardeidae</i> (heron, egret); <i>Fam. Accipitridae</i> (eagle, short-toed eagle, harrier); <i>Passeriformes</i> (a big number of common species).	Electrocution Collision	Installation of special devices for reducing the risk for birds: - Alarms for birds, positioned at a distance of 20 - 25 m on the line between pillars 417 – 509, - Devices for protecting birds against electrocution in the air pockets and on the external phase.	Company executing construction works  The engineer who will supervise the construction work	

**Table no. 20 Measures suggested to decrease the impact in forestry ecosystems from SPNA and Emerald Network – adjacent to OHL construction zone**

SPNA	Localization /manager of FF	Forestry Fund (forest body)	Key species (Orders/families)	Estimated risk	Measures suggested to mitigate the impact
<b>Ialoveni</b> Landscape reserve <i>Cărbuna</i>	<b>Located:</b> between Cărbuna village and forestry district Zloți, Villa <b>Manager:</b> SE Forestry-hunting enterprise Sil-Răzeni	Forest body Căprăria. Parcels 10-13,17,19	Syrian woodpecker ( <i>Dendrocopos siriacus</i> ), Long-eared owl ( <i>Asio otus</i> ), Eurasian scops owl ( <i>Otus scops</i> ), Little owl ( <i>Athene noctua</i> ), Tawny pipit ( <i>Anthus campestris</i> ), Black kite ( <i>Milvus nigrans</i> ) Common kingfisher ( <i>Alcedo atthis</i> ), Common wood pigeon ( <i>Columba palumbus</i> ), Ortolan bunting ( <i>Emberiza hortulana</i> ), European bee-eater ( <i>Merops apiaster</i> ), Eurasian hoopoe ( <i>Upupa epops</i> ), Red-backed shrike ( <i>Lanius collurio</i> ), European turtle dove ( <i>Streptopelia turtur</i> ) Common kestrel ( <i>Falco tinnunculus</i> )	Minimal risk It is mainly found the habitat of common species of birds and OHL construction will not affect their number	Monitoring the status of bird species' habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.
<b>Ialoveni</b> Forestry natural reserve <i>Molești - Răzeni</i>	<b>Located:</b> in forestry district Răzeni, Villa Molești-Răzeni <b>Manager:</b> SE Forestry-hunting enterprise Sil-Răzeni	Forest body Villa Molești - Răzeni Parcels 40-43	Eurasian penduline tit ( <i>Remiz pendulinus</i> ), Water rail ( <i>Rallus aquaticus</i> ), Common chaffinch ( <i>Fringilla caelebs</i> ), Great spotted woodpecker ( <i>Dendrocopos major</i> ), Common magpie ( <i>Pica pica</i> ), Common cuckoo ( <i>Cuculus canorus</i> ), Little egret ( <i>Egretta garzetta</i> ), Common redshank ( <i>Tringa totanus</i> ), Marsh sandpiper ( <i>Tringa stagnatilis</i> ), Green sandpiper ( <i>Tringa ochropus</i> ), Common Moorhen ( <i>Galinula chloropus</i> ), Savi's warbler ( <i>Locustella luscinioides</i> ), River warbler ( <i>Locustella fluviatilis</i> ), Common grasshopper warbler ( <i>Locustella naevia</i> ), Eurasian reed warbler ( <i>Acrocephalus scirpaceus</i> ), Great reed warbler ( <i>Acrocephalus arundinaceus</i> ), Eurasian coot ( <i>Fulica atra</i> ), Common blackbird ( <i>Turdus merula</i> ), Eurasian blue tit ( <i>Parus caeruleus</i> ), Barded reedling ( <i>Panurus biarmicus</i> ), Great tit ( <i>Parus major</i> ), Common wood pigeon ( <i>Columba palumbus</i> ), Mallard ( <i>Anas platyrhynchos</i> ), Eurasian blackcap ( <i>Sylvia atricapilla</i> ), Eurasian woodcock ( <i>Scolopax rusticola</i> ), Grey heron ( <i>Ardea cinerea</i> ), Black-crowned night heron ( <i>Nycticorax nycticorax</i> ), Song thrush ( <i>Turdus philomelos</i> ), European turtle dove ( <i>Streptopelia turtur</i> ).	Minimal risk It is mainly found the habitat of common species of birds and OHL construction will not affect their number	Monitoring the status of bird species' habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.
<b>Ialoveni</b> Forestry natural reserve <i>Molești</i>	<b>Located:</b> in forestry district Răzeni, Villa Molești-Răzeni <b>Manager:</b> SE Forestry-hunting enterprise Sil-Răzeni	Forest body Villa Molești - Răzeni Parcels 11-12	Eurasian penduline tit ( <i>Remiz pendulinus</i> ), Water rail ( <i>Rallus aquaticus</i> ), Common chaffinch ( <i>Fringilla caelebs</i> ), Great spotted woodpecker ( <i>Dendrocopos major</i> ), Common magpie ( <i>Pica pica</i> ), Common cuckoo ( <i>Cuculus canorus</i> ), Little egret ( <i>Egretta garzetta</i> ), Common redshank ( <i>Tringa totanus</i> ), Marsh sandpiper ( <i>Tringa stagnatilis</i> ), Green sandpiper ( <i>Tringa ochropus</i> ), Common Moorhen ( <i>Galinula chloropus</i> ), Savi's warbler ( <i>Locustella luscinioides</i> ), River warbler ( <i>Locustella fluviatilis</i> ), Common grasshopper warbler ( <i>Locustella naevia</i> ), Eurasian reed	Minimal risk It is mainly found the habitat of common species of birds and OHL construction will not affect their number	Monitoring the status of bird species' habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.

