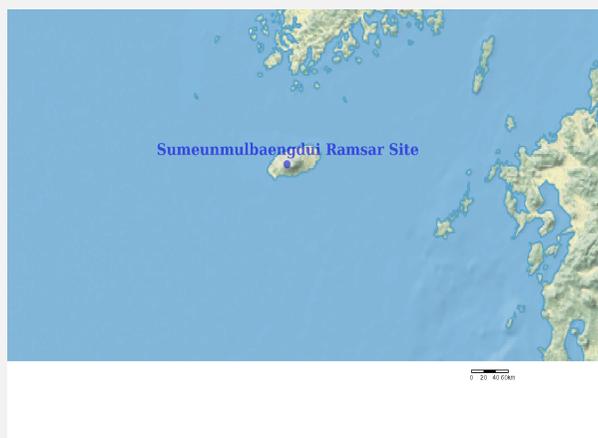




Ramsar Information Sheet

Published on 20 May 2015

Republic of Korea Sumeunmulbaengdui Ramsar Site



Designation date: 13 May 2015
Ramsar ID: 2225
Coordinates: 33°21'55"N 126°26'59"E
Official area (ha): 117,50
Number of zones: 1

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 117.51 hectare Sumeunmulbaengdui is a natural mountainous peat wetland that occurs on the flatland in the middle of Halla Mountain, (or 'Hallasan') a shield volcano on Jeju Island and the largest mountain in Korea. The site is unique for the biogeographic region because of its geology and method of formation, and is also important for its role in the storage and recharge of groundwater.

Jeju island is volcanic and has several internationally important wetlands, including four Ramsar Sites, and each of them was formed by different types of volcanic activities. Two Ramsar Sites (Mulyeongari and Muljangori Wetland) were formed on the crater of two parasitic cones after the main volcanic Hallasan became dormant. The 1100 Altitude Ramsar Site is situated on a flank of Hallasan that was mainly formed by pyroclastic flow from the summit of the mountain. Sumeunmulbangdui, however, occurs on a flatland that was enclosed by six parasitic cones produced by flank eruptions. Such a formation is rarely found in the biogeographic region.

Sumeunmulbangdui plays an important role in storing and recharging groundwater since Jeju, being a volcanic island, is short of water throughout the year due to irregular precipitation and low infiltration rate. Mostly, water is recharged by groundwater from wetlands, including Sumeunmulbangdui and the other Ramsar Sites. The geographic features of these Ramsar Sites are different from each other. For instance, many watersheds, including the Dongbakhongsan Wetland Ramsar Site, occur in a low-lying area of Hallasan, whereas Sumeunmulbangdui occurs in the middle and this formation would not have occurred without the surrounding parasitic cones. And the water supply of Sumeunmulbangdui is more regular than other watersheds because of its function as natural sponges, while other patches of land have low water-retaining capacity and function as a natural filter.

The word ' Sumeunmulbaengdui ' means ' a field covered with water and hidden by parasitic volcanoes ' in the local dialect of the island, and reflects the rarity of the site and surrounding landscape.

In recognition of its social, cultural and ecological values, Hallasan was given a number of international designations, including World Heritage Site, Geo Park and Biosphere Reserve.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Name

Institution/agency

Postal address

E-mail

Phone

Fax

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

From year

To year

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

Unofficial name (optional)

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

The boundary delineated commences on the south-western corner of the Hallasan National Park (16.5% of the land of the island is within the boundary of the park). It follows the boundary naturally delineated by 5 parasitic cones that surrounds the site. About 1.5 kilometres east from the site to the national park, the 1100 Altitude Wetland, one of the 4 Ramsar Sites within the main island of Jeju, is abutting.

2.2.2 - General location

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

Jeju Special Self-Governing Province

b) What is the nearest town or population centre?

