

Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

18 August 2009

3. Country:

Republic of Korea

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

1100 Altitude Wetland

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or
b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
ii) the boundary has been extended ; or
iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
ii) the area has been extended ; or
iii) the area has been reduced**

** **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ;
ii) an electronic format (e.g. a JPEG or ArcView image) ;
iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

North Latitude: 33° 21'25"-33° 21'28"

East Longitude: 126° 27'43" -126° 27'57"

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

- a. Jurisdictionally located at Aewol-eup, Jeju-si (city), and Jungmoon-dong, Seoswipo-si in Jeju-do (Island), Republic of Korea
- b. Located at 1100m altitude of Hallasan (mountain) and is a part of the Hallasan National Park
- c. Located at the local road no. 1139, so called '1100 road', which connects Jeju-si and Seogwipo-si passing through the west bottom of Hallasan.

10. Elevation: (in metres: average and/or maximum & minimum)

1,100m above the sea level

11. Area: (in hectares)

12.55 ha

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

- a. The soil around the 1100 Altitude Wetland is the scoria from trachybasalt and trachybasalt-lava. The 1100 Altitude Wetland consists of 5~7 wetlands as patches. Permanent, seasonal, intermittent and irregular wetlands can all be found in the area.
- b. The wetland is classified under two types, permanent freshwater wetland and peat bog, as the wetland has various vegetation and irregular shapes due to its patch-like composition. The part, facing 1100 road, is the peat bog.
- c. Despite of its small size, the vegetation is various and different from that of Korean inland wetlands. It is assumed to be caused by irregular land patches and water-holding capacity. Vegetation is mainly composed with *Eriocaulon decemflorum* community, *Eleocharis attenuata* for. *Laevisetia* community, *Dimeria ornithopoda* community, and *Isachne globosa* community. The vascular plants, around the 1100 Altitude Wetland, are classified under 259 taxa; 82 Families, 181 Genera, 253 species, 3 varieties, 3 forma. *Isoetes hallasanensis*, the endemic species of Jeju, was observed in the wetland. So was *Utricularis yakusimensis* (endangered species level 2) in certain parts of the wetland.
- d. Peregrine Falcon (*Falco peregrinus*), Common Buzzard (*Buteo buteo*) and Japanese Sparrowhawk (*Accipiter gularis*), endangered species, were observed. So were *Primnoa halrasana* and *Panorpa approximate*, endemic insect species of Jeju.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9
 ✓ ✓ ✓ □ □ □ □ □ □

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

○ criterion 1 :

1100 Altitude Wetland is a round-shaped mountainous wetland, consisting of 5~7 main wetlands that are distributed in the shape of patches. Each wetland shows its own ecological environment, depending on its surface water flows or water-holding capacity. 1100 Altitude Wetland's topographical and geological characteristics show its uniqueness even in Korea, taking consideration of its developed pools and high transmissibility.

○ criterion 2 :

Republic of Korea Endangered species, Peregrine Falcon (*Falco peregrinus*, endangered species level 1), Common Buzzard (*Buteo buteo*, endangered species level 2), Japanese Sparrowhawk (*Accipiter gularis*, endangered species level 2), and *Utricularis yakushimensis* (endangered species level 2) can be observed in 1100 Altitude Wetland.

English Name	Scientific Name	IUCN Status	CITES Status	CMS	National Status
Birds					
Peregrine Falcon	<i>Falco peregrinus</i>	LC	I	-	E - I
Common Buzzard	<i>Buteo buteo</i>	LC	-	-	E - II
Japanese Sparrowhawk	<i>Accipiter gularis</i>	LC	II	-	E - II
Flora					
	<i>Utricularis yakushimensis</i>	-	-	-	E - II

○ criterion 3 :