			warbler ( <i>Acrocephalus scirpaceus</i> ), Great reed warbler ( <i>Acrocephalus arundinaceus</i> ), Eurasian coot ( <i>Fulica atra</i> ), Common blackbird ( <i>Turdus merula</i> ), Eurasian blue tit ( <i>Parus caeruleus</i> ), Bearded reedling ( <i>Panurus biarmicus</i> ), Great tit ( <i>Parus major</i> ), Common wood pigeon ( <i>Columba palumbus</i> ), Mallard ( <i>Anas platyrhynchos</i> ), Eurasian blackcap ( <i>Sylvia atricapilla</i> ), Eurasian woodcock ( <i>Scolopax rusticola</i> ), Grey heron ( <i>Ardea cinerea</i> ), Black-crowned night heron ( <i>Nycticorax nycticorax</i> ), Song thrush ( <i>Turdus philomelos</i> ), European turtle dove ( <i>Streptopelia turtur</i> )		
<b>Hîncești</b> Forestry natural reserve „Villa Caracui”	<b>Located:</b> in forestry district Răzeni, Villa Molești-Răzeni <b>Manager:</b> SE Forestry enterprise Hîncești	Forest bodies: Villa Caracui Parcels 52 A, B, C, D, E, G, H, I, K, L, M.	Common chaffinch ( <i>Fringilla caelebs</i> ), Eurasian tree creeper ( <i>Certhia familiaris</i> ), Common cuckoo ( <i>Cuculus canorus</i> ), Great spotted woodpecker ( <i>Dendrocopos major</i> ), Yellowhammer ( <i>Emberiza citrinella</i> ), European robin ( <i>Erithacus rubecula</i> ), Eurasian jay ( <i>Garrulus glandarius</i> ), Thrush nightingale ( <i>Luscinia luscinia</i> ), Eurasian golden oriole ( <i>Oriolus oriolus</i> ), Eurasian blue tit ( <i>Parus caeruleus</i> ), Great tit ( <i>Parus major</i> ), Common chiffchaff ( <i>Phylloscopus collybita</i> ), Eurasian blackcap ( <i>Sylvia atricapilla</i> ), Common blackbird ( <i>Turdus merula</i> ), Song thrush ( <i>Turdus philomelos</i> )	Minimal risk It is mainly found the habitat of common species of birds and OHL construction will not affect their number	Monitoring the status of bird species' habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.
<b>Hîncești</b> Landscape reserve „Forest Hîncești”	<b>Located:</b> in forestry district Mereșeni <b>Manager:</b> SE Forestry enterprise Hîncești	Forest bodies: Mereșeni, Parcellele 10-14, 17-22, 25-31, 33, 35-39, 42-45, 47, 50-52; Hîncești Parcels 54 C, E, H, I, J, K, M, N, O, P, Q, R, S, T, U, V, W, X, 72	European skylark ( <i>Alauda arvensis</i> ), Grey-headed woodpecker ( <i>Picus canus</i> ), Common cuckoo ( <i>Cuculus canorus</i> ), Great spotted woodpecker ( <i>Dendrocopos major</i> ), Syrian woodpecker ( <i>Dendrocopos siriacus</i> ), European greenfinch ( <i>Carduelis chloris</i> ), European robin ( <i>Erithacus rubecula</i> ), European pied flycatcher ( <i>Ficedula hypoleuca</i> ), Eurasian siskin ( <i>Carduelis spinus</i> ), Common wood pigeon ( <i>Columba palumbus</i> ), Yellowhammer ( <i>Emberiza citrinella</i> ), Thrush nightingale ( <i>Luscinia luscinia</i> ), Eurasian blue tit ( <i>Parus caeruleus</i> ), Great tit ( <i>Parus major</i> ), Common chiffchaff ( <i>Phylloscopus collybita</i> ), Red-backed shrike ( <i>Lanius collurio</i> ), European turtle dove ( <i>Streptopelia turtur</i> ), Tawny owl ( <i>Strix aluco</i> ), Common blackbird ( <i>Turdus merula</i> ), Song thrush ( <i>Turdus philomelos</i> ), Eurasian hoopoe ( <i>Upupa epops</i> )	Minimal risk It is mainly found the habitat of common species of birds and OHL construction will not affect their number	Monitoring the status of bird species' habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.
<b>Cahul</b> Forestry natural reserve „Lyceum Bolgrad”	<b>Located:</b> in forestry district Moscovei <b>Manager:</b> SE Forestry Enterprise „Silva-Sud” Cahul	Forest body: Lyceum Bolgrad  Parcel 12C	Syrian woodpecker ( <i>Dendrocopos siriacus</i> ), Long-eared owl ( <i>Asio otus</i> ), Eurasian scops owl ( <i>Otus scops</i> ), Little owl (Athene noctua), Tawny pipit ( <i>Anthus campestris</i> ), Black kite ( <i>Milvus nigrans</i> ), Common kingfisher (Alcedo atthis), Common wood pigeon ( <i>Columba palumbus</i> ), Ortolan bunting ( <i>Emberiza hortulana</i> ), European bee-eater ( <i>Merops apiaster</i> ), Eurasian hoopoe ( <i>Upupa epops</i> ), Red-backed shrike ( <i>Lanius collurio</i> ), European turtle dove ( <i>Streptopelia turtur</i> ) Common kestrel ( <i>Falco tinnunculus</i> )	Minimal risk Habitat of common species of birds and construction will not influence negatively their number	Monitoring the status of bird species' habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.