Gwangryeong-ri (town) in Eaweol-eup (county) in Jeju City

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): 117.5

Area, in hectares (ha) as calculated from GIS boundaries 117.51

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

Hydrological services provided Sumeunmulbangdui plays an important role in storing and recharging groundwater since Jeju, being a volcanic island, is short of water throughout the year due to irregular precipitation and low infiltration rate. Mostly, water is recharged by groundwater from wetlands, including Sumeunmulbangdui and the other Ramsar Sites. The geographic features of these Ramsar Sites are different from each other. For instance, many watersheds, including the Dongbakdongsan Wetland Ramsar Site, occur in a low-lying area of Hallasan, whereas Sumeunmulbangdui occurs in the middle and this formation would not have occurred without the surrounding parasitic cones. And the water supply of the Sumeunmulbangdui is more regular than other watersheds because of its function as natural sponges, while other patches of land have low water-retaining capacity and function as a natural filter. At Sumeunmulbangdui, the bedrock is pitted with a smaller number of cavities than the bedrock in other volcanic areas - a feature that enables the bedrock to store and replenish surface runoff to the wetland. This geological trait does not normally occur in volcanic areas, thus, makes the site an extremely rare wetland habitat type in the biogeographic region.

Other ecosystem services provided

The lower layer of Sumeunmulbaengdui was formed by a lahar caused by volcanic landslides that flowed from the Hallasan. The site has rich ecosystems that interact with its surrounding parasitic cones and their ecosystems. The water depth of the wetland varies, enhancing its aesthetic values.

Other reasons The Sumeunmulbangdui is unique for the biogeographic region because of its geology and method of formation, and is also important for its role in the storage and recharge of groundwater.

Jeju island is volcanic and has several internationally important wetlands, including four Ramsar Sites, and each of them was formed by different types of volcanic activities. Two Ramsar Sites (Mulyeongari and Muljangori Wetland) were formed on the crater of two parasitic cones after the main volcanic Hallasan became dormant. The 1100 Altitude Ramsar Site is situated on a flank of Hallasan that was mainly formed by pyroclastic flow from the summit of the mountain. Sumeunmulbangdui, however, occurs on a flatland that was enclosed by six parasitic cones produced by flank eruptions. Such a formation is rarely found in the biogeographic region.

Criterion 2 : Rare species and threatened ecological communities

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	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AMPHIBIA	 <i>Pelophylax nigromaculata</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	National red list - NT	
CHORDATA / AVES	 <i>Pitta nympha</i>	Fairy Pitta	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>	Class II Endangered Wildspecies, Wildlife Protection and Management Act in the Republic of Korea. CITES Appendix II	The species has been regularly recorded at the site by birdwatchers.
CHORDATA / AVES	 <i>Terpsiphone atrocaudata</i>	Japanese Paradise Flycatcher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	National red list - VU Class II Endangered Wildspecies, Wildlife Protection and Management Act in the Republic of Korea.	Food and water supply during breeding season.

The Wildlife Protection and Management Act provides the legal protection for wildlife in Korea, especially Endangered Wild Species that are currently classified into two categories: Endangered Wild Species Class I and II. The ' Endangered Wild Species - Class I ' includes wild species whose numbers have drastically declined resulting from natural or anthropogenic factors. The ' Endangered Wild Species - Class II ' includes wild species whose numbers have significantly declined and which face threat of extinction in the near future in the event where current threatening factors are not eliminated or alleviated. The species listed in both Level I and Level II are designated by the Ministry of Environment in agreement with the head of the administrative agency concerned.

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

<no data available>

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
<i>Pernis ptilorhynchus</i>	<input checked="" type="checkbox"/>		CITES Appendix II and CMS Appendix II

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

4.1 - Ecological character

The Sumeunmulbaengdui Wetland is located on the flatland in the middle of Halla Mountain, a shield volcano that has many parasitic cones, in Jeju Island. The site is situated in a long and narrow patch of land, and its total surface area is 117.5 ha and the perimeter is 2,472 m. Volcanic ash soils, together with the bedrock consisting mainly of trachybasalt occur in the site, storing and recharging water.

The site is home to various aquatic and wetland plants, including 30 wetland plant species that accounts for 16 percent of all plants inhabiting the site. This includes *Utricularia yakusimensis*, designated as Endangered Wild Species (EWS) by the Ministry of Environment.

The site accommodates a wide variety of wild birds species, including the species designated as Endangered Wildlife Species and/or endemic species, such as *Pernis ptilorhynchus*, *Falco subbuteo*, *Terpsiphone atrocaudata*, *Cuculus saturatus*, *Cuculus poliocephalus* and *Ficedula zanthopygia*.

