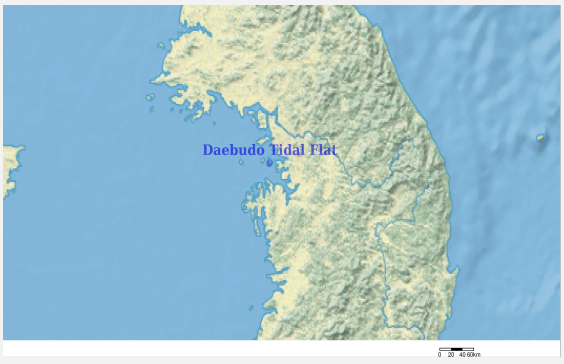
Ramsar Information Sheet

Published on 25 October 2018

Republic of Korea

Daebudo Tidal Flat



Designation date	25 October 2018
Site number	2359
Coordinates	37°13'30"N 126°34'08"E
Area	453,00 ha

https://rsis.ramsar.org/ris/2359
Created by RSIS V.1.6 on - 20 October 2018

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 Daebudo Tidal Flat is located in the West Coast of RO Korea near Incheon and Seoul and in the vicinity of the famous Sihwa Lake which was constructed for development in early 2000. Although the West Coast of RO Korea is well known for its high productivity and possesses high biomass so that it is a flyway of migratory water birds, known as the East Asian Australasian Flyway (EAAF), development pressure is very high. During the past few decades, significant tidal flat was lost due to reclamation projects.

The site possesses significant ecological functions as a coastal tidal flat which supports numerous marine-based flora and fauna such as waterbirds and waders of endangered status including Black-faced Spoonbill (Platalea minor), Chinese Egret (Egretta eulophotes), various species of Charadriidae (plovers), Numenius sp. (especially, Whimbrel and Far Eastern Curlew), Saunder's Gull (Larus saundersi) and many others. A total of 74 migratory bird species with 1,723-5,937 individuals was identified during the survey conducted in 2016 by the Ministry of Oceans and Fisheries. Among them, gulls were the majority with 6 species and 839-3,918 individuals, waders with 22 species and 83-2,300 individ. Also, protected species such as Milky Fiddler Crab (Uca lactea), and many other species were found in the site. The site has high value for protection owing to high biodiversity with a total of 104 macrobenthic species and halophyte species coverage of about 34ha. The survey confirmed that the site has a total of 104 macrobenthic species with average density of 641/m2 and average weight of 35g/m2 including 39 species of arthropoda and 34 species of annelida. The rich macrobenthic community in the site is very important in sustaining the migratory birds for providing their food.

The site was designated as a Wetland Protected Area under the Wetland Conservation Act in 2017. The Ansan City government is committed to implement the protected area management plan to accelerate its protection measures.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

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Compiler 2

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

From year	2014
To year	2017

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Daebudo Tidal Flat

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 site has two locations: Sangdong Coastal Wetland ((139 ha) (points 1-1 to 1-5) and Goraetburi Coastal Wetland (314 ha) (points 2-1 to 2-7) as shown in the digital map. These two locations comprise the Daebudo Tidal Flat (Wetland Protected Area) which is the same as the site.

A site survey was conducted for the entire Daebu Island and the two locations satisfied all the criteria set forth by the Wetland Protected Area in accordance with the Wetland Conservation Act. The site is of importance of sustaining the migratory bird species. The residents of the two locations during the consultation meetings agreed to register as a Wetland Protected Area of RO Korea. Hence, the two locations are proposed as a RAMSAR site.

2.2.2 - General location

a) In which large administrative region does the site lie?	Ansan City, Gyeonggi Province, RO Korea.
b) What is the nearest town or population centre?	Seonjae-ri, Daebu-do.

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): 453

Area, in hectares (ha) as calculated from GIS boundaries: 447.1

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Cold Temperate Northwest Pacific

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 typical tidal flat ecosystem which has rich biodiversity of marine flora and fauna. According to the survey conducted in 2016 by Ministry of Oceans and Fisheries, it was found that the site comprises of halophyte species and dune plant species which cover an area of 34ha - Sangdon tidal flat with 26 species at 4ha and Goretburi tidal flat with 22 species at 30ha. According to the RO Korean biodiversity standard, the site was scored the highest rating (Level 5). Level 5 is given when the site has more than 21 species and an area of more than 5ha.