<p><b>Cahul</b> Botanical monument of nature „<i>Borceag</i>”</p>	<p><b>Located:</b> in forestry district Moscovei <b>Manager:</b> SE Forestry Enterp. „Silva-Sud” Cahul</p>	<p>Forest body: Borceag Parcel 18E, 19C</p>	<p>Syrian woodpecker (<i>Dendrocopos siriacus</i>), Eurasian scops owl (<i>Otus scops</i>), Little owl (<i>Athene noctua</i>), Tawny pipit (<i>Anthus campestris</i>), Black kite (<i>Milvus nigrans</i>), Common kingfisher (<i>Alcedo atthis</i>), Common wood pigeon (<i>Columba palumbus</i>), Ortolan bunting (<i>Emberiza hortulana</i>), European bee-eater (<i>Merops apiaster</i>), Eurasian hoopoe (<i>Upupa epops</i>), Red-backed shrike (<i>Lanius collurio</i>), European turtle dove (<i>Streptopelia turtur</i>)</p>	<p>Minimal risk on habitat of common species of birds</p>	<p>Monitoring the status of bird species’ habitats only if needed, as appropriate</p>
<p><b>Cahul</b> Geological monument of nature Fossil site near Moscovei village</p>	<p><b>Located:</b> in forestry district Moscovei <b>Manager:</b> SE Forestry Enterprise „Silva-Sud” Cahul</p>	<p>Forest body: Sanatorium Parcels 52 E, G, K, L and 53 B, D, E</p>	<p>Syrian woodpecker (<i>Dendrocopos siriacus</i>), Eurasian scops owl (<i>Otus scops</i>), Little owl (<i>Athene noctua</i>), Tawny pipit (<i>Anthus campestris</i>), Black kite (<i>Milvus nigrans</i>), Common kingfisher (<i>Alcedo atthis</i>), Common wood pigeon (<i>Columba palumbus</i>), Ortolan bunting (<i>Emberiza hortulana</i>), European bee-eater (<i>Merops apiaster</i>), Eurasian hoopoe (<i>Upupa epops</i>), Red-backed shrike (<i>Lanius collurio</i>), European turtle dove (<i>Streptopelia turtur</i>)</p>	<p>Minimal risk on habitat of common species of birds</p>	<p>Monitoring the status of bird species’ habitats only if needed, as appropriate</p>
<p><b>Cantemir</b> Botanical monument of nature „Cîietu”</p>	<p><b>Located:</b> in forestry district Moscovei <b>Manager:</b> SE Forestry Enterp. „Silva-Sud” Cahul</p>	<p>Forest body: Cîietu Parcel 8M</p>	<p>Syrian woodpecker (<i>Dendrocopos siriacus</i>), Eurasian scops owl (<i>Otus scops</i>), Little owl (<i>Athene noctua</i>), Tawny pipit (<i>Anthus campestris</i>), Black kite (<i>Milvus nigrans</i>), Common kingfisher (<i>Alcedo atthis</i>), Common wood pigeon (<i>Columba palumbus</i>), Ortolan bunting (<i>Emberiza hortulana</i>), European bee-eater (<i>Merops apiaster</i>), Eurasian hoopoe (<i>Upupa epops</i>), Red-backed shrike (<i>Lanius collurio</i>), European turtle dove (<i>Streptopelia turtur</i>)</p>	<p>Minimal risk on habitat of common species of birds</p>	<p>Monitoring the status of bird species’ habitats only if needed, as appropriate</p>
<p><b>Cimişlia</b> Geological monument of nature <i>Ravine „Coţofana”</i></p>	<p><b>Located:</b> to east from village Gura Galbenei, forestry district Zloţi, <b>Manager:</b> SE Forestry-hunting enterprise Cimişlia</p>	<p>Forest body Coţofana Parcels 10N1, 10N2, 11N1-11N3</p>	<p>Common species of birds</p>	<p>Minimal risk It is mainly found the habitat of common species of birds and OHL construction will not affect their number</p>	<p>Monitoring the status of bird species’ habitats during the nesting period by the representatives of the forestry enterprise, as appropriate, together with scientists and experts specially recruited for this purpose.</p>
<p><b>Taraclia</b> Geological monument of nature <i>Ravine Muşaitu”</i></p>	<p><b>Located:</b> in the middle of village Musaitu, <b>Manager:</b> SE Forestry-hunting enterprise Taraclia</p>	<p>Forest body: Taraclia Parcel 65M</p>	<p>Great spotted woodpecker (<i>Dendrocopos major</i>), Syrian woodpecker (<i>Dendrocopos siriacus</i>), European greenfinch (<i>Carduelis chloris</i>), European robin (<i>Erithacus rubecula</i>), European pied flycatcher (<i>Ficedula hypoleuca</i>), Eurasian siskin (<i>Carduelis spinus</i>), Common wood pigeon (<i>Columba palumbus</i>), Yellowhammer (<i>Emberiza citrinella</i>), Thrush nightingale (<i>Luscinia luscinia</i>), Eurasian blue tit (<i>Parus caeruleus</i>)</p>	<p>Minimal risk on habitat of common species of birds</p>	<p>Monitoring the status of bird species’ habitats only if needed, as appropriate</p>

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<sup>13</sup> Source: <https://www.unep-awea.org/en/document/national-report-republic-moldova-mop7>

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- **URL 3:** European Environment Agency, Biogeographical regions<sup>14</sup>
- **URL 4:** Monitoring Centre on Environmental Quality of Moldova<sup>15</sup>
- **URL 5:** National Geospatial Data fund of Moldova: <http://www.geoportal.md/>
- **URL 6:** Centre for Climate Adaptation: <http://www.climateadaptation.eu/moldova/fresh-water-resources/>
- **URL 7:** International Union for Conservation of Nature<sup>16</sup>

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<sup>14</sup> Source: <http://www.eea.europa.eu/data-and-maps/data/biogeographical-regionseurope>

<sup>15</sup> Source: <http://www.meteo.md/en/monitoring.htm>

<sup>16</sup> Source: <http://www.iucn.org/>

## ANNEXES

**Annex No. 1.** List of target species, with national and international protection status in the OHL construction area

**Annex No. 2.** List of target species, with national protection status and included in the Annexes to the Birds Directive in the OHL construction area

Lista speciilor țintă, cu statut de protecție la nivel național și incluse în Anexele Directivei „Păsări” din zona de construcție LEA

**Annex No. 3.** Important avifauna areas and the OHL route

**Annex No. 1. List of target species, with national and international protection status, in the OHL construction area**

Nr.	Name of species			Protection status					
	Scientific name	Romanian	English	International			National		
				Convention Berna	Bon and AEWA Conventions	CITES	Law no. 1538/1998	IUCN	Red Book of the RM
1.	<i>Accipiter brevipes L.</i>	Uliu cu picioare scurte	Levant Sparrowhawk	+	+	+	VII	LC	-
2.	<i>Accipiter gentilis L.</i>	Uliu porumbar	Northern Goshawk		+	+	V	LC	-
3.	<i>Accipiter nisus L.</i>	Uliu pasasar	Eurasian sparrowhawk		+	+	V	LC	-
4.	<i>Aegypius monachus L.</i>	Vultur negru	Cinereous vulture	+	+	+	VII	NT	-
5.	<i>Anas crecca L.</i>	Rața mică	Green-winged Teal		+			LC	-
6.	<i>Anas clypeata L.</i>	Rața lingurar	Northern Shoveler		+			LC	-
7.	<i>Anas querquedula L.</i>	Rața cârâitoare	Garganey		+			LC	-
8.	<i>Anas penelope L.</i>	Rața fluierătoare	Eurasian wigeon		+			LC	-
9.	<i>Anas platyrhynchos</i>	Rața comună	Common Mallard		+			LC	-
10.	<i>Anas strepera L.</i>	Rața pestriță	Gadwall		+			LC	-
11.	<i>Anser anser L.</i>	Gâsca de vară	Greylag goose		+			LC	VU
12.	<i>Aythya nyroca Gu.</i>	Rață-roșie	Ferruginous Duck	+	+	+	VII	NT	CR
13.	<i>Aquila clanga Pall.</i>	Acvila tipatoare mare	Greater spotted eagle	+	+	+	II	VU	CR
14.	<i>Aquila chrysaetos L.</i>	Acvila de munte	Golden Eagle	+	+	+	II	LC	CR
15.	<i>Aquila pomarina Brehm.</i>	Acvila tipatoare mica	Lesser spotted eagle	+	+	+	II	LC	CR
16.	<i>Ardea purpurea L.</i>	Stârc- roșu	Purple Heron	+	+		IV	LC	VU
17.	<i>Ardea alba L.</i>	Stârc- alb	Great egret		+			LC	-
18.	<i>Ardeola ralloides L.</i>	Stârc galben	Guacco heron	+	+		II	LC	EN
19.	<i>Asio flammeus L.(Pontopp.)</i>	Ciuf de câmpie	Short-eared owl	+		+	III	LC	VU
20.	<i>Asio otus L.</i>	Ciuf de padure	Long-eared owl			+	VII	LC	-
21.	<i>Athene noctua Scopoli</i>	Cucuveaua comuna	Little Owl			+	VIII	LC	-
22.	<i>Botaurus stellaris L.</i>	Buhai-de-baltă	Eurasian Bittern	+	+		IV	LC	VU
23.	<i>Branta ruficollis P.</i>	Gâscă-cu-gât-roșu	<u>Red-breasted goose</u>	+	+		IV	VU	VU
24.	<i>Buteo buteo L.</i>	Sorecar comun	Common Buzzard			+	VIII	LC	-
25.	<i>Buteo lagopus Pont.</i>	Sorecar incaltat	Rough-legged Buzzard			+	VIII	LC	-
26.	<i>Buteo rufinus L.</i>	Șorecar mare	long-legged buzzard		+	+	VIII	LC	-
27.	<i>Caprimulgus europaeus L.</i>	Caprimulg	European Nightjar	+			VII	LC	-

28.	<i>Ciconia ciconia L.</i>	Cocostatrc alb	White Stork	+	+		VIII	LC	VU
29.	<i>Ciconia nigra L.</i>	Cocostatrc negru	Black Stork	+	+	+	II	LC	CR
30.	<i>Circaetus gallicus Gal.</i>	Șerpar	Short-toed snake eagle	+	+	+	II	LC	CR
31.	<i>Circus aeruginosus L.</i>	Eretele de stof	Western marsh harrier	+	+		IV	LC	-
32.	<i>Circus pygargus L.</i>	Eretele sur	Montagu Harrier	+	+		II	LC	CR
33.	<i>Cygnus olor L.</i>	Lebăda-de-vară	Mute swan	+	+	+	IV	LC	VU
34.	<i>Cygnus Cygnus L.</i>	Lebăda-albă	Swoor swan	+	+	+	IV	LC	VU
35.	<i>Cygnus columbianus</i>	Lebădă-mică	Tundra swan		+		IV	LC	-
36.	<i>Gyps fulvus</i>	Vultur sur	Griffon vulture	+	+	+	VIII	LC	-
37.	<i>Columba palumbus L.</i>	Porumbel gulerat	Common Wood-Pigeon		+		VIII	LC	-
38.	<i>Coracias garrulus L.</i>	Dumbrăveanca	European roller	+	+		VIII	LC	VU
39.	<i>Corvus corax L.</i>	Corb	Common Raven		+		VII	LC	-
40.	<i>Crex crex L.</i>	Cristel de camp	Corncrake	+	+		VII	LC	EN
41.	<i>Dendrocopos leucotos</i>	Ciocănițoarea cu spate alb	White-backed woodpecker	+			VIII	LC	-
42.	<i>Dendrocopos medius L.</i>	Ciocănițoarea pestriță mijlocie	Middle Spotted	+			VIII	LC	VU
43.	<i>Dendrocopos siriacus</i>	Ciocănițoarea de grădină	Syrian Woodpecker	+			VIII	LC	-
44.	<i>Dryocopus martius L.</i>	Ciocanitoare neagra	Black Woodpecker	+	+	+	III	LC	EN
45.	<i>Emberiza hortulana L.</i>	Presura de grădină	Ortolan Bunting	+				LC	-
46.	<i>Egretta alba L.</i>	Egretă albă	Great Egret	+		+	II	LC	EN
47.	<i>Egretta garzetta L.</i>	Egretă mică	Little Egret	+				LC	-
48.	<i>Falco columbarius L.</i>	Șoimuleț de iarna	Merlin	+		+	V	LC	-
49.	<i>Falco cherrug</i>	Șoim dunărean	Saker falcon	+	+	+	II	EN	CR
50.	<i>Falco peregrinus Tunst.</i>	Șoim calator	Peregrine Falcon	+	+	+	V	LC	CR
51.	<i>Falco subbuteo L.</i>	Șoimul rândunelelor	Eurasian Hobby	+	+	+	VII	LC	-
52.	<i>Falco tinnunculus L.</i>	Vânturelul roșu	Common Kestrel	+	+	+	VIII	LC	-
53.	<i>Falco verspertinus L.</i>	Vânturelul-de-seara	Red-footed Falcon	+		+	IV	LC	VU
54.	<i>Gallinago media L.</i>	Becațină-mare	Great snipe	+		+	IV	NT	VU
55.	<i>Grus grus L.</i>	Cocor	Common crane	+	+	+	V	LC	-
56.	<i>Haliaeetus albicilla L.</i>	Codalb	White-tailed eagle	+	+	+	II	LC	CR
57.	<i>Hieraaetus pennatus Gm.</i>	Acvila pitica	Booted eagle	+	+	+	II	LC	CR
58.	<i>Himantopus himantopus L.</i>	Piciorong	Black-winged stilt	+	+		VII	LC	VU
59.	<i>Lanius minor Gm.</i>	Sfrânciocul cu fruntea neagră	Lesser Gray Shrike	+	+			LC	-
60.	<i>Milvus nigrans Bodd.</i>	Gaie bruna	Black kite	+		+	V	LC	VU
61.	<i>Netta rufina P.</i>	Rață-cu-ciuf	Red-crested pochard	+	+		IV	LC	VU

