

Ramsar Information Sheet

Published on 26 May 2016

Republic of Korea

Dongcheon Estuary



Designation date 20 January 2016 Site number 2269

Coordinates 34°53'22"N 127°30'40"E

Area 539,85 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 (This field is limited to 2500 characters)

Located in the southeast part of Suncheon City, Dongcheon Estuary is an open estuary with no banks or other constructions built in its mouth to the sea which helps to keep the Site's natural brackish zone intact. Dongcheon River, the core component of the estuary's ecosystem, flows through the site from the northeast inland out into the Suncheon Bay Ramsar Site in the southwest. In the part of the river within the estuary, marine input exceeds river output. At about 6.5 kilometres from the river mouth to its upper reach, there is the city centre of Suncheon with population of about 280,000. At about 3.5 kilometres to the south, the main stem of Dongcheon River is joined by Yisacheon River. Due to a high level of nutrients and organic detritus in its sediment as well as varying degrees of salinity, the estuary supports a high level of aquatic biodiversity, as it forms habitats for aquatic species, including benthic invertebrates, such as crustaceans and marine lugworm species. Large patches of reed and rice fields along the both sides of the Dongcheon River provide habitats for a wide range of wild mammals, aquatic insects and amphibians. The rice paddies are sustainably managed with measures taken to minimize the agricultural impacts and contribute to the conservation of biodiversity and ecosystems. The rice fields also play a key role in providing important habitats for wild species, particularly for migratory waterbirds, such as hooded cranes and white-naped cranes, that use the site as a wintering ground or a stopover site.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS



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

From year 2010

To year 2015

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish) Dongcheon Estuary

2.2 - Site location

2.2.1 - Defining the Site boundaries

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C17	ioi Site	110. 4	4209.	Donacheon	Estuary.	Republic	oi Norea

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional) (This field is limited to 2500 characters)

The boundary of Dongcheon Estuary follows the boundary of the Wetland Protected Area of Suncheon Dongcheon Estuary (5.394 square kilometers) designated by the Ministry of Environment on 24 December 2015.

2.2.2 - General location

a) In which large administrative region does

the site lie? Suncheon City

b) What is the nearest town or population

centre? Dosa-dong

2.2.3 - For wetlands on national boundaries only

- a) Does the wetland extend onto the territory of one or more other countries? Yes O No
- b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes O No

2.2.4 - Area of the Site

Official area, in hectares (ha): 539.85

Area, in hectares (ha) as calculated from GIS

boundaries

542.94

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Holarctic Region. Eastern Asiatic Region Palaearctic

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

- ☑ Criterion 2 : Rare species and threatened ecological communities
- ☑ Criterion 3 : Biological diversity

Justification (This field is limited to 3000 characters)

Dongcheon Estuary serves as vital wintering and stopover habitats for 238 species of birds that often occur in the large brackish zone and surrounding rice paddies. This includes 13 globally threatened species of migratory waterbirds, including the critically endangered spoon-billed sandpiper (Eurynorhynchus pygmeus). The site also serves as one of the largest wintering grounds for hooded cranes (Grus monacha) with approximately 1,000 individuals of the entire population of the species globally (12,000 individuals).

☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers 35,495 in January (max)