The survey revealed that the site has a total of 104 macrobenthic species with average density of 641/m2 and average weight of 35g/m2 including 39 species of arthropoda and 34 species of annelida. Also, nationally protected crustacean species, Milky Fiddler Crab (Uca lactea, VU in the National Red List) was found. The rich macrobenthic community in the site is very important in sustaining the migratory birds for providing their food.

A total of 74 species of migratory bird species with 1,723-5,937 individuals was identified during 2016 survey. Among them, gulls were the majority with 6 species and 839-3,918 individuals, waders with 22 species and 83-2,300 individuals, geese with 9 species. This is a clear evidence of diverse ecosystem of Daebudo Tidal Flat.

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

☑ Criterion 6 : >1% waterbird population

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 gentilis*	Eurasian Goshawk	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Crit 4: Feeding ground
CHORDATA / AVES	*Anser fabalis*	Bean Goose	☐	☑	☐	☐	☐	☐	☐	☐	1315	2016-2017		LC	☐	☐		Crit 4: Feeding ground
CHORDATA / AVES	*Chroicocephalus saundersi*	Saunders's Gull	☑	☑	☑	☐	☐	☐	☐	☐	400	2017	4.7	VU	☐	☑		Crit 4: Feeding ground; Crit 6: 1 % threshold for NE Asia is 85 as of 2012.
CHORDATA / AVES	*Egretta eulophotes*	Chinese Egret	☑	☑	☐	☐	☐	☐	☐	☐		2017		VU	☐	☑		Crit 4: Feeding and breeding ground
CHORDATA / AVES	*Falco tinnunculus*	Eurasian Kestrel; Common Kestrel	☐	☑	☐	☐	☐	☐	☐	☐		2016		LC	☐	☐	Natural Protected Species No. 323	Crit 4: Feeding and breeding ground
CHORDATA / AVES	*Numenius madagascariensis*	Eastern Curlew; Far Eastern Curlew	☑	☑	☑	☐	☐	☐	☐	☐	37800	2017	118.1	EN	☐	☑		Crit 4: Feeding ground; Crit 6: 1 % threshold for C & E Asia is 320 as of 2012.
CHORDATA / AVES	*Numenius phaeopus*	Whimbrel	☐	☐	☑	☐	☐	☐	☐	☐	54270	2017	98.6	LC	☐	☐		Crit 6: 1 % threshold for E & SE Asia is 550 as of 2012.
CHORDATA / AVES	*Platalea minor*	Black-faced Spoonbill	☑	☑	☐	☐	☐	☐	☐	☐		2017		EN	☐	☐	Endangered Species 1st Order. Natural Protected Species No. 205-1, Protected Marine Species	Crit 4: Feeding ground
Fish, Mollusc and Crustacea																		
ARTHROPODA / MALACOSTRACA	*Uca lactea*	Milky Fiddler Crab	☑	☐	☐	☐	☐	☐	☐	☐					☐	☐	VU in National Red List	

1) Percentage of the total biogeographic population at the site

The West and South Coasts of RO Korea including Daebudo Tidal Flat has significant conservation values as they lie along the routes of the flyway of waterbirds of international importance (East Asia Australasian Flyway: EAAF). In particular, the site is a habitats of internationally endangered and vulnerable species of Black-faced spoonbill, Far eastern curlew, Chinese egret and Saunders's gull. Various survey efforts have been exerted in the sites. According to the literature review of survey reports, 32 species in 2009, 22 species in 2013, 29 species in 2014, 31 species in 2015 were identified. With the average of more than 30 species of internationally important waterbirds, the site is recognized as a hotpot for feeding and resting place for the migratory waterbirds.

During the August-November 2016 survey, a total of 14 species with 2,353 individuals was found at Daebudo tidal flat (13 species for 1,524 individuals at Goretburi tidal flat and 13 species with 829 individuals at Sangdong tidal flat). Dominant species were gulls with waders and egrets to follow. During 2017 survey, waterbird species found were: 33 species with 4,881 individuals in March; 37 species with 5,937 individuals in April; 44 species with 3,778 individuals in May; 25 species with 4,869 individuals in August; 22 species with 4,336 individuals in September; 29 species with 2,974 individuals in October.

It was found that there are 7 species of protected waterbirds by Korean Laws including: Black-faces Spoonbill, Chinese Egret, Eastern Oystercatcher, Far Eastern Curlew, Common Kestrel and others. In accordance with the survey conducted during August to November 2016, four protected species were identified in the site including: Black-faced Spoonbill, Chinese Egret, Far Eastern Curlew and Common Kestrel. The site has been the breeding site for Black-faces Spoonbill (estimated total global population: >2,000) and Chinese Egret (estimated global population: >5,000). Therefore, it is assessed that the site has high conservation value for endangered migratory bird species.

