Ramsar Information Sheet

Published on 27 July 2017
Update version, previously published on : 20 December 2007

Republic of Korea

Du-ung Wetland Ramsar Site

Designation date	20 December 2007
Site number	1724
Coordinates	36°50'11"N 126°11'48"E
Area	6,70 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

Du-ung wetland is located on the west coast of the R.O. Korea, between sand dunes on the coast and mountainous area in rear. The site is a topographically unique wetland due to the fact that although it is situated close to the shore, it is in fact a fresh water lake which depends on underground water. This kind of wetland is very rare in the biogeographic region. Then due to long weathering, thick soil has been developed in the mountainous area, and the site is presenting good condition for settlement of vegetation. Although being the smallest Wetland Protection Area site in the nation (6.3ha), the wetland supports a high diversity of vascular plants, with 264 species from 177 genus and 68 families. The high number of plant species is mainly due to the proximity with the hilly area behind the sand dune and to the long history of settlement in the coastal village. The site also supports a number of internationally threatened species, such as the endangered Japanese Eel (Anguilla japonica), and the vulnerable Wild Common Carp (Cyprinus carpio) and the Pond Frog (Pelophylax chosenicus).

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Kyoung-Pyo Hong
Institution/agency	Ministry of Environment
Postal address	339-012 Building #6 Government Complex-Sejong 11 Doum 6-ro Sejong Special Self-Governing City Republic of Korea
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2.1.2 - Period of collection of data and information used to compile the RIS

From year	2007
To year	2014

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Du-ung Wetland Ramsar Site
Unofficial name (optional)	Du-ung Wetland

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 ○ No ◉
(Update) B. Changes to Site area	No change to area

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?	No

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps	0

Boundaries description

The boundary is the same as the Du-ung Wetland Protected Area that was designated by the Ministry of Environment of the Republic of Korea on
1 November , 2002, making up 6.5 ha or 0.065㎢ watershed.

2.2.2 - General location

a) In which large administrative region does the site lie?	Chungcheongnam-do Province
b) What is the nearest town or population centre?	Shindu-ri(town) in Wonbug-myun in Taean-gun

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): 6.7

Area, in hectares (ha) as calculated from GIS boundaries: 6.77

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Holarctic Region – Eastern Asiatic Region Palearctic

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other reasons: Du-ung Wetland was located behind a coastal sand dune, the Du-ung area is a topographically unique wetland. Even if it is situated on the seashore it is in fact a fresh water lake, which depends on underground water. That kind of wetland is very rare in Korea due to the long history of reclamation.

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification: Du-ung Wetland has attracted various conservation projects since 2002 including wetland conservation area, natural monuments, and ecosystem conservation area. Plants and insects endemic to the dune and wetland are found in the area, which is known to be inhabited by 264 vegetal species, 11 species of mammals, 53 bird species, 11 species of fishes, 7 species of Amphibian, 6 species of Reptile, 246 species of terrestrial insects, and 60 species of Benthic Invertebrates (Ministry of Environment, `09; `14).

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

<no data available>

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

Phylum	Scientific name	Common 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								
Birds																		
CHORDATA/ AVES	*Accipiter nisus*	Eurasian Sparrowhawk	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	VU /Class II Endangered Wildlife	National red list /Under the Wildlife Protection and Management Act in Korea
CHORDATA/ AVES	*Accipiter soloensis*	Chinese Sparrowhawk; Gray Frog-Hawk	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	VU /Class II Endangered Wildlife	National red list /Under the Wildlife Protection and Management Act in Korea
CHORDATA/ AVES	*Falco subbuteo*	Eurasian Hobby; Northern Hobby	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	VU /Class II Endangered Wildlife	National red list /Under the Wildlife Protection and Management Act in Korea
Fish, Mollusc and Crustacea																		
CHORDATA/ ACTINOPTERYGII	*Anguilla japonica*	Japanese Eel	☑	☐	☐	☐	☐	☐	☐	☐				EN	☐	☐		
CHORDATA/ ACTINOPTERYGII	*Cyprinus carpio*	Wild Common Carp	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		
Others																		
CHORDATA/ REPTILIA	*Eremias argus*		☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	EN National red list	
CHORDATA/ AMPHIBIA	*Kaloula borealis*	Boreal Digging Frog	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	VU /Class II Endangered Wildlife	National red list/ Wildlife Protection and Management Act in Korea
CHORDATA/ AMPHIBIA	*Pelophylax chosenicus*	Pond Frog	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐	VU /Class II Endangered Wildlife	National red list /Wildlife Protection and Management Act in Korea
CHORDATA/ AMPHIBIA	*Pelophylax nigromaculatus*	Black-spotted Pond Frog	☐	☐	☐	☐	☐	☐	☐	☐				NT	☐	☐		
CHORDATA/ MAMMALIA	*Prionailurus bengalensis*	Leopard Cat	☑	☐	☐	☐	☐	☐	☐	☐				LC	☑	☐	VU /Class II Endangered Wildlife	National red list /Under the Wildlife Protection and Management Act in Korea

1) Percentage of the total biogeographic population at the site

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

<no data available>

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

4.1 - Ecological character

The Du-ung Wetland is a coastal sand dune wetland that was formed by movement of sand dunes in the coasts of Sinduri beach. While moving, sand deposited and blocked the flow of water out to sea. Despite its location and formation, the wetland provides clean and fresh water. During drought seasons or under dry weather conditions, water retained in surrounding dunes replenish the site.

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
E: Sand, shingle or pebble shores		1		
K: Coastal freshwater lagoons		0		Unique

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Aster fastigiatus		
Carex tristachya		
Cerastium fischerianum		
Hololeion maximowiczii		
Limnophila indica		
Phacelurus latifolius		
Plantago camtschatica		
Rhododendron mucronulatum		
Utricularia australis		

Invasive alien plant species

Scientific name	Common name	Impacts	Changes at RIS update
Bidens frondosa		No impacts	No change
Chenopodium album		No impacts	No change
Chenopodium ficifolium		No impacts	No change
Crassocephalum crepidioides		No impacts	No change
Fallopia dumetorum		No impacts	No change
Lepidium apetalum		No impacts	No change
Lepidium ruderale		No impacts	No change
Oenothera odorata		No impacts	No change
Phytolacca americana		No impacts	No change
Robinia pseudoacacia	False-acacia;False Acacia;Black Locust	No impacts	No change
Rumex crispus		No impacts	No change
Trifolium repens	Dutch Clover;Ladino Clover;White Clover	No impacts	No change
Veronica arvensis		No impacts	No change

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATA/AVES	Anser fabalis serrirostris					Class II Endangered Wildlife

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	Changes at RIS update
CHORDATA/AMPHIBIA	Lithobates catesbeianus	American Bullfrog	Actually (major impacts)	increase

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dwa: Humid continental (Humid with severe, dry winter, hot summer)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 10

a) Maximum elevation above sea level (in metres): 10

- 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.

On the west coast of the Korean Peninsula, in the Yellow Sea

4.4.3 - Soil

- Organic ☑

(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)

The grain size of sediments gets smaller to the center than at the edges. The amount of sedimentary organic matters increases along to the center, while the amount of calcium, magnesium, sodium and potassium drops.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Water inputs from groundwater	☑	No change

Water destination

Presence?	Changes at RIS update
Feeds groundwater	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

4.4.5 - Sediment regime

- Sediment regime unknown ☐

(ECD) Water temperature: 11.8 - 13.8 degree Celsius from March to April, and 24.9 degree during September

4.4.6 - Water pH

- Circumneutral (pH: 5.5-7.4) ☑

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

- Unknown ☑

4.4.7 - Water salinity

- Fresh (<0.5 g/l) ☑

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

- Unknown ☐

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐

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

Mesotrophic ☐

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

Oligotrophic ☐

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

Dystrophic ☐

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

Unknown ☑

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 ○

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Fresh water	Water for irrigated agriculture	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Medium

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	☑	☐

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	☑	☑

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

The land buy-in programme has been implemented to private lands within the boundary of the Du-ung Wetland Protection Area site, designated by the Ministry of Environment in 2012. As of 2015, of all land area within the boundary of the Ramsar Site, the public ownership holds 39.9% of land area, while private ownership at 59.2%.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: Geum-River Basin Environmental Office

Provide the name and title of the person or people with responsibility for the wetland: Lee Eung-ju, Director of Nature Environment Division, GRBEO

Postal address: 305-706
21 Guseung-dong, Yuseung-gu, Daejeon

E-mail address: runrun21@korea.kr

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
Tourism and recreation areas	Low impact		☑	No change	☑	No change

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Livestock farming and ranching	Low impact		☐	No change	☑	No change

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Wetland Conservation Area			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	Implemented

Habitat

Measures	Status
Land conversion controls	Partially implemented

Species

Measures	Status
Control of invasive alien plants	Implemented

Human Activities

Measures	Status
Research	Implemented
Communication, education, and participation and awareness activities	Partially implemented

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

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 ◉

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

wetland experience programme for local people, a tourist office

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, the site has already been restored

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented
Plant species	Implemented
Plant community	Implemented
Animal species (please specify)	Implemented
Water regime monitoring	Implemented
Water quality	Implemented
Animal community	Implemented

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

1. Ministery of Environment (2014) Intensive Survey on the Wetland Protected Areas
2. Ministery of Environment (2009) Intensive Survey on the Wetland Protected Areas.
3. Research Institute of Industry and Environment, Gyungwon Uni. (2004) Conservation and Sustainable Use of Sindu Sand Dune.
4. Ministery of Environment (2002) Conservation of Sand Dunes.
5. Ministery of Environment (2002) Conservation Plan of Du-ung Wetland.

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>

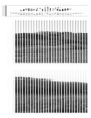
v. site management plan
<no file available>

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:



Landscape of Du-ung Wetland (*Ministry of Environment, 01-12-2014*)

Indian Marshweed (Limnophila indica) (*Ministry of Environment, 13-01-2015*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation	2007-12-20