The vascular plants around the 1100 Altitude Wetland are classified under 259 taxa. Of those, 20 were endemic to either Korea or Jeju Island. *Isoetes ballasanensis* can only be found in this wetland and nowhere else in the world. Various fauna, including mammals, birds, amphibians, reptiles, benthic invertebrates, and terrestrial insects, inhabit in the area. In addition, co-habitation of endemic species such as Siberian Weasel *Mustela sibirica quepartis*, Japanese White-toothed Shrew *Crocidura dsinezumi*, Jeju Striped Field Mouse *Apodemus chejuensis* (the above as mammals), *Primnoa balrasana* and *Panorpa approximate* (the above as insects) is remarkable. These facts render this wetland essential for the maintenance of biodiversity.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Holarctic Floristic Kingdom – Eastern Asiatic Floristic Region

b) biogeographic regionalisation scheme (include reference citation):

Yoshoka, K. (1973) *Plant Geography*. pp.10~19. Konglip Publishing Co., Tokyo.

Yamazaki, T. (1983) *Outline of Biology(Higher Plants A1)*, pp.79-96. Nakayama Sho. Tokyo.

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Topography:

○ 1100 Altitude Wetland is a wetland situated in a large area of slow gradient in Mt. Halla. The fact that Mt. Halla holds only little surface water renders this wetland topographically important.

○ 1100 Altitude Wetland is a round-shaped mountainous wetland, consisting of 5~7 main wetlands that are distributed in the shape of patches. The water of each wetland flows to the direction of its inclines. Various types of wetlands can be found depending on the quantity of surface water; permanent, seasonal and intermittent wetlands can be observed.

Geology and Pedology :

○ The soil around the 1100 Altitude Wetland is scoria from trachybasalt and trachybasalt-lava. SiO₂ content of its trachybasalt which has feldspar-phenocryst and grey or dark grey color is 49.1~52.3%.

○ The Heugag series soil around the 1100 Altitude Wetland is classified as a brown forest soil.

Climate: based on 5 year (2002-2007) record of Jeju Meteorological Administration located in the vicinity of 1100 Altitude Wetland

■ Average annual temperature: 16.2 °C

■ Average temperature of the coldest month (January): -1.2 °C

■ Average temperature of the warmest month (August): 34.4°C

■ Average annual precipitation: 1,595.8mm

■ Average annual wind velocity: 3.2m/s

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

○ West side of Mt. Halla is where 1100 Altitude Wetland is situated. Its gradient is slow as 8~10°. In particular, around 1100m above the sea level where 1100 Altitude Wetland is situated, a large area of slow gradient is distributed, which enables the holding of fresh surface water. The scoria/volcanic cones, surrounding these patches of wetlands, also functions as a receiving reservoir.

○ The soil around the 1100 Altitude Wetland is scoria from trachybasalt and trachybasalt-lava. The brown forest soil and rocks distributed around 1100 Altitude Wetland slow the water flow and therefore, help the holding of surface water.

○ Various topographical features of the west side of Mt. Halla bring about frequent climate changes even in a small area. With reference to Köppen's climate classification, the climate around 1100 Altitude Wetland belongs to Dfb climate.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

○ 1100 Altitude Wetland is where surface water from other sources flows in, vegetation is high, flow rate in waterways and most parts is high, and water holding capacity is high. Therefore, this wetland functions as a buffer zone to prevent ecosystem from the damage caused by water flow.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar “Classification System for Wetland Type” present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Tp, U

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Flora

○ The vascular plants around 1100 Altitude Wetland is classified under 259 taxa; 82 Families, 181 Genera, 253 species, 3 varieties, 3 forma. Of those, 20 are endemic to either Korea or Jeju Island. In particular, *Isoetes ballasanensis* is the one which exists only in the wetland, nowhere else in the world.

○ Vegetation is diverse; *Eriocaulon decemflorum* community, *Eleocharis attenuata* for. *Laevisetia* community, *Dimeria ornithopoda* community, *Isachne globosa* community, *Scirpus juncooides* community, *Scirpus triquetus* community, and *Carex dickinsii* community.

○ Shrubberies inhabit in patches in the wetland and *Ilex crenata* and *Rhododendron yedoense* for. *Poukhanense* are dominant. In the woodland, *Acer pictum* var. *mono*, *Fraxinus rhynceophylla*, *Acer palmatum*, and *Quercus mongolica* var. *crispula* are dominant. They are distributed as a community. In a lower layer, *Sasa quelpaertensis* is dominant.

○ Only 1 Endangered plant species, *Utricularis yakushimensis*, was observed.

○ Various vegetations were observed, although the area of the wetland is small. It is assumed that micro-topographical difference caused by difference in water-holding capacity of wetland patches.

○ Through the distribution pattern of the vegetations, it is expected that the succession will be occurred from hydrophytes (*Eriocaulon decemflorum* community, *Eleocharis attenuata* for. *Laevisetia* community) to *Dimeria ornithopoda* community, *Isachne globosa* community, and shrubs or trees by landification.

Fauna

○ Mammals

A total of 9 species including Siberian Roe Deer (*Capreolus pygargus*) and Eurasian Badger (*Meles meles*) was observed and recorded around the wetland. Of those, a subspecies of Siberian Weasel (*Mustela sibirica quelpartis*), and Cheju Striped Field Mouse (*Apodemus chejuensis*) are endemic to Jeju.

○ Birds

A total of 40 birds species was observed, including Peregrine Falcon (*Falco peregrinus*) which is designated as Endangered species level 1 in the Republic of Korea, Common Buzzard (*Buteo buteo*) and Japanese Sparrowhawk (*Accipiter gularis*) which are designated as Endangered species level 2.

○ Amphibians

A total of 5 Amphibian species, including Dybowski's Brown Frog (*Rana dybowskii*), Dark-spotted Pond Frogs (*Rana nigromaculata*; IUCN near threatened species), Korean Fire-bellied Toads (*Bombina orientalis*), Tree Frog (*Hyla japonica*) and Cheju Salamanders (*Hynobius quepaertensis*), inhabits in the area.

○ Reptiles

5 species of reptiles, including *Gloydus ussuriensis*, Asian Tiger Snake (*Rhabdophis tigrinus tigrinus*), *Amphiesma vibakari ruthvenies*, *Takydromus wolteries*, and *Scincella vandenburghi*, have been recorded.

○ Benthic Invertebrates

A total of 6 Orders 15 Families 39 species, including *Hirudo nipponica*, *Whitmania edentula*, and *Sphaerium lacustre japonicum*, was recorded.

○ Terrestrial Insects

10 Orders 39 Families 99 species have been recorded, including *Primnoa balrasana* and *Panorpa approximate* which are endemic to Jeju.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Utricularia yakusimensis, Endangered species level 2

20 either Korean or Jeju endemic species were recorded including *Isoetes ballasanensis* which can only be found in certain parts of the wetland.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Peregrine Falcon (*Falco peregrinus*): CITES 1, Endangered species level 1

Common Buzzard (*Buteo buteo*) Endangered species level 2

Japanese Sparrowhawk (*Accipiter gularis*): CITES 2, Endangered species level 2

Lesser Cuckoo (*Cuculus poliocephalus*) : Natural Monument # 447

Dark-spotted Pond Frogs (*Rana nigromaculata*): IUCN near threatened species

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values (e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc.) Distinguish between historical/archaeological/religious significance and current socio-economic values:

1100 Altitude Wetland exists on the 1100 meter-hill therefore shares the same significance that Mt. Halla holds. Mt. Halla not only provides the resources for the locals living in near areas, but also has religious significance to it. Especially, people of Jeju have strong cognition that they share the history and future with Mt. Halla. This relationship has been continued from past to present. In this sense, the wetland shares the same value as Mt. Halla as part of it.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

No

If Yes, check the box and describe its importance on the following categories:

- i) a site that sets an example for efficient and wise use of the wetland, demonstrating the application of traditional knowledge and management methods that maintain the ecological characteristics of the wetland:
- ii) a site with exceptional cultural traditions or records of former civilizations that have influenced the ecological characteristics of the wetland:
- iii) a site where the ecological characteristics of the wetland depends on the interactions with the local communities or indigenous people:
- iv) a site where 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:

24. Land tenure/ownership:

a) within the Ramsar site: National forest

b) in the surrounding area: National forest

25. Current land (including water) use:

a) within the Ramsar site: 1100 Altitude Wetland has been designated as a national park zone under the Natural Environment Conservation Act as well as a core protected area under the Special Act by Jeju Self-governing Province, namely, the Special Act on the Establishment of Jeju Special Self-governing Province and International Free City.

b) in the surroundings/catchment: Mostly forest area and under the special act, it is a core protected area.

26. Factors (past, present or potential) adversely affecting the site's ecological characteristics, including changes in land (including water) use and development projects:

a) within the Ramsar site: There has been almost no human interruption by land use, as 1100 meter-hill is nationally and publically owned. However, grazing, which was allowed until mid-1980s, partially influenced the succession of vegetation in the area. Currently, efforts to minimize

ecological interruption are being made, installing visiting decks which separate some of the vegetation.

b) in the surrounding area: road constructions in the past (1968-1976) have caused separation of the vegetation of wetlands in some parts.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

Especially, if the site is partially or entirely a World Heritage Site and/or a UNESCO Biosphere Reserve, list the names of the site under these designations.

- National level: Hallasan (Mt.) National Park (1970)
- International level: A core part of Jeju Island Biosphere Reserve by UNESCO (2006), a buffer zone of Mt. Hallasan Nature Reserve (2007)

b) If applicable, list the IUCN (1994) protected areas categories which apply to the site (check the boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

Established in 1970.

c) Whether or not official approved management plan exist; and its implementation:

It is managed under National Park Management Plan (2004), Jeju Island Biosphere Reserve Management Plan (2005), and Jeju Island World Natural Heritage Conservation and Management Plan (2008).

d) Describe any other current management practices:

○ 1100 Altitude Wetland is designated as a Wetland Protected Area on 1 October 2009. Upon its designation, it will be regularly monitored by Jeju Special Self-Governing Province under 'Wetland Protected Area Conservation Plan' and closely surveyed in-depth by the Ministry of Environment every five years under 'National Wetland Management Plan'. In addition, it is currently monitored by the nature guards to prevent any illegal acts or outlaws.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

N/A

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring, existence of a field research station, etc.

○ 1100 Altitude Wetland is equipped with water level monitoring system to understand its environmental characteristics, such as water maintenance and rising. Various researches are in progress, including those on vegetation, fauna, flora, and other ecological characteristics.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

○ Mt. Halla Visitor Centre and trained eco-guides are in operation. As a part of Mt. Halla visiting programme, 'meeting wetland wildlife' programme is being operated, which also promotes the value of wetlands.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

○ The number of visitors is increasing, due to its ecological values and scenery as well as easy accessibility. (In 2008, 0.9 million visitors visited compare to 0.8 million in 2007 and 0.7 million in 2006.)

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

○ Jeju Province, (Self-governing Police with rights for environment-damage act regulations)

33. Management authority:

Provide the name and address of the local office(s) of the agency (ies) or organisation(s) directly responsible for the management of wetland. Also, provide the title and/or name of the person in charge of the wetland management at the office.

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34. Bibliographical references:

Scientific/technical references only. If bio-geographic regionalisation scheme is applicable (see #15 above), list the full reference citations for the scheme.

Yoshoka, K. (1973) *Plant Geography*. pp.10~19. Konglip Publishing Co., Tokyo.
Yamazaki, T. (1983) *Outline of Biology(Higher Plants A1)*, pp.79-96. Nakayama Sho. Tokyo.
MoE•UNDP/GEF Korea Wetland Project, (2009) *2008 National Inland Survey – Jeju 1100 Altitude Wetland*, Gwangeun Press, Seoul.
Institute of Environmental Resource Research Institute, Jeju Special Self-governing Province, (2009) *Natural Resources of Mt. Halla*, pp218-219, Design Yeonrim, Jeju.
Hallasan Research Institute, (2006) *Mt.Halla Nature Reserve Research Report*, Shinwoo Press, Jeju.
<http://www.hallasan.go.kr/>

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