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
Macrobenthic Community	☑	Intertidal mud flat macrobenthos including crabs, shrimps, filter feeders, polychaeta, molluscs etc.	Feed to the migratory waterbirds. The Site provides habitats for Milky Fiddler Crab, which is listed as VU in the National Red List.

Optional text box to provide further information

Macrobenthic community has shown the following characteristics in the site:
1) Species abundance: 86/0.0004ha
2) Species density: 641±406 individual/0.0001ha
3) Species biomass: 35.0±45.6 g/0.0001ha
With the support of the macrobenthic communities of a total of 104 species, Daebudo Tidal Flat is a good resting and stop over place for the migratory waterbirds. It was found that the site is also a habitat of protected marine species, Milky Fiddler Crab (VU in the National Red List).

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

4.1 - Ecological character

Daebudo Tidal Flat supports numerous waterbirds of international importance, especially 5 species of near threatened and threatened status including Black-faced Spoonbill, Far Eastern Curlew, Common Kestrel, Chinese Egret, and Eurasian Oystercatcher. During the survey in 2017, it was found that the site supported more than 1% of national Far Eastern Curlew population of 37,800 (global estimated population of 20,000-49,999), 54,200 Eurasian Curlew, 400 Saunders's Gull. During the survey in August-November 2016, 14 species of water birds of 2,353 individuals were recorded. If we include the count all around the year, the number will be increased significantly.

The most significant ecosystem service of the site is the provision of food to the migratory waterbirds. As the tidal wetlands of coastal areas of RO Korea are famous for the high productivity and biomass, in particular, macrobenthic community which is the main feed for the migratory waterbirds, the site supports numerous waterbirds. During the survey of 2016 by the Ministry of Oceans and Fisheries, a total of 104 macrobenthic species were found. Average species density was 641 individual/m2 and average biomass of 35g/m2. This is the reason why migratory waterbirds are resting at the Daebudo Tidal Flat. Also, 34.5 ha of halophyte community supports the biodiversity of Daebudo ecosystem.

Other ecosystem services the site provide include: cultural values to residents and tourism resources due to scenic view with migratory water birds. The tidal flat also provides important nutrients to fish species as the wetlands are the nursery ground for fish species.

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
G: Intertidal mud, sand or salt flats	Deabu Tidal Flat	1	453	Representative

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Artemisia scoparia		
Carex pumila		
Carex scabrifolia		
Phragmites australis australis		
Suaeda glauca		
Suaeda maritima		
Zoysia sinica		

Invasive alien plant species

Scientific name	Common name	Impacts
Spartina anglica		Actually (minor impacts)

Optional text box to provide further information

a) Other noteworthy plant species
These plant species covers significant portions of the halophytes and dune plants. A total of 26 species were found and 7 major species cover significant community. These are not recognized as internationally important but provide shelters for water birds and macrobenthic communities. Therefore, these halophytes and dune plants constitute important ecosystem of Daebudo tidal flat.

b) Invasive alien plant species
During the survey in 2016, an invasive species of Spartina anglica C.E Hubb were found at Daebudo tidal flat. In 2017, eradicating activities for Spartina anglica C.E Hubb were conducted. A plan has been set up to eradicate the invasive species.

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	*Anas poecilorhyncha*	Indian Spot-billed Duck;Spot-billed Duck				
CHORDATA/AVES	*Ardea cinerea*	Grey Heron;Gray Heron				
CHORDATA/AVES	*Ardea modesta*	Intermediate egret				
CHORDATA/AVES	*Bubulcus ibis*	Cattle Egret				
CHORDATA/AVES	*Egretta garzetta*	Little Egret				
CHORDATA/AVES	*Larus crassirostris*	Black-tailed Gull				
CHORDATA/AVES	*Larus vegae*	Vega Gull				
CHORDATA/AVES	*Numenius arquata*	Eurasian Curlew				
CHORDATA/AVES	*Tringa nebularia*	Common Greenshank				
CHORDATA/AVES	*Xenus cinereus*	Terek Sandpiper				

Optional text box to provide further information

Daebudo boasts its undisturbed natural coastal lines with pristine sand dunes, tidal flat, rocky islands and other natural beauty which is seldom seen in other areas of Gyeonggi Bay. About 12km away from Daebudo, the Seomup tidal flat is a breeding site of the Chinese egret. Daebudo is a resting place for the migratory waterbirds of internationally important including Dunlin, Terek sandpiper, Far eastern curlew, Whimbrel.