62.	<i>Oxyura leucocephala</i> Sc.	Rață-cu-cap-alb	Headed Ducks	+			VII	LC	CR
63.	<i>Platalea leucorodia</i> L.	Lopătar	Eurasian spoonbill	+	+	+	VII	LC	CR
64.	<i>Plegadis falcinellus</i> L.	Țigănuș	Glossy ibis	+	+	+	VII	LC	CR
65.	<i>Panurus biarmicus</i> L.	Pitigoi de stof	Bearded reedling				VII	LC	EN
66.	<i>Pernis apivorus</i> L.	Viespar	European honey buzzard	+		+	III	LC	EN
67.	<i>Phasianus colchicus</i> L.	Fazan	Common pheasant				VIII	LC	-
68.	<i>Picus canus</i> Gmel.	Ciocănitoearea sură	European honey buzzard	+			VIII	LC	-
69.	<i>Picus viridis</i> L.	Ciocănitoearea verde	Grey-headed woodpecker	+			III	LC	EN
70.	<i>Porzana parva</i> L.	Cresteț-cenușiu	Little crane	+	+		IV	LC	VU
71.	<i>Porzana porzana</i> L.	Cresteț-pestriț	Spotted crane	+	+		IV	LC	VU
72.	<i>Porzana pusilla</i> L.	Cresteț-mic	Baillon's crane	+	+		IV	LC	VU
73.	<i>Recurvirostra avosetta</i> L.	Ciocântors	Pied avocet	+	+		IV	LC	VU
74.	<i>Serinus canaria</i> L.	Cănărașul	Wild canary				IV	LC	-
75.	<i>Streptopelia turtur</i> (L)	Turturica	European Turtle-Dove		+	+		LC	-
76.	<i>Sterna albicorns</i>	Huhurezul de pădure	Brown owl			+	VIII	LC	-
77.	<i>Strix uralensis</i> Pall.	Huhurezul mare	Ural owl	+		+	V	LC	-
78.	<i>Tadorna feruginea</i> Pal.	Călifar-roșu	Ruddy shelduck	+	+		IV	LC	VU
79.	<i>Tadorna tadorna</i> L.	Călifar-alb	Shelduck	+	+		IV	LC	VU
80.	<i>Tyto alba</i> L.	Strigă	Common barn-owl	+	+		IV	LC	VU
81.	<i>Turdus merula</i> L.	Mierlă	Eurasian Blackbird	+	+			LC	-
82.	<i>Turdus pelaris</i> L.	Cocoșar	Field fare	+	+			LC	-
83.	<i>Turdus philomelos</i> L.	Sturzul cântător	Song Thrush	+	+			LC	-
84.	<i>Turdus iliacus</i> L.	Sturzul viilor	Redwing	+	+			LC	-
85.	<i>Turdus viscivorus</i> L.	Sturz de vâsc	Mistle Thrush	+	+			LC	-

Legend: categoriile de raritate a speciilor în Legea 1338/1998: I - Extinct-Ex; II - Endangered -E; III -Vulnerable-V; IV- Rare-R; V - Indetermined-I; VI - Out of danger-O; VII – Insufficiently known -K; VIII - Restorable Tribes-Rt.

**Annex No. 2. List of target species, with national protection status and included in the Annexes to the Birds Directive in the OHL construction area**

Nr.	Name of species			BIRDS Directive		
	Scientific name	Romanian	English	Annex I	Annex II	Annex III
1.	<i>Accipiter brevipes L.</i>	Uliu cu picioare scurte	Levant Sparrowhawk		+	
2.	<i>Aquila clanga Pall.</i>	Acvila tipatoare mare	Greater spotted eagle	+		
3.	<i>Aquila chrysaetos L.</i>	Acvila de munte	Golden Eagle	+		
4.	<i>Aquila pomarina Brehm.</i>	Acvila tipatoare mica	Lesser spotted eagle	+		
5.	<i>Anas crecca L.</i>	Rața mică	Green-winged Teal		+	+
6.	<i>Anas clypeata L.</i>	Rața lingurar	Northern Shoveler		+	+
7.	<i>Anas querquedula L.</i>	Rața cârâitoare	Garganey		+	
8.	<i>Anas penelope L.</i>	Rața fluierătoare	Eurasian wigeon		+	+
9.	<i>Anas platyrhynchos</i>	Rața comună	Common Mallard		+	+
10.	<i>Anas strepera L.</i>	Rața pestriță	Gadwall		+	
11.	<i>Anser anser L.</i>	Gâsca de vară	Greylag goose		+	+
12.	<i>Ardea purpurea L.</i>	Stirc purpuriu	Purple Heron	+		
13.	<i>Asio flammeus</i>	Ciuf de câmpie	Shot-eared owl	+		
14.	<i>Aythya nyroca Guld.</i>	Rața roșie	Ferruginous Duck		+	
15.	<i>Botarus stellaris L.</i>	Buhai de baltă	Eurasian Bittern	+		
16.	<i>Caprimulgus europaeus</i>	Caprimulg	European Nightjar	+		
17.	<i>Ciconia ciconia L.</i>	Cocostarc alb	White Stork	+		
18.	<i>Ciconia nigra L.</i>	Cocostarc negru	Black Stork	+		
19.	<i>Circaetus gallicus Gal.</i>	Șerpar	Short-toed snake eagle	+		
20.	<i>Circus aeruginosus L.</i>	Erete de stuf	Western marsh harrier	+		
21.	<i>Circus cyaneus L.</i>	Erete vînăt	Hen harrier	+		
22.	<i>Circus pygargus L.</i>	Erete sur	Montagu Harrier	+		
23.	<i>Cygnus olor (L.)</i>	Lebădă de vară	Mute swan		+	
24.	<i>Columba palumbus L.</i>	Porumbel gulerat	Common Wood-Pigeon		+	
25.	<i>Corvus corax L.</i>	Corb	Common Raven		+	
26.	<i>Corvus frugilegus L.</i>	Cioara de semănătură	Eurasian Jackdaw		+	
27.	<i>Corvus monedula L.</i>	Stăncuța	Rook		+	
28.	<i>Dendrocopos medius (L.)</i>	Ciocănitoea păstriță	Middle Spotted Woodpecker	+		



29.	<i>Dendrocopos siriacus</i>	Ciocănițoarea de grădină	Syrian Woodpecker	+		
30.	<i>Dryocopus martius L.</i>	Ciocănițoare neagra	Black woodpecker	+		
31.	<i>Egretta alba L.</i>	Egretă albă	Great Egret	+		
32.	<i>Egretta garzetta L.</i>	Egretă mică	Little Egret	+		
33.	<i>Emberiza hortulana L.</i>	Presura de grădină	European pied Flycatcher	+		
34.	<i>Ficedula albicollis</i>	Muscarul gulerat	Collared Flycatcher	+		
35.	<i>Ficedula parva (Bechst.)</i>	Muscarul mic	Red-breasted Flycatcher	+		
36.	<i>Lanius collurio L.</i>	Sfrânciocul roșietic	Red-backed Shrike	+		
37.	<i>Lanius minor Gm.</i>	Sfrânciocul cu fruntea	Lesser Gray Shrike	+		
38.	<i>Lullula arborea (L.)</i>	Ciocărlia de pădure	Woodlark	+		
39.	<i>Milvus nigrans Bodd.</i>	Gaie bruna	Black kite	+		
40.	<i>Pernis apivorus L.</i>	Viespar	European honey buzzard	+		
41.	<i>Picus canus Gmel.</i>	Ciocănițoarea sură	Grey-headed woodpecker	+		
42.	<i>Turdus merula L.</i>	Mierlă	Eurasian Blackbird		+	
43.	<i>Turdus pelaris L.</i>	Cocoșar	Field fare		+	
44.	<i>Turdus philomelos L.</i>	Sturzul cântător	Song Thrush		+	
45.	<i>Turdus iliacus L.</i>	Sturzul viilor	Redwing		+	
46.	<i>Turdus viscivorus L.</i>	Sturz de vâsc	Mistle Thrush		+	

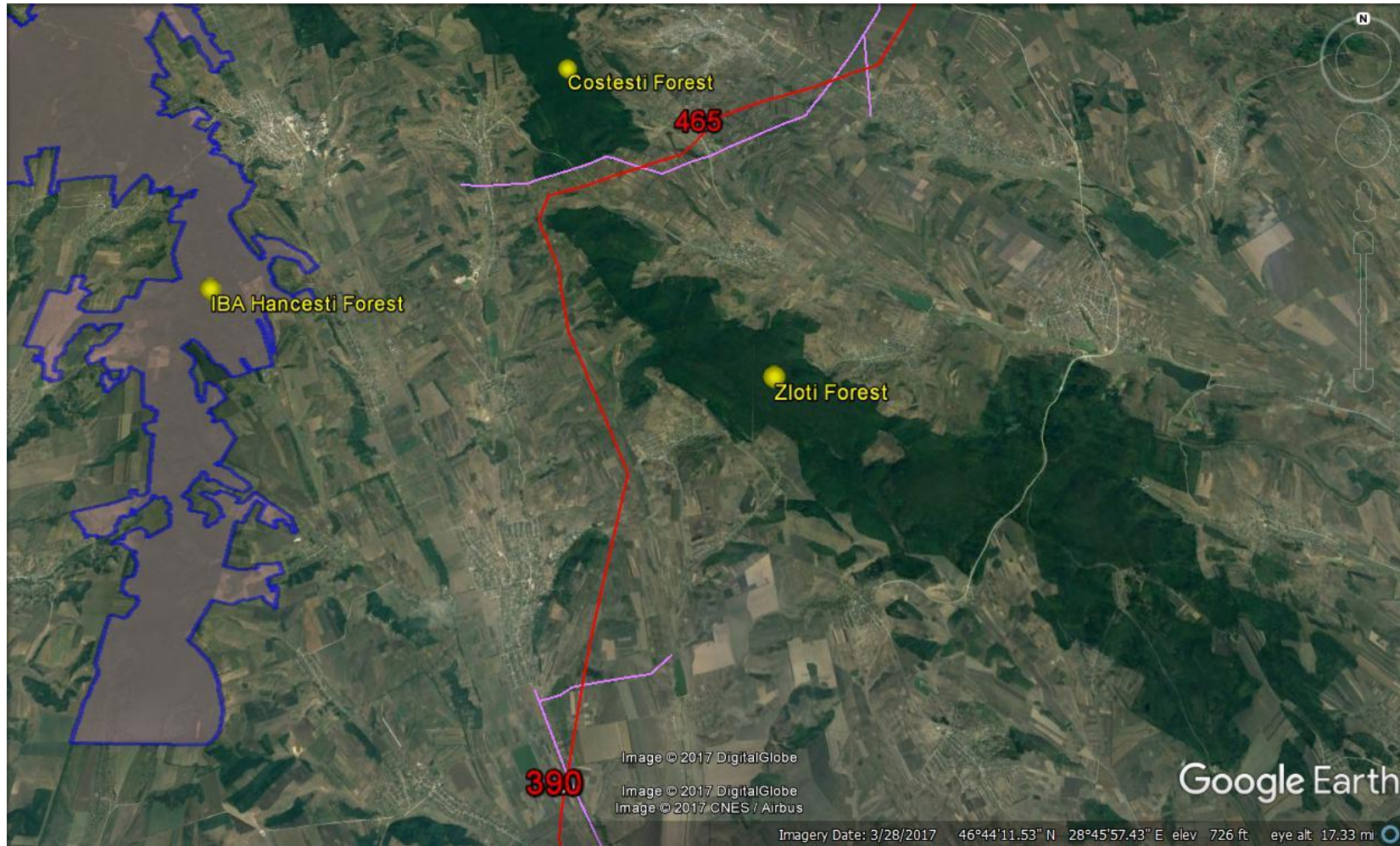
**Annex n.3. Important avifauna areas, adjacent to the OHL route**



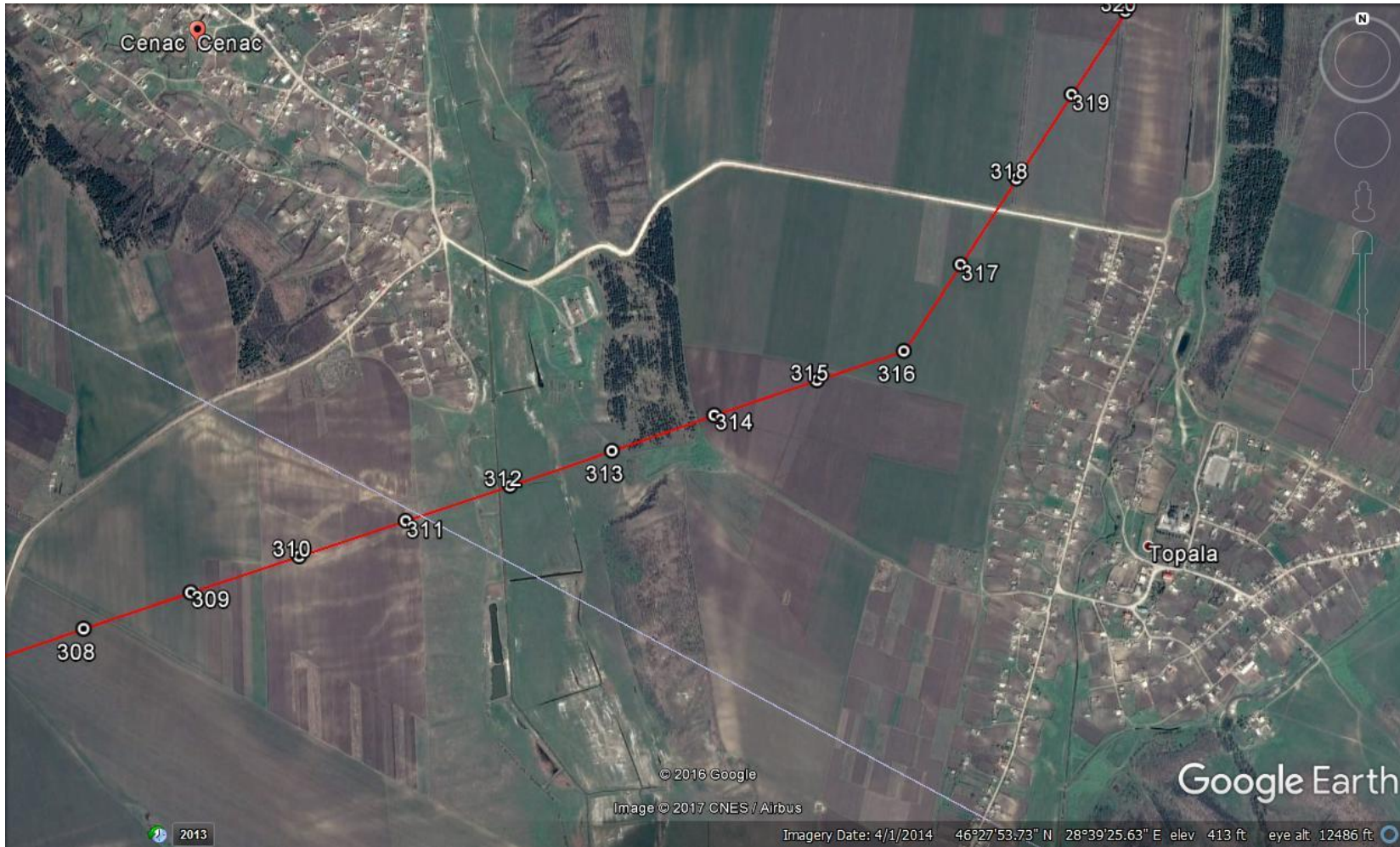
**Figure no. 25. Ișnovăț Area (pillars 509 – 510)**



**Figure no. 26. Zâmbreni Area (pillars 481 – 485)**



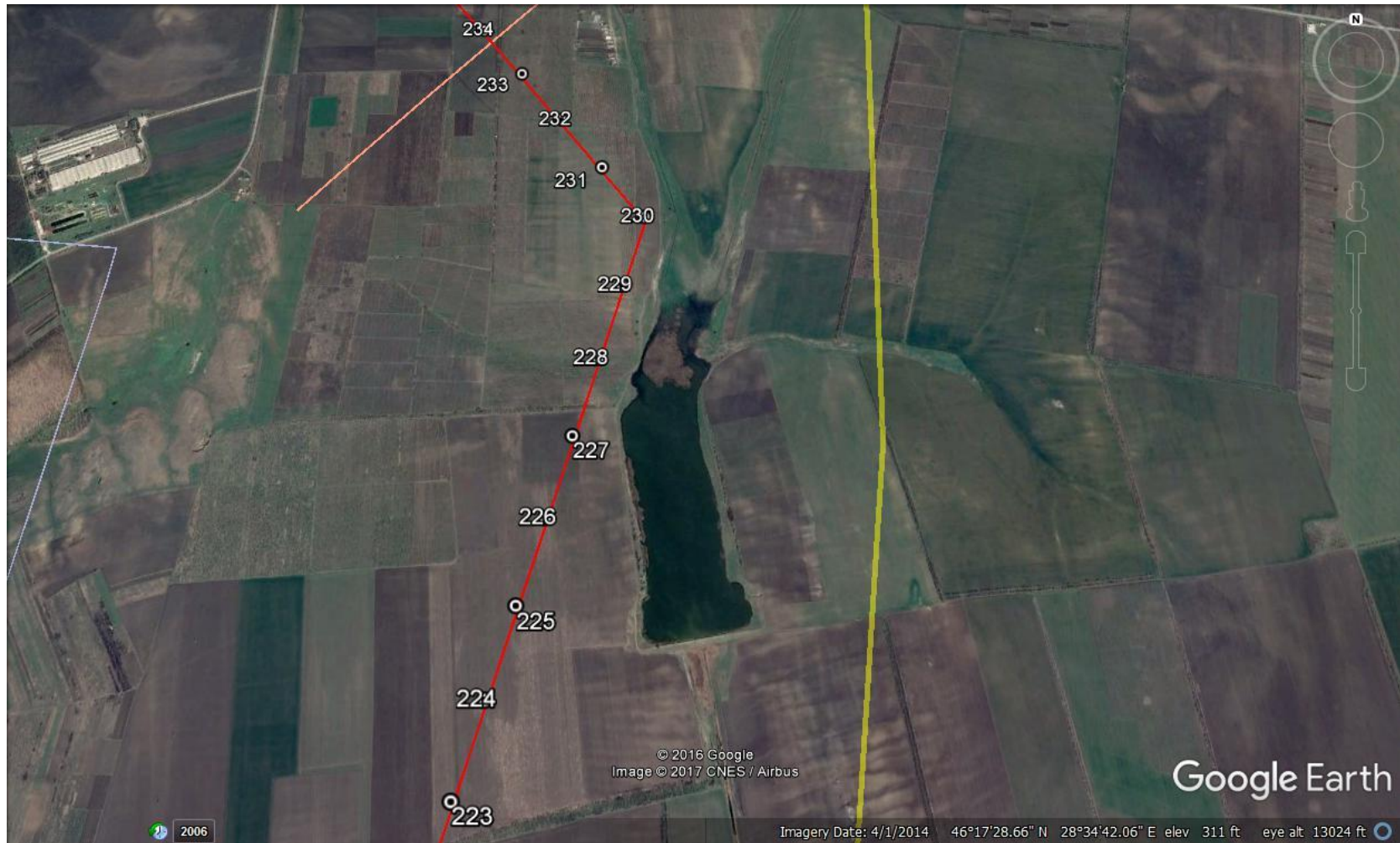
**Figure no. 27. Zloți and Costești forest area (pillars 390 - 465)**



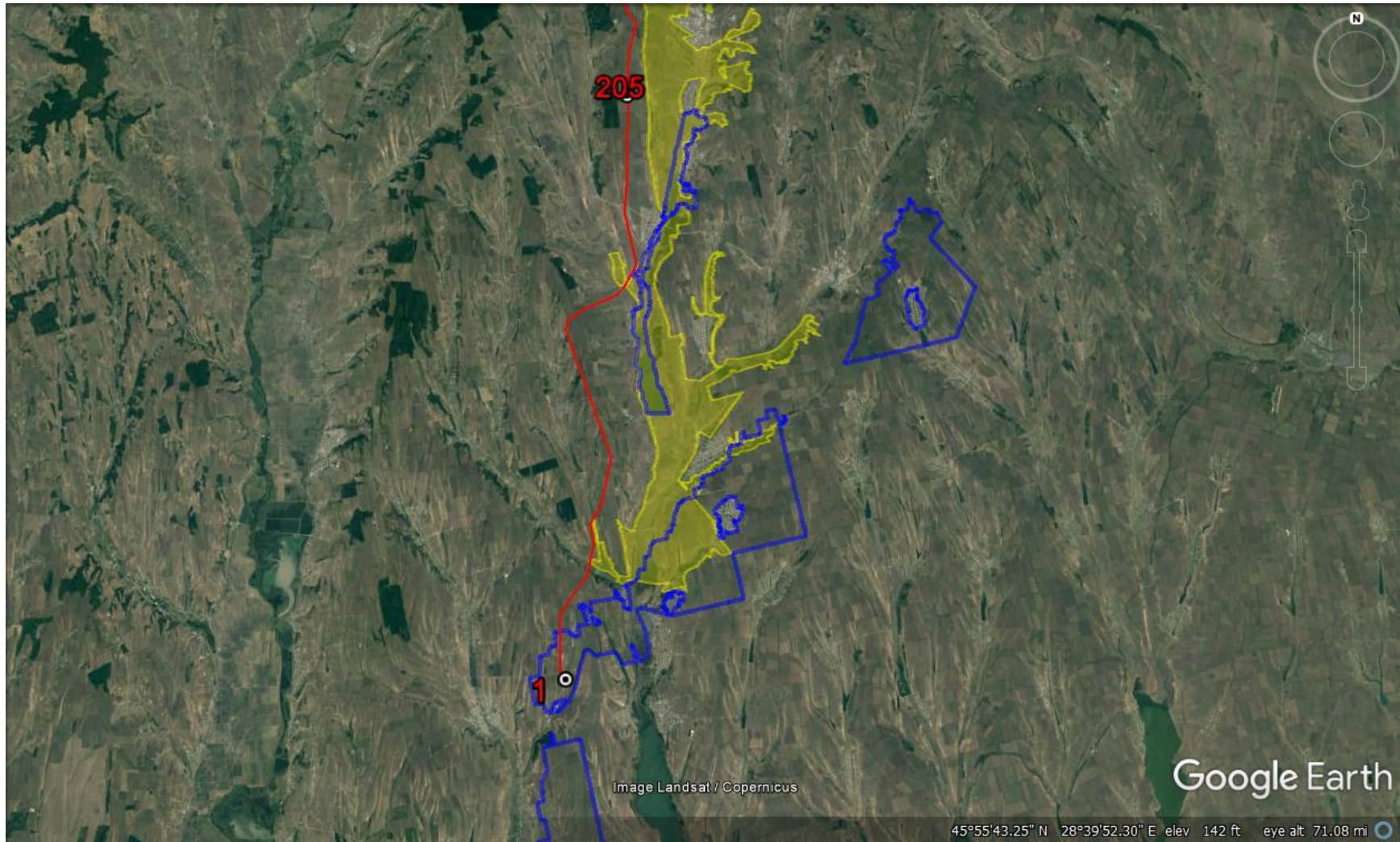
**Figure no. 28. Cenac wetland area (pillars 308 - 320)**



**Figure no. 29. Dezghingea Lake Area (pillars 266 - 277)**



**Figure no. 30. Congazcic Lake Area (pillars 223 - 235)**



**Figure no. 31. Area Concaz Lakes - Taraclia and Purcari-Etulia IBA (pillars 1-205)**





#### **Annex no.4: Saker falcon - *Falco cherrug***

##### **Description. Installation of artificial nests for falcons and other species of predators**

The **Saker falcon** is not only the rarest species of nesting bird in Moldova and Romania, but also one of the most impressive birds of prey.

The **Saker falcon** has a body length between 47-58 cm and a wingspan between 97-120 cm. Body weight ranges from 730 to 1,300 gr. Females are larger, heavier and stronger than males, which are more agile.

The plumage is characteristic, in shades of white, gray, brown, ocher, black. The upper part of the body is usually brown, each feather being slightly outlined with gray or cream, while the back part is light in color, white-cream-gray marked with thick spots.

**Figure no. 32.** Images of the **Saker falcon** species<sup>17</sup>



<sup>17</sup> Author of the images: Wildlife Romania



The **Saker falcon** is a bird adapted to typical habitats and ecosystems. It always prefers large, often arid areas, preferably isolated, dotted with rock formations or forest edges, areas of forest-steppe, steppe, pastures and plains, high plateaus with rocks, as well as deltas or wetlands.

The major danger to falcon species is habitat loss, accidental electrocution, nest destruction, poaching and illegal capture.

One of the characteristics of this falcon species is that it does not build a nest. Thus, in the absence of the alternative, a significant part of the **Saker falcon** pairs, raises their chicks in nests built by other birds, on high voltage poles. Habitat degradation, pesticide use or lack of nesting sites are just some of the main causes of the declining number of **Saker falcon`s**.

An effective way to protect this species, already tested in other European countries, is to arrange artificial nests on pillars of high voltage lines, in areas that abound in food sources but which do not provide nesting places.

The ENEL Energy Company and organization MILVUS Grup, from Romania, which participated in the implementation in Romania of a project, financed by the EU, through the LIFE + Program (NAT/H/000384), has a good experience in building artificial nests for falcons. The main objective of the project was the conservation of the **Saker falcon** in Romania, Hungary, Bulgaria and Slovakia<sup>18</sup>.

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<sup>18</sup> More detailed information about the project can be found on the website: <http://sakerlife2.mme.hu/en>.

The procedure for installing nests on pillars is a difficult one, resulted from Romania's experience. The nests are installed at a height of almost 40 meters, and insulating sheaths are installed on the adjacent cables, in order to protect the birds against electrocution.

The cable insulation measure helps to reduce the mortality among falcons and other birds, and should reduce the frequency of power outages<sup>19</sup>.

**Figure no.33.** Images<sup>20</sup> of the installation of nests on pillars of the OHL.



<sup>19</sup> More detailed information on nesting can be found on the Site: <https://www.csrmedia.ro/enel-instaleaza-cuiburi-artificiale-pe-stalpi-pentru-conservarea-soimilor-dunareni/>

<sup>20</sup> Source: Author of the images -MILVUS Grup Romania

Figure no.34. Images<sup>21</sup> of the Saker Falcon in nests on pillars of the OHL



<sup>21</sup> Source: Author of the images -MILVUS Group Romania