Start year | 2013

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

Dhulum	Scientific name	Common name	Species	qualifies	s under o	criterion	Species	contribut	es under	criterion	Dan Cina	Period of pop. Est.	0/ 00011770000	ILICAL Dard Link	CITEC Appendix I	CMC Appendix I	Other Status	Justification
Phylum	Scientific name	Common name	2	4	6	9	3	5	7	8	Pop. Size	Period of pop. Est.	% occurrence	IUCIN Red LIST	CITES Appendix I	Civis Appendix i	Other Status	Justilication
CHORDATA / AVES	Anser cygnoides	Swan Goose	\								51	2013.11-2014.10		VU (a) TEP		<	National status: Endangered wildlife, Class II	
CHORDATA / AVES	Aquila clanga	Greater Spotted Eagle	√											VU ⊚ LEY		✓	National status: Endangered wildlife, Class II	
CHORDATA / AVES	Chroicocepha saundersi COL	Saunders's Gull	√								773	2013.11-2014.10		VU () TEP			National status: Endangered wildlife, Class II	
CHORDATA / AVES	Ciconia boyciana COL	Oriental Stork;Oriental White Stork	√											EN ® DET	✓	<	National status: Endangered wildlife, Class I	
CHORDATA / AVES	Egretta eulophotes	Chinese Egret	√											VU ⊚ ter		▼	National status: Endangered wildlife, Class I	
CHORDATA / AVES	Emberiza sulphurata	Yellow Bunting	✓											VU ⊚ LEY			National status: Endangered wildlife, Class II	
CHORDATA / AVES	Eurynorhyncl pygmeus CL	Spoon-billed Sandpiper	>											CR OTH		<	National status: Endangered wildlife, Class I	
CHORDATA / AVES	Grus monacha	Hooded Crane	√								3397	2013.11-2014.10		VU @ DET	✓	<	National status: Endangered wildlife, Class II	
CHORDATA / AVES	Grus vipio	White-naped Crane	√								57	2013.11-2014.10		VU (a) TEST	✓	✓	National status: Endangered wildlife, Class II	

51.1	0 : ""		Species	qualifies	s under o	criterion	Species	contribut	tes under	criterion	D 0:	5	٥,		OITEO A III I	0110 1	0.1 0.1	1 20 0
Phylum	Scientific name	Common name	2	4	6	9	3	5	7	8	Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA / AVES	Numenius madagascari	Eastern Curlew;Far Eastern Curlew	√								271	2013.11-2014.10		EN © TEP		~	National status: Endangered wildlife, Class II	
CHORDATA / AVES	Pitta nympha COL Dispussasion	Fairy Pitta	√											VU (a) TEST			National status: Endangered wildlife, Class II	
CHORDATA / AVES	Platalea minor	Black-faced Spoonbill	√								22	2013.11-2014.10		EN © TEP		~	National status: Endangered wildlife, Class I	
CHORDATA / AVES	Tringa guttifer	Nordmann's Greenshank	√								3	2013.11-2014.10		EN © REP	~	2	National status: Endangered wildlife, Class I	

(This field is limited to 2500 characters)

Dongcheon Estuary provides important habitats for a wide range of species, many of which occur in its large brackish zone and surrounding rice paddies. Together with Suncheon Bay in its vicinity, the site is used by a variety of migratory waterbirds, including nationally and internationally endangered species. Among them, 16 species are classified as Near Threatened or higher on the IUCN Red List. The site serves as one of the largest wintering grounds for hooded cranes (Grus monacha) with approximately 1,000 individuals of the entire population of the species globally (12,000 individuals).

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

(This field is limited to 2500 characters)

Dongcheon Estuary contains several types of ecosystem including a transition zone between river and marine environments and rice paddies that provide various habitats for 848 species of wild fauna and flora. In particular, rice paddies supports 238 species of migratory waterbirds, with 13 species that are recognized as being internationally threatened. Its rich biodiversity is supported by the following elements: geographically, the site is located adjacent to a large area of coastal wetlands; large patches of farmlands provide a large volume of crop residues for migratory waterfowl to feed on; no profound human-induced disturbance occurs during winter season when migratory waterbirds come to the site; and the site is one of the few habitats protected for migratory birds, while many of the other habitats for migratory birds are lost or degraded. Overall, Dongcheon Estuary forms a zone where marine, coastal, inland, riverine, rice-paddy, and mountainous environments converge, maintaining its high biodiversity, and stable and healthy ecosystems.

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

Marine or coastal wetlands

Wetland types (code and i	name) Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
F: Estuarine waters		2		

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
Sp: Permanent saline/ brackish/ alkaline marshes/ pools		3		

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
3: Irrigated land		1		

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Scientific name	Common name	Impacts
Ambrosia artemisiifolia		Actually (minor impacts)
Solidago canadensis		Actually (minor impacts)

4.3.2 - Animal species

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts
CHORDATA/ACTINOPTERYGII	Micropterus salmoides		No impacts

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)

(This field is limited to 1000 characters)

According to the climatic data recorded from 2002 to 2013, the average temperature stands at 12.6 degree Celsius and the average highest and lowest daily temperatures are 19.2 and 7.8 respectively. The average precipitation is 1,514mm, with 1,960mm at its highest and 218mm at its lowest, and it is relatively high compared to 1,465mm of the national average. The

average humidity level is 72.5%, ranging from 67% and 78%. The average wind speed stands at 7.1m/s.

4.4.2 - Geomorphic settin	112	Coom	orphic	cotting
	4.4.2	Geom	orpriic	2611116

a) Minimum elevation above sea level (in metres)	
a) Maximum elevation above sea level (in metres)	20

Lower part of river basin <a>I

More than one river basin <a>Image of the control o

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. (This field is limited to 1000 characters)

There are two large rivers flowing from the inland into Dongcheon Estuary: Dongcheon and Yisacheon rivers. The two rivers lie in the Seomjin river basin. Dongcheon river flows 27.8 kilometers out of its drainage area of 371 kilometers and Yisacheon river flows 31.2 out of the drainage area of 198.3.

4.4.3 - Soil

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

Please provide further information on the soil (optional) (This field is limited to 1000 characters)

Five kilometers from its upper reach to the estuary, the soil type is sands with the average grain size of about $500\mu m$, derived from weathering and erosion of granitic rocks. Down into the estuary, the composition of mud increases up to 90% of all soil types occurring there.

4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from surface water	✓
Marine water	

Water destination

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Presence?
Marine

Stability of water regime

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Water levels largely stable

Water levels fluctuating (including tidal)

4.4.5 - Sediment regime

Significant transportation of sediments occurs on or through the site $\ensuremath{\checkmark}$

Sediment regime is highly variable, either seasonally or inter-annually

(ECD) Water temperature Water temperature is relatively moderate, with a range of 6 degree Celsius in low and 27 in high.

4.4.6 - Water pH

Circumneutral (pH: 5.5-7.4)

4.4.7 - Water salinity

Fresh (<0.5 g/l) <a>I

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

Please provide further information on salinity (optional): (This field is limited to 1000 characters)

Salinity remains low in most parts of the site and is near zero in its upper river part.

4.4.8 - Dissolved or suspended nutrients in water

Mesotrophic <a>Image: Image: I

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 i) broadly similar

Site differ from the site itself:

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)	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes Storage and delivery of water as part of water supply systems for agriculture and industry		Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	Medium

Cultural Services

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

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High

Other ecosystem service(s) not included above: (This field is limited to 1000 characters)

Food sources that mudflats of Dongcheon Estuary provides include Macrophthalmus japonicus, Solen strictus and Boleophthalmus pectinirostris. The site provides about 90% of all food made out of these species nationally. Muds account for 96% or more of the soil formation in the site which provide major habitats for Boleophthalmus pectinirostris. The rice paddies within the site cover 288 hectares and produce 1,490 tonnes of rice annually. In 59 hectares of the paddies, eco-friendly agriculture is practiced and about 50 tonnes of rice produced feeds migratory waterbirds visiting the site. The annual number of visitors to the site and its surrounding areas increased from 1.2 million in 2005 to 1.9 million in 2015, about 4 times higher than the population of Suncheon City.

RIS for Site no. 2269, Dongcheon Estuary, Republic of Korea

Within the site:	1000s
Outside the site:	2000000s

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

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

Description if applicable (This field is limited to 2500 characters)

Local communities near Dongcheon Estuary make various eco-friendly products from the reeds that occur in the surrounding fields. These products include tourist souvenirs such as reed brooms, organic compost, reed tea and snack, and reed fences built along bird-watching sites and tourist trails. Reed fences prevent tourists from disturbing migratory birds. Reeds are also used to craft roofs for buildings such as those in Suncheon Bay Ecological Park, to make the buildings more appealing to environmentally-conscious tourists.

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

Description if applicable (This field is limited to 2500 characters)

Only non-commercial fishing activities are allowed in Dongcheon Estuary and the only commercial activities carried out in the site are rice production in its paddy fields. During the fallow period from late fall to spring, there are no agricultural activities carried out providing safe and undisturbed habitat for migratory waterfowls. In 2009, 80 rice farmers founded a local farmers' group for saving hooded cranes, and since then, the group has provided migratory waterbirds with about 50 tonnes of rice a year, which is harvested in the rice paddies within the boundary of the site in an eco-friendly manner. The efforts are considered to have contributed to a spike in the number of the bird population migrating to the site, from 350 in 2009 to more than 1000 as of 2015.

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
Cooperative/collective (e.g., farmers cooperative)	✓	✓

Provide further information on the land tenure / ownership regime (optional): (This field is limited to 1000 characters)

Of the entire area of Dongcheon Estuary, 53.9% is privately owned and the rest of the land is owned by the national government.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: (This field is limited to 1000 characters)

Suncheon City Government, Yeongsan River Basin Environmental Office

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

Heecheol Lee, Head of Yeongsan River Basin Environmental Office

Postal address: (This field is limited to 254 characters)

Yeongsan River Basin Environmental Office

31, Gyesu-ro, Seo-gu, Gwangju, Korea, 502-788

E-mail address: ljd111@me.go.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	In the surrounding area
Housing and urban areas	Low impact	Low impact	✓	✓
Tourism and recreation areas	Low impact	Low impact	✓	✓

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Low impact	Low impact	✓	✓

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Marine and freshwater aquaculture	Low impact	Low impact	✓	✓

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Low impact	Low impact	✓	✓

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact	Low impact	✓	✓

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Low impact	Medium impact	✓	✓

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Wetland Conservation Area	WetlandProtectedAreaofSuncheonDongche		whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	SuncheonBay		whole

5.2.3 - IUCN protected areas categories (2008)

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Faunal corridors/passage	Partially implemented

Species

Measures	Status
Threatened/rare species management programmes	Partially implemented
Control of invasive alien plants	Proposed

Human Activities

Measures	Status
Regulation/management of recreational activities	Proposed

Other: (This field is limited to 2500 characters)

The Suncheon Bay Nature and Ecology Committee was established in 2007 and the committee convened 5 to 6 times a year. It brought together experts, academia, local communities and provided advice on management and conservation of natural environment, including wetlands, in the city. In 2015, it changed its name to "Suncheon Bay Wetlands Committee" and now has its sub-committee for each wetland. Each sub-committee meets twice a year and consults on improving conservation and management of the wetlands. The outcomes of their meetings are presented to the Suncheon Bay Wetlands Committee and feed into an integrated wetland management of all wetlands in the city.

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

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

No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site: (This field is limited to 1000 characters)

The International Wetland Center located in the upper course of Dongcheon Estuary is dedicated as a wetland visitor center for people coming to the site. It mainly focuses on providing exhibition spaces, and education and ecotourism programmes, especially in Dongcheon Estuary. The Ramsar Regional Center for East Asia has recently moved its office to the above-mentioned International Wetland Center.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

5.2.7 - Monitoring implemented or proposed

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

(This field is limited to 2500 characters)

Since 1999, the Ministry of Environment has undertaken the population survey and monitoring for migratory waterbirds in Dongcheon Estuary on a yearly basis. The results have been integrated into developing national and local conservation policy measures.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

(This field is limited to 2500 characters)

- National institute of environmental research. 2010. Intensive survey on estuarine ecosystem.
- Survey on Ecological Environment and Study on Efficient Conservation of Suncheon Bay, Suncheon City Government, 2014
- Udvardy 's Realms, Provinces, Biomes Scheme (A Classification of the Biogeographical Province of the World, Udvardy, 1975)
- U.S.G.S., 1999, Wetland Inventory Summary of U.S.A; Identification and Application of Wetland Ecosystems, National Water Supply Paper, 2425

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

on file available.

vi. other published literature

<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



rice paddies located south from the mouth of Dongcheon Estuary (National Wetlands Center, 04-12-2015)



Dongcheon river and rice paddies, north from the mouth of Dongcheon Estuary (National Wetlands Center, 04-12-2015)



Confluence between Dongchean and Yisacheon rivers (National Wetlands Center, 04-12-2015)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Transboundary Designation letter

<no file available>

Date of Designation 2016-01-20