Daebudo possesses rich biodiversity and clean environment. Therefore, numerous waterbirds visit Daebudo. The birds identified in the proposed RAMSAR site is a clear demonstration that the site is very important to endangered species. There are compelling reasons for the site to be registered as a RAMSAR site.

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)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): -1

a) Maximum elevation above sea level (in metres): 1

- 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.

Yellow/West Sea

4.4.3 - Soil

- Mineral ☑
- Organic ☑
- 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 proposed RAMSAR site is a tidal marsh which is composed of various types of soil composition including mud, silt, sandy silt and sand. The tidal wetland has been formed through tidal movement and deposition of sediments from the land. Also the tidal wetland has been experienced many overlapping persistent cycles such as day-night temperature fluctuations, diurnal tides, semi-diurnal tides, spring-neap tides, seasonal vegetation growth and decay, extreme weather conditions such as typhoon among others.

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
Marine water	☐

Water destination

Presence?
Marine

Stability of water regime

Presence?
Water levels fluctuating (including tidal)

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

Deabu Island is a small island with limited freshwater resources inside the island. Therefore, effect of freshwater is minimal and the site is largely affected by natural precipitation. The tidal wetland is heavily influenced by the tidal movement, current movement and other seasonal variations.

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☐

Significant accretion or deposition of sediments occurs on the site ☐

Significant transportation of sediments occurs on or through the site ☐

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

Sediment regime unknown ☐

Please provide further information on sediment (optional):

The proposed RAMSAR site possesses important hydrological values in trapping and decomposing the nutrients from the land like all the other tidal wetlands perform. Most of the nutrients are consumed by the filter feeders and scavengers such as clams, polychaetes, crabs and many others. These animals form the preys of the migratory waterbirds which need significant biomass to fatten their body for the migration.

4.4.6 - Water pH

Acid (pH<5.5) ☐

Circumneutral (pH: 5.5-7.4) ☐

Alkaline (pH>7.4) ☑

Unknown ☐

Please provide further information on pH (optional):

Marine water

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☐

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

Euhaline/Eusaline (30-40 g/l) ☐

Hyperhaline/Hypersaline (>40 g/l) ☐

Unknown ☐

Please provide further information on salinity (optional):

Marine water with slight influence with freshwater from land run-off. Salinity fluctuates between 24 to 31 with mean 29 g/l.

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐

Mesotrophic ☑

Oligotrophic ☐

Dystrophic ☐

Unknown ☐

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

Dissolved Oxygen (mg/L): 6 - 15 (mean 9)
Chemical Oxygen Demand – COD (mg/L): 1.5 - 4 (mean 1.8).
Suspended Solids – SS (mg/L): 3 - 70 (mean 18)

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:

The proposed site is a tidal wetland whereas the surrounding areas are covered with various land usages including development zone, vegetation zone, agricultural land, human settlement etc. There are resorts and pensions in the vicinity. The government recognized the need of protecting the area. In this line, the proposed site has been designated as a Marine Protected Area in 2017 by the City of Ansan and the Ministry of Oceans and Fisheries in order to protect the site in accordance with the laws and regulations of the government.

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)	Low

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Climate regulation	Local climate regulation/buffering of change	Medium
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	Medium
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	High

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
Recreation and tourism	Water sports and activities	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Low
Spiritual and inspirational	Contemporary cultural significance, including for arts and creative inspiration, and including existence values	Low
Spiritual and inspirational	Inspiration	Low
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Long-term monitoring site	Medium
Scientific and educational	Major scientific study site	Low

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
Soil formation	Sediment retention	High
Soil formation	Accumulation of organic matter	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Nutrient cycling	Carbon storage/sequestration	High

Other ecosystem service(s) not included above:

Daebudo Tidal Flat is an important feeding ground for the migratory birds due to its enormous biomass at the tidal flat. Supporting the migratory bird species has been the greatest supporting ecosystem services of the Daebudo Tidal Flat.

Within the site: 1000s

Outside the site: 100,000s

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 ☑

Description if applicable

The people in Daebudo experienced heavy losses of livelihood and ecosystem changes due to the large reclamation project in the vicinity of the Island in 1990s (Shihwa Lake). Through the experience, the residents are keen on protection of coastal environment and sustainable development. Local government also supported the activities of NGOs and local residents, for example, public-private join coordinating committee, citizen monitoring, education for eco-tourism operators and community-based corporation. It is expected that the designation of RAMSAR site will enhance conservation and protection of the coastal ecosystem through the augmented awareness and publicity of the Island.