The Wildlife Protection and Management Act provides the legal protection for wildlife in Korea, especially Endangered Wild Species that are currently classified into two categories; Endangered Wild Species Class I and II. The ' Endangered Wild Species Class I ' includes wild species whose numbers have drastically declined resulting from natural or anthropogenic factors. The ' Endangered Wild Species Class II ' includes wild species whose numbers have significantly declined and which face threat of extinction in the near future in the event where current threatening factors are not eliminated or alleviated. The species listed in both Class I and Class II are designated by the Ministry of Environment in agreement with the head of the administrative agency concerned.

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

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
U: Permanent Non-forested peatlands		1	117.5	Rare

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Cirsium rhinoceros		
Utricularia uliginosa		National red list - VU

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	<i>Accipiter nisus</i>	Eurasian Sparrowhawk				CITES Appendix II, CMS Appendix II
CHORDATA/AVES	<i>Accipiter soloensis</i>	Chinese Sparrowhawk; Gray Frog-Hawk				CITES Appendix II, CMS Appendix II
CHORDATA/REPTILIA	<i>Amphiesma vibakari ruthveni</i>					
ARTHROPODA/INSECTA	<i>Aphantopus hyperantus</i>					National red list - VU
CHORDATA/AVES	<i>Buteo buteo</i>	Common Buzzard				CITES Appendix II, CMS Appendix II
CHORDATA/MAMMALIA	<i>Capreolus pygargus</i>	eastern roe deer				
ARTHROPODA/INSECTA	<i>Coenonympha hero</i>					National red list - VU
CHORDATA/AVES	<i>Cuculus poliocephalus</i>	Lesser Cuckoo				
CHORDATA/AVES	<i>Cuculus saturatus</i>	Oriental Cuckoo				
CHORDATA/REPTILIA	<i>Elaphe dione</i>					
ARTHROPODA/INSECTA	<i>Fabriciana nerippe</i>					National red list - VU Class II Endangered Wildspecies, Wildlife Protection and Management Act in the Republic of Korea.
ARTHROPODA/INSECTA	<i>Fabriciana pallescens</i>					
CHORDATA/AVES	<i>Falco peregrinus</i>	Peregrine Falcon				CITES Appendix I, CMS Appendix II

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Falco subbuteo</i>	Eurasian Hobby;Northern Hobby				CITES Appendix II, CMS Appendix II
CHORDATA/AVES	<i>Falco tinnunculus</i>	Common Kestrel;Eurasian Kestrel				CITES Appendix II, CMS Appendix II
CHORDATA/AVES	<i>Ficedula zanthopygia</i>	Yellow-rumped Flycatcher				
CHORDATA/REPTILIA	<i>Gloydius ussuriensis</i>					
CHORDATA/AMPHIBIA	<i>Hynobius quelpaertensis</i>	Jeju salamander				
ARTHROPODA/INSECTA	<i>Melanargia halimede</i>					National red list - VU
CHORDATA/MAMMALIA	<i>Meles leucurus</i>	Asian Badger				
ARTHROPODA/INSECTA	<i>Oeneis urda</i>					National red list - VU
CHORDATA/AVES	<i>Pernis ptilorhynchus</i>	Crested Honey Buzzard				CITES Appendix II CMS Appendix II National red list - VU Class II Endangered Wildspecies, Wildlife Protection and Management Act in the Republic of Korea.
ARTHROPODA/INSECTA	<i>Prosopocoilus astacoides blanchardi</i>					
ARTHROPODA/INSECTA	<i>Pyrgus maculatus</i>					National red list - VU
CHORDATA/REPTILIA	<i>Rhabdophis tigrinus tigrinus</i>					
CHORDATA/REPTILIA	<i>Scincella vandenburghi</i>					

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/REPTILIA	Takydromus amurensis					
CHORDATA/MAMMALIA	Tamias sibiricus	Siberian Chipmunk				

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cwa: Humid subtropical (Mild with dry winter, hot summer)

