



# Ramsar Information Sheet

Published on 8 June 2022

Update version, previously published on : 1 January 1998

## Ukraine

### Kryva Bay and Kryva Spit



|                  |                       |
|------------------|-----------------------|
| Designation date | 23 November 1995      |
| Site number      | 774                   |
| Coordinates      | 47°04'08"N 38°04'43"E |
| Area             | 11 861,05 ha          |

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

The Site is located at the northern the Sea of Azov coast in the south of Donetsk Region and represented by a shallow sea bay, with the borders defined by 3 accumulative sand-shell spits. Kryva Spit is a typical Azov spit of a triangular form, 11 km long and 7 km at the base. Its flat lowland relief does not exceed 2 m a.s.l. The eastern coast with a wide beach is currently built up by a settlement and numerous recreation centres. The western coast is muddy and has a low beach. In the central and northern parts there are numerous temporary shallow closed salt lakes. A great impact on the spit, its surface, hydrological regime and wildlife is caused by storms and wide-driven phenomena. In winter, the bay is ice-covered.

The end of Kryva Spit has bulged far off the sea as a sand-shell strip circa 5 km long and 10-100 m wide with extremely favourable natural conditions for the breeding of colonial waterbirds. Since 2000, with the implementation of the protection regime, their number and species composition have increased. For Ukraine there is a unique colony of *Pelecanus crispus* – up to 32 pairs; the largest in Palearctic colony of *Thalasseus sandvicensis* – up to 30,000 pairs, the largest in the western part of the species range colony of *Larus ichthyaetus* – up to 3,000 pairs; a colony of *Larus cachinnans* – up to 10,000 pairs. The Site supports over 250 bird species. About 100 species are breeding, and other use the area during migration or wintering. Gatherings of over 40,000 ind. of waterbirds can be found, the most numerous are the Great Cormorant, Coot, Mallard, waders. Circa 60 fish species (including sturgeons) use the bay for fattening of youth, some species for spawning. There are 17 animal species from the IUCN Red List, about 60 animal species listed in the Red Data Book of Ukraine. There are about 500 vascular plant species, among them 11 listed in the Red Data Book of Ukraine. About 20 species and forms of plants are endemic and subendemic for the south-east of Ukraine.

It is one of few areas in the Northern Sea of Azov region with relatively untouched natural complexes, being a refuge of biodiversity near one of the most industrially developed and densely populated regions of Ukraine. The Site is part of Meotyda National Nature Park.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Responsible compiler

|                    |   |
|--------------------|---|
| Institution/agency | National Nature Park 'Meotyda'  |
| Postal address     | Prymorska str., 12, Urzuf village, Mangushskiy District, Donetsk Region, Ukraine, 87455 |

##### National Ramsar Administrative Authority

|                    |   |
|--------------------|---|
| Institution/agency | Ministry of Environmental Protection and Natural Resources of Ukraine |
| Postal address     | 35, Vasilya Lipkivs'kogo Street, Kyiv, Ukraine, 03035                 |

#### 2.1.2 - Period of collection of data and information used to compile the RIS

|           |                                   |
|-----------|-----------------------------------|
| From year | <input type="text" value="2012"/> |
| To year   | <input type="text" value="2018"/> |

#### 2.1.3 - Name of the Ramsar Site

|   |                          |
|---|--------------------------|
| Official name (in English, French or Spanish) | Kryva Bay and Kryva Spit |
|---|--------------------------|

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

|  |   |
|--|---|
| (Update) A. Changes to Site boundary                                   | Yes <input checked="" type="radio"/> No <input type="radio"/> |
| (Update) The boundary has been delineated more accurately              | <input checked="" type="checkbox"/>                           |
| (Update) The boundary has been extended                                | <input checked="" type="checkbox"/>                           |
| (Update) The boundary has been restricted                              | <input type="checkbox"/>                                      |
| (Update) B. Changes to Site area                                       | the area has increased  |
| (Update) The Site area has been calculated more accurately             | <input type="checkbox"/>                                      |
| (Update) The Site has been delineated more accurately                  | <input type="checkbox"/>                                      |
| (Update) The Site area has increased because of a boundary extension   | <input checked="" type="checkbox"/>                           |
| (Update) The Site area has decreased because of a boundary restriction | <input type="checkbox"/>                                      |
| (Update) For secretariat only. This update is an extension             | <input type="checkbox"/>                                      |

#### 2.1.5 - Changes to the ecological character of the Site

|   |  |
|---|--|
| (Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?  | Yes (actual)   |
| (Update) Are the changes  | Positive <input type="radio"/> Negative <input checked="" type="radio"/> Positive & Negative <input type="radio"/> |
| (Update) Negative %   | <input type="text" value="30"/>  |
| (Update) No information available   | <input type="checkbox"/>   |
| (Update) Optional text box to provide further information   |  |
| <p>Since 2008, the water level in the inland water bodies of the spit has been decreasing. It is especially noticeable in the largest water body – Kryvoskyi Liman. The water level decreased by 40-50 cm that has led to drying of many small water bodies and salt marshes around the liman. Periodically, the Kryvoskyi itself dries up completely. The causes of this are unknown. Similar phenomenon occurs around the entire Sea of Azov.</p> |  |
| (Update) Changes resulting from causes operating within the existing boundaries?  | <input checked="" type="checkbox"/>  |
| (Update) Changes resulting from causes operating beyond the site's boundaries?  | <input checked="" type="checkbox"/>  |
| (Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?   | <input type="checkbox"/>   |
| (Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?   | <input type="checkbox"/>   |
| (Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.   |  |

Since 2014, the Site was occupied and the territory is not under control by the government of Ukraine. As a result, denial of the reserve regime and excessive human disturbance, the number of nesting birds on the Kryva Spit has decreased significantly and is currently not subject to accounting.

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

#### b) Digital map/image

<2 file(s) uploaded>

Former maps

#### Boundaries description

The boundary of the Site follows the physical boundaries of the bay and spit and their aquatic areas. The Site is located in the south-eastern part of Donetsk Region in Kalmius District, at the northern coast of the Sea of Azov. Its territory encompasses Sedove Village, and along the northern boundary – Novoazovsk City and the villages of Bezimenne and Samsonove on the west side to village Obryv on the east side. In 2018 the boundaries of the Site was extended and delineated more accurately increasing the total area by 10,462 ha and officially approved by Ukrainian Governance in 2021. The area was calculated based on the Land Cadastral Map of Ukraine using GIS tools.

### 2.2.2 - General location

a) In which large administrative region does the site lie?

b) What is the nearest town or population centre?

### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

### 2.2.5 - Biogeography

#### Biogeographic regions

| Regionalisation scheme(s)             | Biogeographic region |
|---------------------------------------|----------------------|
| EU biogeographic regionalization      | Steppic              |
| Marine Ecoregions of the World (MEOW) | Azov Sea             |

#### Other biogeographic regionalisation scheme

According to physiographic zoning of Ukraine, the site is located within the Azov (Pryazovska) lowland of the Dnipro Left Bank–Azov (Livoberezhnodynprovsko–Pryazovsky) Region of the Steppe Zone. According to geo-botanical zoning, the wetland is located within the Azov (Pryazovsky) district of grassland steppes and vegetation of granites areas of the Pontic Steppe Province of the Steppe Zone. According to zoogeographical zoning, it is the Sywash–Azov sub-area of the Azov–Black Sea Rayon of the Pontic District of the Steppe Province of the Mediterranean – Central Asian Sub-Region of Palaeartic Region. National Scheme of biogeographic regionalisation. National Atlas of Ukraine. – Kyiv: State scientific production enterprise ‘Kartographia’, 2007. – 440 p.

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

<no data available>

Criterion 2 : Rare species and threatened ecological communities

Criterion 3 : Biological diversity

Justification

The Site is a typical landscape formation of the northern part of the Sea of Azov region where aquatic, marshy, halophytic, halophitic-meadow, littoral-psammophytic and psammophitic-steppe complexes, typical for the region, remained untouched or in close-to-natural state with all their variety of plants and animals that shows a crucial role of the Site in supporting biodiversity. Over 250 bird species can be found there, more than 100 of them are breeding, others use the site during migration or wintering. Local colonies of hydrophilic birds are among the most numerous at the Sea of Azov coast. A shallow bay is used by circa 60 fish species (including sturgeons) for fattening of juveniles. Some species use the Site as a spawning area. The flora includes about 550 species of vascular plants. Specific azonal conditions provoked emergence of a great number of stenotopic, endemic and subendemic species and forms.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers 100 000

Start year 2012

Source of data: Bronskova et al., 2016; Molodan 2017; author's original data.

Criterion 6 : >1% waterbird population

Criterion 7 : Significant and representative fish

Justification

A shallow bay is used by circa 60 fish species (including sturgeons) for fattening of juveniles.

Criterion 8 : Fish spawning grounds, etc.

Justification

Some of the fish species use the Site as a spawning area.

#### 3.2 - Plant species whose presence relates to the international importance of the site

| Phylum                         | Scientific name                 | Criterion 2                         | Criterion 3                         | Criterion 4                         | IUCN Red List | CITES Appendix I         | Other status                                | Justification  |
|--------------------------------|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------|--------------------------|---|--|
| <b>Plantae</b>                 |                                 |                                     |                                     |                                     |               |                          |   |  |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Agropyron cimmericum</i>     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | EN            | <input type="checkbox"/> |   | Endemic to Ukraine.  |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Allium pervestitum</i>       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | EN            | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - EN | Endemic to Ukraine and the Taman Peninsula of Russia                                 |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Apocynum venetum</i>         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | A rare species with a disjunctive range. The only location in the northern Azov Sea. |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Astragalus buchtormensis</i> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - LC | Black Sea-Caspian steppe species with fragmented range.                              |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Astragalus onobrychis</i>    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | LC            | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - LC | Black sea-Azov littoral species  |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Astrodaucus littoralis</i>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | It is endemic to southern Europe and eastern Europe. Stenotopic littoral species     |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Caragana scythica</i>        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | Occurs on steppe slopes. Pontic endemic.   |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Crambe maritima</i>          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | Euro-Mediterranean littoral species  |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Frankenia pulverulenta</i>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | Rare stenotopic species on the north-western border of the range                     |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Glycyrrhiza glabra</i>       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - NE |  |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Medicago falcata</i>         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | Endemic to Ukraine.  |
| TRACHEOPHYTA/<br>MAGNOLIOPSIDA | <i>Salsola acutifolia</i>       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | A rare stenotopic species on the northwestern border of the disjunctive range        |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Stipa capillata</i>          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - NE |  |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Stipa lessingiana</i>        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - NE |  |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Stipa pennata sabulosa</i>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU | Rare species on the border of the range.   |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Stipa zalesskii</i>          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |               | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - NE | Black Sea endemic species.   |
| TRACHEOPHYTA/<br>LILIOPSIDA    | <i>Zostera marina</i>           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | LC            | <input type="checkbox"/> | Bern Convention – Annex I                   |  |

Vegetation of the Site is represented by communities typical for the Sea of Azov coastal area.

### 3.3 - Animal species whose presence relates to the international importance of the site

| Phylum                | Scientific name            | Species qualifies under criterion   |                          |                          |                          | Species contributes under criterion |                          |                          |                          | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I         | CMS Appendix I           | Other Status                                | Justification |
|-----------------------|----------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-----------|---------------------|-----------------|---------------|--------------------------|--------------------------|---|---------------|
|                       |                            | 2                                   | 4                        | 6                        | 9                        | 3                                   | 5                        | 7                        | 8                        |           |                     |                 |               |                          |                          |   |               |
| <b>Others</b>         |                            |                                     |                          |                          |                          |                                     |                          |                          |                          |           |                     |                 |               |                          |                          |   |               |
| CHORDATA/<br>REPTILIA | <i>Dolichophis caspius</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |                 |               | <input type="checkbox"/> | <input type="checkbox"/> | listed in the Red Data Book of Ukraine - VU |               |

| Phylum                             | Scientific name                  | Species qualifies under criterion   |                                     |                          |                          | Species contributes under criterion |                          |                                     |                                     | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I         | CMS Appendix I                      | Other Status   | Justification   |
|------------------------------------|----------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-----------|---------------------|-----------------|---------------|--------------------------|-------------------------------------|--|---|
|                                    |                                  | 2                                   | 4                                   | 6                        | 9                        | 3                                   | 5                        | 7                                   | 8                                   |           |                     |                 |               |                          |                                     |  |   |
| CHORDATA/MAMMALIA                  | <i>Eptesicus serotinus</i>       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/MAMMALIA                  | <i>Hemiechinus auritus</i>       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - EN  |   |
| CHORDATA/MAMMALIA                  | <i>Myotis mystacinus</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/MAMMALIA                  | <i>Phocoena phocoena</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/MAMMALIA                  | <i>Pipistrellus kuhlii</i>       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/MAMMALIA                  | <i>Vormela peregusna</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |                     |                 | VU            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| <b>Fish, Mollusc and Crustacea</b> |                                  |                                     |                                     |                          |                          |                                     |                          |                                     |                                     |           |                     |                 |               |                          |                                     |  |   |
| CHORDATA/ACTINOPTERYGII            | <i>Acipenser gueldenstaedtii</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     |                 | CR            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/ACTINOPTERYGII            | <i>Acipenser stellatus</i>       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     |                 | CR            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine- VU   |   |
| CHORDATA/ACTINOPTERYGII            | <i>Alburnus leobergi</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/ACTINOPTERYGII            | <i>Benthophilus stellatus</i>    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |           |                     |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - LC  |   |
| CHORDATA/ACTINOPTERYGII            | <i>Huso huso</i>                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |           |                     |                 | CR            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - CR  |   |
| <b>Birds</b>                       |                                  |                                     |                                     |                          |                          |                                     |                          |                                     |                                     |           |                     |                 |               |                          |                                     |  |   |
| CHORDATA/AVES                      | <i>Aythya nyroca</i>             | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 4         | 2012-2018           |                 | NT            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - VU  |   |
| CHORDATA/AVES                      | <i>Branta ruficollis</i>         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 30        | 2012-2018           |                 | VU            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - VU  | occurs during migration   |
| CHORDATA/AVES                      | <i>Bucephala clangula</i>        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 1000      | 2012-2018           | 2.3             | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - LC  | occurs during migration e clangula, Western Siberia & North-east Europe/Black Sea |
| CHORDATA/AVES                      | <i>Charadrius alexandrinus</i>   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 8         | 2012-2015           |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  | Breeding area.  |
| CHORDATA/AVES                      | <i>Charadrius hiaticula</i>      | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 100       | 2012-2018           |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - LC  |   |
| CHORDATA/AVES                      | <i>Circus cyaneus</i>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 6         | 2012-2018           |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in Annex II of the Bern Convention and in the Red Data Book of Ukraine - LC |   |
| CHORDATA/AVES                      | <i>Circus pygargus</i>           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 4         | 2014                |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  | Breeding of 2-3 pairs   |
| CHORDATA/AVES                      | <i>Coracias garrulus</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 10        | 2001-2015           |                 | LC            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - EN  | Breeding of 2-3 pairs   |
| CHORDATA/AVES                      | <i>Falco vespertinus</i>         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 20        | 2000-2015           |                 | NT            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Bern Convention – Annex II   | Breeding of up to 10 pairs  |
| CHORDATA/AVES                      | <i>Glareola pratincola</i>       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 40        | 2012-2015           |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - NT  | Breeding of up to 20 pairs  |
| CHORDATA/AVES                      | <i>Grus grus</i>                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 10        | 2012-2018           |                 | LC            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - LC  |   |
| CHORDATA/AVES                      | <i>Haematopus ostralegus</i>     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | 100       | 2012-2015           |                 | NT            | <input type="checkbox"/> | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU  | Breeding of up to 10 pairs, migration of up to 100 ind                            |

| Phylum        | Scientific name                | Species qualifies under criterion   |                                     |                                     |                          | Species contributes under criterion |                                     |                          |                          | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I                    | CMS Appendix I                      | Other Status                                  | Justification  |
|---------------|--------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-----------|---------------------|-----------------|---------------|-------------------------------------|-------------------------------------|---|--|
|               |                                | 2                                   | 4                                   | 6                                   | 9                        | 3                                   | 5                                   | 7                        | 8                        |           |                     |                 |               |                                     |                                     |   |  |
| CHORDATA/AVES | <i>Haliaeetus albicilla</i>    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 3         | 2005-2018           |                 | LC            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - Rare | Wintering  |
| CHORDATA/AVES | <i>Himantopus himantopus</i>   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 240       | 2012-2015           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU   | Breeding of up to 120 pairs  |
| CHORDATA/AVES | <i>Ichthyaetus ichthyaetus</i> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5000      | 2012-2018           | 4.5             |               | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - CR   | Breeding of up to 2,800 pairs Black Sea & Caspian/South-west Asia                              |
| CHORDATA/AVES | <i>Larus cachinnans</i>        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20000     | 2012-2018           | 3.7             | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |   | Breeding from 5,000 to 12,000 pairs Black Sea & Western Asia/SW Asia, NE Africa                |
| CHORDATA/AVES | <i>Limosa limosa</i>           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 200       | 2012-2018           |                 | NT            | <input type="checkbox"/>            | <input type="checkbox"/>            |   | Feeding area during migrations   |
| CHORDATA/AVES | <i>Netta rufina</i>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 4         | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - LC   | breeding of 1-2 pairs  |
| CHORDATA/AVES | <i>Numenius arquata</i>        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 30        | 2012-2018           |                 | NT            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - CR   | Feeding area during migrations   |
| CHORDATA/AVES | <i>Otis tarda</i>              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 12        | 2012                |                 | VU            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - CR   | Occurs during migrations   |
| CHORDATA/AVES | <i>Pelecanus crispus</i>       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 17        | 2012-2018           |                 | NT            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - CR   | Breeding since 2009, up to 32 pairs  |
| CHORDATA/AVES | <i>Pelecanus onocrotalus</i>   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 5         | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | listed in the Red Data Book of Ukraine - EN   |  |
| CHORDATA/AVES | <i>Phalacrocorax carbo</i>     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15000     | 2012-2018           | 2.6             | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |   | Breeding from 600 to 2,000 pairs, migratory concentrations sinensis, Black Sea & Mediterranean |
| CHORDATA/AVES | <i>Platalea leucorodia</i>     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 2         | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU   |  |
| CHORDATA/AVES | <i>Plegadis falcinellus</i>    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 5         | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU   |  |
| CHORDATA/AVES | <i>Recurvirostra avosetta</i>  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 150       | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - NT   | Breeding of up to 80 pairs, migratory concentrations   |
| CHORDATA/AVES | <i>Sterna hirundo</i>          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 6000      | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |   | Breeding of up to 3500 pairs   |
| CHORDATA/AVES | <i>Sternula albifrons</i>      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 300       | 2012-2015           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - NT   | Breeding of up to 250 pairs  |
| CHORDATA/AVES | <i>Tadorna ferruginea</i>      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 24        | 2012-2018           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - VU   |  |
| CHORDATA/AVES | <i>Thalasseus sandvicensis</i> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 60000     | 2012-2018           | 54.5            | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            |   | Breeding of up to 30,000 pairs sandvicensis, Black Sea & Mediterranean (bre)                   |
| CHORDATA/AVES | <i>Tringa stagnatilis</i>      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | 20        | 2012-2015           |                 | LC            | <input type="checkbox"/>            | <input type="checkbox"/>            | listed in the Red Data Book of Ukraine - EN   | Migration stopover   |

1) Percentage of the total biogeographic population at the site

211 species of birds have been registered within the Site, 103 of which are waterfowl. The 12 species of birds have a conservation status in the IUCN Red List, and 45 are listed in the Red Data Book of Ukraine. The Site becomes especially important during nesting. Thanks to the favorable conditions of Kryva Spits provides nesting grounds for many waterbird species in particular for the largest in the western part of their range colony of *Larus ichthyaetus*, the largest in Palearctic colony of *Thalasseus sandvicensis* and the only one in Ukraine colony of *Pelecanus crispus*. During migrations and wintering there are gatherings exceeding 40,000 waterbirds; the most numerous in them are the Great Cormorant, Coot, Mallard.

Three species of fish - *Acipenser gueldenstaedtii*, *Acipenser stellatus*, *Huso huso*, which use shallow bay land for feeding, have a CR category in the IUCN Red List.



## 3.4 - Ecological communities whose presence relates to the international importance of the site

| Name of ecological community   | Community qualifies under Criterion 2? | Description   | Justification  |
|--|--|---|--|
| A2.5515 Black Sea annual Salicornia , Suaeda and Salsola saltmarshes | <input checked="" type="checkbox"/>    | Areas that are located a bit higher than littoral, occupied with halophytic communities. Communities of the classes Salicornietea fruticosae, Thero-Salicornietea, Cakiletea maritimae.   | Resolution 4 of Bern Convention. Habitat plays an important role as a area of breeding (including colonial) and roosting of local and migratory birds.                                     |
| A2.61 Seagrass beds on littoral sediments                            | <input checked="" type="checkbox"/>    | Littoral communities of Zostera marina, Zostera noltii, Ruppia marina, etc.   | Resolution 4 of Bern Convention. This type of habitats has the highest species diversity in the Sea of Azov and serve as main feeding areas for local and migratory species of waterbirds. |
| A5 Sublittoral sediment  | <input checked="" type="checkbox"/>    | Sublittoral sediment of mobile sedimentary rocks. Areas of inland shelf constantly flooded with marine water  | Resolution 4 of Bern Convention. The area supports formation of rich communities of invertebrates which serve as feeding resources for many species of fish                                |
| B1.1 Sand beach driftlines   | <input checked="" type="checkbox"/>    | Sand strip, which lower limit in tideless seas is the average water level and which is flooded by surf. It is often enriched in organic materials deposited by water  | Resolution 4 of Bern Convention. Habitats of this type are important for local bird species as breeding and feeding area, and for migratory birds – as a stopover and feeding area.        |
| B1.3 Shifting coastal dunes  | <input checked="" type="checkbox"/>    | Elevated sand areas of sea coast with relatively steep slopes without vegetation or with sparsed vegetation participated by Crambe maritima, Leymus racemosus subsp. sabulosus, Eryngium maritimum, etc.                                      | Resolution 4 of Bern Convention. Support biodiversity (including different types of biotopes) of this region.  |
| B1.4 Coastal stable dune grassland (grey dunes)                      | <input checked="" type="checkbox"/>    | Elevated sand areas of the sea coast with developed vegetation of the class Ammophiletea  | Resolution 4 of Bern Convention. Support biodiversity (including different types of biotopes) of this region   |
| C1.3411 Communities of Batrachium                                    | <input checked="" type="checkbox"/>    | Communities with the dominance of Batrachium spp. with submerged and floating leaves, typical for shallows with fluctuating water level   | Resolution 4 of Bern Convention. Support biodiversity (including different types of biotopes) of this region.  |
| C1.66 Temporary lakes, ponds and pools                               | <input checked="" type="checkbox"/>    | Temporary inland saline water bodies  | Resolution 4 of Bern Convention. Are valuable as roosting and feeding areas of birds.  |
| E1.2 Perennial calcareous grassland and basic steppes                | <input checked="" type="checkbox"/>    | Include steppe communities on sand-shell sediment. Typical dominants: Festuca valesiaca s. l., Koeleria cristata, Poa angustifolia, Salvia spp., Stipa spp. Communities predominantly belong to the class Festuco-Brometea.                   | Resolution 4 of Bern Convention. Are valuable as roosting and feeding areas of birds. Support biodiversity (including different types of biotopes) of this region.                         |
| E6.2 Continental inland salt steppes                                 | <input checked="" type="checkbox"/>    | The vegetation belongs to the classes Juncetea maritimi, Festuco-Puccinellietea s. l. Typical dominants of the communities: Aeluropus litoralis, Artemisia santonica, Aster tripolium, Elytrigia elongata, Festuca regeliana, Juncus gerardi. | Resolution 4 of Bern Convention. Area of feeding and stay for many species of local and migratory birds. Support high number of endemic species and forms.                                 |

| Name of ecological community | Community qualifies under Criterion 2? | Description   | Justification  |
|------------------------------|--|---|--|
| X02 Saline coastal lagoons   | <input checked="" type="checkbox"/>    | Salinity varies from brackish to hypersaline depending on precipitation amount, evaporation and additional inflow of new marine water during storms, periodical flooding by the sea in the winter period. Vegetation represented by aquatic plants. | Resolution 4 of Bern Convention. Area of feeding and stay for many species of local and migratory birds. |
| X03 Brackish coastal lagoons | <input checked="" type="checkbox"/>    | Coastal overflows of saline water with different salt content and of different size which are completely or partly separated from the sea by sand shores.   | Resolution 4 of Bern Convention. Area of feeding and stay for many species of local and migratory birds. |

[Optional text box to provide further information](#)

There are aquatic, coastal, marshy, psammophytic, halophitic, meadow and steppe types of vegetation. A psammophytic variant of forb-fescue-feather grass steppes includes a number of rare, endemic communities, rare and relict species of plants. The littoral vegetation, formed on a sandy swash wall and in the surf zone is similar in its origin to that of sandy steppes. They are communities of stenotopic plants, adapted to grow on a mobile sand substrate. They endure the highest pressure from recreants and show the greatest reduction in their distribution areas. Vegetation of salt marshes adds their peculiar features to the landscape and include a number of endemic and rare species. Marshes are an integral part of coastal spits, though rather monotonous in terms of vegetation as well as coastal-aquatic and aquatic communities. However, they play an important landscape-forming, stabilizing and protective role in the Site. Some phytocoenoses occur only in the coastal zone.

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

Kryva Bay with its total area of circa 7,000 ha is part of Tahangroh Bay of the Sea of Azov. In the East, it is separated from its main part by Kryva Spit. The bottom is extremely flat with a gradually increasing depth (up to 4 m), mostly covered with mud and, to less degree, by sand. The Don River flows into this part of the Sea. The water is freshened and its salinity varies depending on the weather and intensity of the Don river runoff. It ranges between 3-8 ppt.

The Sea of Azov is characterized by diverse and unique coastal accumulative formations, one of which is Kryva Spit. It is a representative spit of the Azov type, made of quartz sand and shells. Its relief is lowland and flat, not exceeding 2 m above sea level that is a determining factor in the formation of geochemical, edaphical and hydrogeological features of the terrain. A narrow coastal zone of the eastern side of the spit is typical elevated above sea level representing a littoral wall with piles of sand-shell sediments and a wide beach. The western shore of the spit is muddy with a narrow and low beach. The central part of the spit is a flat lowland, with numerous troughs, where temporary closed lakes are formed. Storms and wind-driven phenomena have a great impact on the spit, its surface and wildlife. Specific hydrogeological features of Azov spits, combined with climate factors, have determined the development of unique azonal soils. High water permeability of sand-shell deposits leads to the dependence of groundwater level from the sea with which the spits are closely connected and which influences the chemism of soil solutions. Spits hold ground waters of different salinity that intensifies extreme conditions for plants and restricts their growth making possible only a certain set of ecomorphs (mainly halophytes, psammophytes, hygro- and hydrophytes). Wind-driven phenomena cause inundation of shallow areas of the spit.

Also on the western side of the Site there are two more spit - Samsonova and Bezymenna, which are ecologically very similar to the Kryva spit but have a smaller size. On the northern side, the Site is bounded by up to 50 m high slopes of the mainland shore, which are composed of forest rocks and chernozem soils. These slopes are centers of preserved vegetation of herbaceous-fescue-feathergrass steppes with their typical and rare species of steppe plants and animals. Located in the north-eastern part of Kryva Kosa, a relatively large permanent brackish reservoir - Kryvokisky estuary - has a depth of 1-1.2 m and tends to dry out.

The territory is included in Meotyda National Nature Park. Unfortunately, since 2014, the Site is located with the territory uncontrolled by Ukraine. Lack of protection, increase of anthropogenic and military pressure have resulted in decrease in the number of bird colonies.

### 4.2 - What wetland type(s) are in the site?

#### Marine or coastal wetlands

| Wetland types (code and name)        | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type | Justification of Criterion 1 |
|--------------------------------------|------------|--|---------------------------|------------------------------|
| A: Permanent shallow marine waters   |            | 1  | 9524                      |                              |
| E: Sand, shingle or pebble shores    |            | 4  | 95                        |                              |
| J: Coastal brackish / saline lagoons |            | 3  | 195                       |                              |

#### Inland wetlands

| Wetland types (code and name)  | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type | Justification of Criterion 1 |
|--|------------|--|---------------------------|------------------------------|
| Saline, brackish or alkaline water > Lakes >> R: Seasonal/ intermittent saline/ brackish/ alkaline lakes and flats           |            | 3  | 270                       |                              |
| Saline, brackish or alkaline water > Marshes & pools >> Sp: Permanent saline/ brackish/ alkaline marshes/ pools              |            | 2  | 900                       |                              |
| Saline, brackish or alkaline water > Marshes & pools >> Ss: Seasonal/ intermittent saline/ brackish/ alkaline marshes/ pools |            | 3  | 380                       |                              |

#### Human-made wetlands

| Wetland types (code and name) | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type |
|-------------------------------|------------|--|---------------------------|
| 7: Excavations                |            | 4  |                           |

#### Other non-wetland habitat

| Other non-wetland habitats within the site | Area (ha) if known |
|--|--------------------|
| Planted forests                            | 80                 |
| Settlements                                | 285                |
| Sandy steppe                               | 150                |

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Other noteworthy plant species

| Phylum                      | Scientific name                           | Position in range / endemism / other  |
|-----------------------------|---|---|
| TRACHEOPHYTALILIOPSISIDA    | <i>Agrostis gigantea maotica</i>          | Southern Black Sea endemic  |
| TRACHEOPHYTALILIOPSISIDA    | <i>Allium guttatum</i>                    | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Anchusa gmelinii</i>                   | Black Sea endemic   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Arenaria leptoclados leptoclados</i>   | Azov Sea endemic  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Bassia hirsuta</i>                     | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Centaurea odessana</i>                 | Southern Black Sea endemic  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Cerastium dubium</i>                   | Red Data Book of Donetsk Region   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Cerastium ramosissimum</i>             | Red Data Book of Donetsk Region of Ukraine. EEastern Black Sea endemic      |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Corispermum canescens</i>              | Red Data Book of Donetsk Region of Ukraine. Black Sea-Azov littoral endemic |
| TRACHEOPHYTALILIOPSISIDA    | <i>Cyperus pannonicus</i>                 | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Ephedra distachya</i>                  | Red Data Book of Donetsk Region   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Eryngium maritimum</i>                 | Red Data Book of Donetsk Region   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Frankenia hirsuta</i>                  | Red Data Book of Donetsk Region   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Galium volhynicum</i>                  | Red Data Book of Donetsk Region. Western Black Sea endemic                  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Heliotropium suaveolens suaveolens</i> | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Inula helenium</i>                     | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTALILIOPSISIDA    | <i>Iris halophila</i>                     | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTALILIOPSISIDA    | <i>Juncus fominii</i>                     | Black Sea endemic   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Limonium bellidifolium</i>             | Black Sea-Caspian endemic   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Linaria genistifolia euxina</i>        | Red Data Book of Donetsk Region of Ukraine. Black Sea-littoral endemic.     |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Lotus elisabethae</i>                  | Black Sea-Caspian endemic   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Lotus ucrainicus</i>                   | Eastern-Black Sea endemic   |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Papaver laevigatum</i>                 | Red Data Book of Donetsk Region of Ukraine. Western Black Sea endemic       |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Rhaponticum serratuloides</i>          | Red Data Book of Donetsk Region of Ukraine                                  |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Verbascum ovalifolium</i>              | Black Sea endemic   |

## Invasive alien plant species

| Phylum                      | Scientific name                | Impacts   | Changes at RIS update |
|-----------------------------|--------------------------------|-----------|-----------------------|
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Acer negundo</i>            | Potential | No change             |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Ambrosia artemisiifolia</i> | Potential | No change             |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Amorpha fruticosa</i>       | Potential | No change             |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Elaeagnus angustifolia</i>  | Potential | No change             |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Gleditsia triacanthos</i>   | Potential | No change             |
| TRACHEOPHYTAMAGNOLIOPSISIDA | <i>Robinia pseudoacacia</i>    | Potential | No change             |

### 4.3.2 - Animal species

Invasive alien animal species

| Phylum                 | Scientific name                 | Impacts                | Changes at RIS update |
|------------------------|---------------------------------|------------------------|-----------------------|
| CTENOPHORA/TENTACULATA | <i>Mnemiopsis leidyi</i>        | Actual (major impacts) | unknown               |
| CHORDATA/MAMMALIA      | <i>Nyctereutes procyonoides</i> | Actual (major impacts) | unknown               |

## 4.4 - Physical components

### 4.4.1 - Climate

| Climatic region                                 | Subregion  |
|---|--|
| D: Moist Mid-Latitude climate with cold winters | Dfa: Humid continental (Humid with severe winter, no dry season, hot summer) |

The climate is temperate continental with short mild winter and long hot summer; precipitations are 300-400 mm/year while evaporation is 800-900 mm. 70% of all precipitations happen during the warm part of year. They reach their maximum in June-July and minimum in January-February. Amount of precipitations may vary significantly from year to year. Water temperature in summer is +22 – +30°C (to +32.5°C in shallow parts); in winter, it is about 0°C. Average water temperature is +11.5°C. Due to its shallowness, water becomes cold quickly. In cold winters, the sea is totally covered by ice. Average temperature of air in summer is +24°C; maximum is +40°C. Summer is dry. Winter is severe with maximum temperatures of -30°C. Winds of the eastern direction prevail here. They are strong and constant in spring and bring a lot of dust with them. The eastern wind together with thermal maximum in summer cause dry summer. Droughts happen once every 2.5 years.

### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The Gruzskiy Yelanchyk River and Mokra River Basin, Sea of Azov basin.

### 4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional)

Specific hydrogeological features of Azov spits, combined with climate factors, have determined the development of unique azonal soils. Soil-forming rocks in the area are represented by sand-shells, poor in nutrients. In depressions, silty-sand deposits dominate, where meadow-boggy salty and alkali soils are formed. On elevations of microrelief, under psammophytic-steppe vegetation, there are sod soils. On young sand-shell coastal deposits, initial stages of soil formation are observed. The slopes of the native shore of the mainland up to 50 m high are composed of forest rocks and chernozem soils derived from them.

### 4.4.4 - Water regime

Water permanence

| Presence?   | Changes at RIS update |
|---|-----------------------|
| Usually permanent water present                           | decrease              |
| Usually seasonal, ephemeral or intermittent water present | increase              |

Source of water that maintains character of the site

| Presence?                       | Predominant water source            | Changes at RIS update |
|---------------------------------|-------------------------------------|-----------------------|
| Marine water                    | <input checked="" type="checkbox"/> | No change             |
| Water inputs from surface water | <input type="checkbox"/>            | No change             |
| Water inputs from precipitation | <input type="checkbox"/>            | No change             |

## Water destination

| Presence? | Changes at RIS update |
|-----------|-----------------------|
| Marine    | No change             |

## Stability of water regime

| Presence?                                  | Changes at RIS update |
|--|-----------------------|
| Water levels fluctuating (including tidal) | unknown               |

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

Kryva Bay is part of the Sea of Azov that is the main factor in the formation of its hydrological regime. Kryva and others spits are constantly changed due to spring and autumn storms, which promote the increase in the number of salt lakes. The hydrological regime of the Kryvoskyi Liman depends on climate conditions and varies between seasons. The water regime of the bay and its hydrochemical properties are determined by surface runoff, entrance of groundwater from the mainland, and inflow of marine waters through an artificial channel. The slow process of degradation (overgrowth and silting up) of the water body is currently observed, caused by human activities and natural factors.

## 4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Sediment regime unknown

Please provide further information on sediment (optional):

Active sedimentation processes take place in the Site. The river Gruzky Elanchik, flows directly into Kryva Bay, has a length of 91 km and a catchment area of 1250 km<sup>2</sup> and serves as a source of removal of biogenic and abiogenic sediments of continental origin. The same sediments and coastal erosion material come from the Taganrog Bay, settling in areas of reduced disturbance. The bottom sediments in the Site are mostly silty silt and silty sand. Biogenic marine sediments (shells) make up a significant part of coastal sediments and accumulative marine forms, which are the Azov spit. In general, the processes of abrasion and accumulation are very dynamic and cause a rapid change in the contours of the shores in the land.

## 4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on pH (optional):

The land belongs to one of the most dynamic areas of the Sea of Azov, so the pH values can vary under the influence of various factors: the peculiarities of water circulation, the regime of individual components of the salt composition, outbreaks of plankton, and so on.

## 4.4.7 - Water salinity

Mixohaline (brackish)/Mixosaline (0.5-30 g/l)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on salinity (optional):

Water salinity varies between 3-8 ppt. It is characterized by great variability in time and space. Annual fluctuations can reach 2.0-2.5 ‰ and more, they are irregular. During the period under review, the salinity of the sea gradually increased, resulting in a decrease in the total biomass of plankton. Inland shallow water bodies of the land are mixed-alkaline with significant salinity differences depending on the temperature regime and the amount of precipitation.

## 4.4.8 - Dissolved or suspended nutrients in water

Mesotrophic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

The main sources of nutrients in the Kryva Bay are their inflow with the runoff of the river Gruzky Yelanchyk, with the exchange of waters with the Taganrog Bay, with precipitation and with the products of shore abrasion. Nutrients come in dissolved and suspended states and in the process of photosynthesis are assimilated by phytoplankton or deposited on the bottom. Subsequently, due to the decomposition and mineralization of the dead plankton, these substances are returned to the water. The regime of nutrients is also largely due to the processes of mixing sea and river water with different nutrient content. Under certain hydrometeorological conditions, bottom sediments become a powerful source and regulator of the content of nutrients, bilateral exchange with which is one of the important factors that forms the reserves of phosphorus and nitrogen.

#### 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar  ii) significantly different

- Surrounding area has greater urbanisation or development
- Surrounding area has higher human population density
- Surrounding area has more intensive agricultural use
- Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

In contrast to the Site, the surrounding area is located on the elevated bedrock coast with fertile chernozem soils and is intensively used for agriculture. Directly next to the land is the city of Novoazovsk with a population of 11-12 thousand inhabitants and the village of Sedovo with 2.5 thousand inhabitants. In summer, their population increases several times due to tourists coming for a beach holiday.

### 4.5 - Ecosystem services

#### 4.5.1 - Ecosystem services/benefits

##### Provisioning Services

| Ecosystem service         | Examples   | Importance/Extent/Significance |
|---------------------------|--|--------------------------------|
| Food for humans           | Sustenance for humans (e.g., fish, molluscs, grains) | Medium                         |
| Fresh water               | Water for irrigated agriculture                      | Low                            |
| Wetland non-food products | Livestock fodder                                     | Low                            |

##### Regulating Services

| Ecosystem service                   | Examples                           | Importance/Extent/Significance |
|-------------------------------------|------------------------------------|--------------------------------|
| Maintenance of hydrological regimes | Groundwater recharge and discharge | Medium                         |

##### Cultural Services

| Ecosystem service           | Examples   | Importance/Extent/Significance |
|-----------------------------|--|--------------------------------|
| Recreation and tourism      | Picnics, outings, touring  | Medium                         |
| Recreation and tourism      | Nature observation and nature-based tourism  | Medium                         |
| Spiritual and inspirational | Cultural heritage (historical and archaeological)  | Low                            |
| Scientific and educational  | Educational activities and opportunities   | Medium                         |
| Scientific and educational  | Important knowledge systems, importance for research (scientific reference area or site) | High                           |

##### Supporting Services

| Ecosystem service | Examples  | Importance/Extent/Significance |
|-------------------|---|--------------------------------|
| Biodiversity      | Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part | High                           |
| Soil formation    | Sediment retention  | Low                            |
| Nutrient cycling  | Storage, recycling, processing and acquisition of nutrients   | Medium                         |

Within the site:

Outside the site:

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

#### 4.5.2 - Social and cultural values

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland
- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

#### 4.6 - Ecological processes

<no data available>



## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

##### Public ownership

| Category   | Within the Ramsar Site              | In the surrounding area             |
|--|-------------------------------------|-------------------------------------|
| National/Federal government                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Local authority, municipality, (sub)district, etc. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Provincial/region/state government                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

##### Private ownership

| Category   | Within the Ramsar Site   | In the surrounding area             |
|--|--------------------------|-------------------------------------|
| Other types of private/individual owner(s)         | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Cooperative/collective (e.g., farmers cooperative) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Provide further information on the land tenure / ownership regime (optional):

95% of the area is included in Meotyda National Nature Park and protected at the national level.

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

National Nature Park "Meotyda"

Provide the name and/or title of the person or people with responsibility for the wetland:

Nadiia Dolhova, Acting Director

Postal address:

Prymorska str., 12, Urzuf village, Mangushskiy District, Donetsk Region, Ukraine, 87455

E-mail address:

meotida\_npp@ukr.net

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

#### Human settlements (non agricultural)

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Housing and urban areas          | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Tourism and recreation areas     | Medium impact | High impact      | <input checked="" type="checkbox"/> | increase  | <input checked="" type="checkbox"/> | increase  |

#### Water regulation

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Water abstraction                | High impact   | High impact      | <input type="checkbox"/>            | No change | <input checked="" type="checkbox"/> | No change |
| Dredging                         | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

#### Agriculture and aquaculture

| Factors adversely affecting site      | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|---------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Annual and perennial non-timber crops | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Livestock farming and ranching        | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

#### Transportation and service corridors

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Roads and railroads              | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

#### Biological resource use

| Factors adversely affecting site           | Actual threat | Potential threat | Within the site                     | Changes  | In the surrounding area             | Changes   |
|--|---------------|------------------|-------------------------------------|----------|-------------------------------------|-----------|
| Fishing and harvesting aquatic resources   | Medium impact | Low impact       | <input checked="" type="checkbox"/> | decrease | <input checked="" type="checkbox"/> | No change |
| Hunting and collecting terrestrial animals | Low impact    | Medium impact    | <input type="checkbox"/>            | decrease | <input checked="" type="checkbox"/> | No change |

## Human intrusions and disturbance

| Factors adversely affecting site    | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|-------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Recreational and tourism activities | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| (Para)military activities           | High impact   | High impact      | <input checked="" type="checkbox"/> | increase  | <input checked="" type="checkbox"/> | increase  |

## Natural system modifications

| Factors adversely affecting site     | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|--------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Fire and fire suppression            | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/>            | No change |
| Dams and water management/use        | Medium impact | Medium impact    | <input type="checkbox"/>            | No change | <input checked="" type="checkbox"/> | No change |
| Vegetation clearance/land conversion | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

## Invasive and other problematic species and genes

| Factors adversely affecting site  | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|-----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Invasive non-native/alien species | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | increase  | <input checked="" type="checkbox"/> | increase  |
| Problematic native species        | High impact   | High impact      | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

## Pollution

| Factors adversely affecting site    | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|-------------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Agricultural and forestry effluents | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Garbage and solid waste             | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |
| Household sewage, urban waste water | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

## Climate change and severe weather

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes   | In the surrounding area             | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Droughts                         | Low impact    | Low impact       | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/>            | No change |
| Storms and flooding              | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | No change | <input type="checkbox"/>            | No change |
| Habitat shifting and alteration  | Medium impact | Medium impact    | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

## 5.2.2 - Legal conservation status

## Regional (international) legal designations

| Designation type                | Name of area                                      | Online information url  | Overlap with Ramsar Site |
|---------------------------------|---|---|--------------------------|
| Other international designation | Emerald network National Park 'Meotida' UA0000065 | <a href="https://natura2000.eea.europa.eu/Emerald/SDF.aspx?site=UA0000065">https://natura2000.eea.europa.eu/Emerald/SDF.aspx?site=UA0000065</a> | whole                    |

## National legal designations

| Designation type                                   | Name of area       | Online information url  | Overlap with Ramsar Site |
|--|--------------------|---|--------------------------|
| National Nature Park                               | Meotida            | <a href="https://uk.wikipedia.org/wiki/%D0%9C%D0%B5%D0%BE%D1%82%D0%B8%D0%B4%D0%B0">https://uk.wikipedia.org/wiki/%D0%9C%D0%B5%D0%BE%D1%82%D0%B8%D0%B4%D0%B0</a> | partly                   |
| Ornithological Game Reserve of local importance    | Kryvosky Liman     |   | partly                   |
| Ornithological Game Reserve of state importance    | Yelanchanski bakai |   | partly                   |
| Ornithological Nature Memorial of local importance | Kryva Kosa (Spit)  |   | partly                   |
| Ornithological Reserve of state importance         | Bakai of Kryva Bay |   | partly                   |

## Non-statutory designations

| Designation type    | Name of area          | Online information url  | Overlap with Ramsar Site |
|---------------------|-----------------------|---|--------------------------|
| Important Bird Area | UA078 Kryva peninsula | <a href="http://datazone.birdlife.org/site/factsheet/2040">http://datazone.birdlife.org/site/factsheet/2040</a> | whole                    |

## 5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

### 5.2.4 - Key conservation measures

#### Legal protection

| Measures         | Status                |
|------------------|-----------------------|
| Legal protection | Partially implemented |

#### Habitat

| Measures                                  | Status                |
|---|-----------------------|
| Catchment management initiatives/controls | Proposed              |
| Hydrology management/restoration          | Partially implemented |
| Habitat manipulation/enhancement          | Partially implemented |

#### Species

| Measures                                      | Status   |
|---|----------|
| Threatened/rare species management programmes | Proposed |
| Reintroductions                               | Proposed |
| Control of invasive alien plants              | Proposed |
| Control of invasive alien animals             | Proposed |

#### Human Activities

| Measures   | Status                |
|--|-----------------------|
| Management of water abstraction/takes                                | Proposed              |
| Regulation/management of wastes                                      | Partially implemented |
| Fisheries management/regulation                                      | Partially implemented |
| Harvest controls/poaching enforcement                                | Partially implemented |
| Communication, education, and participation and awareness activities | Partially implemented |
| Research   | Partially implemented |
| Regulation/management of recreational activities                     | Partially implemented |

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but restoration is needed

### 5.2.7 - Monitoring implemented or proposed

| Monitoring                      | Status   |
|---------------------------------|----------|
| Plant community                 | Proposed |
| Animal community                | Proposed |
| Birds                           | Proposed |
| Plant species                   | Proposed |
| Animal species (please specify) | Proposed |

The biodiversity monitoring within the site has been conducted since 2002 on the basis of the regional landscape park, and since 2012 - under the program " Nature Records of Meotida National Nature Park". Studies are mainly focused on avifauna, but also the species composition, number and territorial distribution of other vertebrates are investigated.

Since 2014, the Site is located within the territory uncontrolled by Ukraine, which has resulted in the lack of protection and termination of any official activities, including research.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Bronskov, A.I., & Buy, G.A. 2017. Northern Azov Sea region in 2016. ROM Bulletin: Results of Regional Ornithological Monitoring, Iss. 11. Winter seasons of 2011-2017: 62–63, 66–68.

Bronskov, A.I., & Mosin, G. G. 2017. Northern Azov Sea region in 2014. ROM Bulletin: Results of Regional Ornithological Monitoring, Iss. 11. Winter seasons of 2011-2017: 55, 53-55.

Bronskov, A.I., Mosin G. G., Bronskova, M. A., & Buy, G. A. 2017. Northern Azov Sea region in 2012. ROM Bulletin: Results of Regional Ornithological Monitoring, Iss. 11. Winter seasons of 2011-2017: 28, 30–31.

Bronskov, A.I., Mosin, G. G., Bronskova, M. A., & Buy, G. A. 2017. Northern Azov Sea region in 2013. ROM Bulletin: Results of Regional Ornithological Monitoring, Iss. 11. Winter seasons of 2011-2017: 37–38, 40–42.

Bronskova, M.A, Bui, G. A., & Kosenko, A. E. 2016. Bird counts on Kryva Spit in 2015. ROM Bulletin: Results of Regional Ornithological Monitoring. August 2015, (10), 36–38.

Molodan, G.N. 2017. About nesting of a curly pelican, *Pelecanus crispus* (Pelecaniformes, Pelecanidae), in Ukraine. Ornitologicheskije Chitannya Pam'yati MA A. Vozhestvenskogo (Zbirka Prats): Bulletin of Zoology, (35), 48–51. [in Russian]

Molodan, G.N., Bronskov, A.I., Mosin, G. G., Bronskova, M. A., & Bui, G. A. 2014. Bird counts on Bilosaraiska Spit in 2012. ROM Bulletin: Results of regional ornithological monitoring. August 2012, 8:28.

Molodan, G.N., Bronskov, A.I., Mosin, G. G., & Buy, G. A. 2017. Northern Azov Sea region in 2011. ROM Bulletin: Results of Regional Ornithological Monitoring, Iss. 11. Winter seasons of 2011-2017: 16–19.

Molodan, G. N., Prikhodko, S. A., Tretyakov, S. V., Botman, R. V., Bronskov, A. I., Glukhov, A. Z., Godlevskaya, E. V., et al. 2010. Landscapes, vegetation cover and wildlife of the regional landscape park "Meotida". Donetsk: Knowledge Press: 184. [in Russian]

Tishchenko, O. V. 2006. Vegetation of coastal spits of the northern coast of the Sea of Azov. Kyiv: Phytosociocentre: 156. [in Ukrainian]

Red Data Book of Ukraine. Flora / edited by Y.P. Didukh. – K.: Hlobalkonsal'tynh, 2009. – 900 p. [In Ukrainian]

Red Data Book of Ukraine. Fauna / edited by I.A. Akimov. – K.: Hlobalkonsal'tynh, 2009. – 600 p. [In Ukrainian]

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

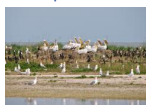
vi. other published literature

<no file available>

<no data available>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Colony of *Pelecanus crispus* on the arrow of the Kryva Spit. ( Oleksandr Bronskov, 08-05-2011 )



*Salicornia europaea* L. on the salt marsh of Krivokoski bakai. ( Oleksandr Bronskov, 13-10-2012 )



"Nursery" of *Larus ichthyaeetus*. ( Oleksandr Bronskov, 06-07-2012 )



Colony of *Thalasseus sandvicensis* on the Kryva Spit. ( Oleksandr Bronskov, 05-06-2010 )



Birds on the arrow of the Kryva Spit. ( Oleksandr Bronskov, 13-07-2012 )

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation 1995-11-23