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 ☐

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	☑	☐
Provincial/region/state government	☐	☑

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

a) Public ownership : The government of the Republic of Korea (Ministry of Oceans and Fisheries, Ansan City government)
National government owns the tidal wetland. Ansan City government is issuing permits for utilization of the tidal wetland under the consent of the Gyeonggi Province and the Ministry of Oceans and Fisheries.

b) Private ownership
The surrounded area mainly consists of the sea, where belongs to the government, and in the terrestrial part, the area consists of the government-owned land including road and private-owned land.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:	Territorial Jurisdiction: Governor office of Ansan City Functional Jurisdiction: Marine Policy Office, Marine Ecology Division of Ministry of Oceans and Fisheries Ansan City Hall
Provide the name and title of the person or people with responsibility for the wetland:	Ms. Lee Jisun
Postal address:	Ansan City Hall 387, Hwarang-ro, Danwon-gu, Ansan-si, Gyeonggi-do, RO Korea
E-mail address:	jsrhee77@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	In the surrounding area
Housing and urban areas	Low impact	Low impact	☐	☑
Tourism and recreation areas	Medium impact	Medium 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	Low impact	☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Garbage and solid waste	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
Wetland Protected Area	Daebudo Tidal Flat Coastal Wetland Protected 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

Species

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

Human Activities

Measures	Status
Fisheries management/regulation	Implemented
Communication, education, and participation and awareness activities	Implemented
Regulation/management of wastes	Implemented
Research	Implemented

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 ○ 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:

Ansan city is currently developing a Daebudo tidal flat management plan and it is expected to complete in 2018. The plan is expected to include RAMSAR site management plan, education and visitor center, visiting program as well as eco-tourism.

Ansan city has been managing tidal flats by local residents, such as a citizen monitoring system and a resident management group in the wetland protection area. Through the monitoring program, migratory waterbirds and entire ecosystem are monitored. Through the residents' education program, awareness building, solid waste collection are being carried out. The government supported citizen monitoring and encouraged NGOs participation. Local residents also put efforts in protecting the tidal flat through organizing a management committee. In 2017, citizen committee for MPA has been formed and conducting protection measures for the proposed RAMSAR site in collaboration with central and local governments.

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
Plant community	Implemented
Plant species	Implemented
Animal community	Implemented
Animal species (please specify)	Implemented
Birds	Implemented

The Daebudo tidal flats have been monitored for algae, animal species, and plant species by national and local citizens. In 2016, the Ministry of Oceans and and Fisheries conducted intensive investigations on the Daebudo tidal flats, including the survey of tidal flat ecosystems from 1999 to 2005 and the survey of coastal wetlands in 2008. A survey of birds, animal species, plant species, and tidal flat ecosystems of the West Sea tidal flats including tidal flats is being conducted. In addition, since 2014, local residents have been directly involved in monitoring citizens' ecosystems. The national surveys and citizen monitoring data will be compared and analyzed, 1) basic data on management policies and basic plans, 2) detection of changes in local tidal flat ecosystems, and 3) scientific data building.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Coastal Wetland Basic Survey: Wetland Protected Area Monitoring (2009-2013) Ministry of Oceans and Fisheries, RO Korea
Color Encyclopedia of Plants of RO Korea (2006) Changbok Lee, Hyangmoon Publication Company
Comprehensive Survey on Migratory Waterbirds in RO Korea (2015) Ministry of Oceans and Fisheries, RO Korea
Daebudo Tidal Flat: An Ecological Treasure Island with a Beautiful Tidal Flat (2017) Ansan City, RO Korea
National Comprehensive Survey on Biodiversity – Special Survey for Candidate Sites for the Marine Protected Areas (2016) Ministry of Oceans and Fisheries, RO Korea
www.eaaflyway.net
www.iucnredlist.org
2016-2017 Winter Bird Survey (2017) National Institute of Biological Resources, RO Korea
2017 Monitoring of Passage Migratory Birds in Korea (2017) National Institute of Biological Resources, RO Korea

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:

Benthic community of Daebudo Tidal Flat (*Ansan City, 25-07-2017*)

Egrets in Daebudo Tidal Flat (*Ansan City, 26-04-2017*)

Sunset in the Daebudo Tidal Flat (*Ansan City, 26-04-2017*)

Swans in Daebudo Tidal Flat (*Ansan City, 11-11-2016*)

Feeding of the Black-faced Spoonbills in Daebudo Tidal Flat (*Ansan City, 20-10-2016*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation: 2018-10-25