The average annual temperature of the site ranges from 15.6 to 1.6 degree Celsius. The average temperature of the coldest months stands at 0.9 degree Celsius and that of the warmest months at 21.3. The site is under the influence of a mild, maritime climate. The average precipitation of the Jeju Island in depth is 1,842 mm per year, with the average monthly rainfall of 153,5 mm.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

Not in river basin

4.4.3 - Soil

Mineral

Organic

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)

Soil type : sandy silt
 Average soil depth : 10cm
 Average Organic content : 58.17%

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	No change

Source of water that maintains character of the site

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

Water destination

Presence?	Changes at RIS update
Feeds groundwater	No change
To downstream catchment	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels largely stable	No change

4.4.5 - Sediment regime

Sediment regime unknown

4.4.6 - Water pH

Acid (pH<5.5)

4.4.7 - Water salinity

Fresh (<0.5 g/l)

4.4.8 - Dissolved or suspended nutrients in water

Dystrophic

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

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Erosion protection	Soil, sediment and nutrient retention	Low
Climate regulation	Local climate regulation/buffering of change	Low

Cultural Services

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

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	Medium
Soil formation	Accumulation of organic matter	Low

Within the site:

Outside the site: 30000

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

<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"/>

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

The Korea Forest Service, a national agency specializing in forestry that is overseen by the Ministry for Food, Agriculture, Forestry and Fisheries, holds the ownership of the land within and surrounding the Ramsar Site.

5.1.2 - Management authority

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

Yeongsan River Basin Environmental Office, Ministry of Environment

Provide the name and title of the person or people with responsibility for the wetland: Hee-cheol Lee, Head of Yeongsan River Basin Environmental Office

Postal address: Yeongsan River Basin Environmental Office, 21 Gyesoo-ro, Seo-gu, Gwangju-si, Republic of Korea
Tel. +82-62-410-51114
Fax. +82-55-211-1605

E-mail address: hellodolly@korea.kr

5.2 - Ecological character threats and responses (Management)

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

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Low impact	Low impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Livestock farming and ranching	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.2.2 - Legal conservation status

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
UNESCO Biosphere Reserve	Jeju Island Biosphere Reserve	http://english.jeju.go.kr/index.php/contents/AboutJejuIslandBiosphereReserve	whole
Other global designation	Jeju Global Geoparks Network	http://english.jeju.go.kr/index.php/contents/AboutJejuGlobalGeoparksNetwork	whole

5.2.3 - IUCN protected areas categories (2008)

II National Park: protected area managed mainly for ecosystem protection and recreation

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Land conversion controls	Implemented

Other: The Jeju Biosphere Reserve Management Plan was developed in 2005 and has been implemented since then. Under the plan, the site is situated within the boundary of the buffer zone that surrounds the core zone. The plan implements the wise use concept while keeping the impacts of it at the lowest level, include activities, such as environmental education and eco-tourism programmes. At the same time, research programmes have been implemented.

5.2.5 - Management planning

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

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

There is no tourist trail or scenic route within the boundary of the site, which limits the access of tourists into the site. The site is covered by an across-the-island research conducted on a regular basis. A CEPA plan is being prepared by the local government.

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 species	Proposed
Animal species (please specify)	Proposed

The local government put in place a monitoring program that is conducted on a regular basis and covers all wetlands and the associated ecosystem services.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Jeju Environmental Resources Research Institute (2009), Natural Environment of Mt. Halla pp. 218-219;

Hallasan Research Institute, Jeju Special Self-Governing Province (2006), Hallasan Research Institute Reports, available at <http://www.hallasan.go.kr/>;

Ministry of Environment of the Republic of Korea (2012), Intensive Survey on National Inland Wetlands;

Sung Chul Ko, Dong Chan Son & Beom Kyun Park (2014), Flora of Sumeunmulbaengdui wetland in Jeju-do, Korea, Korean J. Pl. Taxon. 44(3): 222-232.

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>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Center, from north to south (Ministry of Environment, 22-06-2012)



Pasture and forests, southwest from the central watershed (Ministry of Environment, 22-06-2012)



Northern part of the central Watershed, from south to north (Ministry of Environment, 22-06-2012)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation