

# Information Sheet on EAA Flyway Network Sites (SIS) – 2013 version

Available for download from <http://www.eaaflyway.net/nominating-a-site.php#network>

*Categories approved by Second Meeting of the Partners of the East Asian-Australasian Flyway Partnership in Beijing, China 13-14 November 2007 - Report (Minutes) Agenda Item 3.13*

## Notes for compilers:

1. The management body intending to nominate a site for inclusion in the East Asian - Australasian Flyway Site Network is requested to complete a Site Information Sheet. The Site Information Sheet will provide the basic information of the site and detail how the site meets the criteria for inclusion in the Flyway Site Network.
2. The Site Information Sheet is based on the Ramsar Information Sheet. If the site proposed for the Flyway Site Network is an existing Ramsar site then the documentation process can be simplified.
3. Once completed, the Site Information Sheet (and accompanying map(s)) should be submitted to the Flyway Partnership Secretariat. Compilers should provide an electronic (MS Word) copy of the Information Sheet and, where possible, digital versions (e.g. shapefile) of all maps.

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## 1. Name and contact details of the compiler of this form:

Full name: Shin-ae, Min

EAAF SITE CODE FOR OFFICE USE ONLY:

Institution/agency: Suncheon Bay Preservation Dept.

Address : 513-25 Suncheonman-gil, Suncheon-si,  
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## 2. Date this sheet was completed:

DD/MM/YYYY

21/04/2016

**3. Country:**

Republic of Korea

**4. Name of the Flyway Network site:**

Accepted English transcription of the Site's name.

Suncheon Bay

**5. Map of site:**

The most up-to-date available and suitable map of the wetland should be appended to the SIS (only in digital format and shape file). The map must clearly show the boundary of the site. Please refer to the "Digitising Site Boundaries in Google Earth" file linked [here](#).



**6. Geographical coordinates (latitude/longitude, in decimal degrees):**

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.

34°50'11.15" N 127°27'57.71"E

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

-1m mininum ~ 0.5m maximum

**8. Area:**

The total area of the site, in hectares. If the areas of discrete site units are known, please also list each of these together with the names (or labels) used to identify and differentiate these units.

2,800ha (28 km<sup>2</sup>)

### 9. General overview of the site:

A brief (two sentences) summary of the site, mentioning principal physical and ecological functions, and its importance for migratory waterbirds.

Suncheon bay is an inner bay surrounded by the Goheung and the Yeosu peninsula and three streams Dong-cheon, Yisa-cheon and Beolgyo-cheon running through it, which created an extensive brackish water zone. A large number of different organisms live in Suncheon Bay including various species of legally protected birds and wild animals. Different types of habitats in Suncheon Bay, such as salt marsh, tidal flat, rice paddy, salt pan and estuary, provide sufficient food resources and spacious resting area for migratory waterbirds.

### 10. Justification of Flyway Site Network criteria:

Please provide waterbird count information (with year of latest count) that demonstrates that the site meets the criteria of the Flyway Site Network (Annex 1). That is:

6. it regularly supports > 20 000 migratory waterbirds; or,
7. it regularly supports > 1 % of the individuals in a population of one species or subspecies of migratory waterbird; or,
8. it supports appreciable numbers of an endangered or vulnerable population of migratory waterbird
9. it is a “staging site” supporting > 5 000 waterbirds, or > 0.25% of a population stage at the site.

A listing of the populations of migratory waterbirds covered by the East Asian – Australasian Flyway Partnership and the 1% thresholds is attached (Annex 3).

The “staging site” criterion is particularly difficult to apply and application of this should be discussed with the Secretariat. Also note that some species have several populations that are very difficult to distinguish in the field.

Species	1% of EAAF population	Peak count (2008 – 2016)	Date of peak count
Common Shelduck <i>Tadorna tadorna</i>	1,300	3,186	Feb. 2009
Hooded Crane <i>Grus monacha</i>	116	1,411	Jan. 2016

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Saunders's Gull <i>Saundersilarus saundersi</i>	144	2,100	Feb. 2009
Terek Sandpiper <i>Xenus cinereus</i>	500	1,104	May. 2010
Baikal teal <i>Sibirionetta formosa</i>	4,550	30,000	Jan. 2011

### 11. Wetland Types:

List the wetland types present (see Annex 2). List the wetland types in order of their area in the Flyway Network site, starting with the wetland type with the largest area.

- Coastal Wetland –
  - G : Intertidal mud, sand or salt flats
  - H : Intertidal marshes; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.
  - J : Coastal brackish/saline lagoons; brackish to saline lagoons with at least one relatively narrow connection to the sea.
- Artificial Wetland –
  - 1 : Aquaculture (e.g., fish/shrimp) ponds
  - 2 : Ponds; includes farm ponds, stock ponds, small tanks; (generally below 8 ha)

### 12. Jurisdiction:

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

Ministry of Ocean and Fisheries, Suncheon City

### 13. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland and the title and/or name and email address/phone number of the person or persons in this office with direct responsibility for managing the wetland.

Suncheon Bay Conservation Department, Suncheon City  
 30 Jangmyeong-ro, Suncheon-si, Jeonnam ( Jangcheon-dong ), 57956  
 Tel) +82-61-749-3114

#### 14. Bibliographical references:

A list of key technical references relevant to the wetland, including management plans, major scientific reports, and bibliographies, if such exist. Please list Web site addresses dedicated to the site or which prominently feature the site, and include the date that the Web site was most recently updated. When a large body of published material is available about the site, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies.

Website: [www.suncheonbay.go.kr](http://www.suncheonbay.go.kr)

1. Suncheon City (2008) Efficient conservation and sustainable use of Suncheon Bay, Korea Maritime Institute
2. Suncheon City (2009) Environment survey research for efficient conservation and management of 3. Suncheon Bay, Sunchon National University
4. Suncheon City (2014) Ecological research of Suncheon Bay and research on efficient 5. conservation, Sunchon National University
6. Suncheon City (2016) Water quality research at the Suncheon Bay and streams flowing into the Suncheon Bay
7. Status and Timing of Wader Migration at Intertidal Mudflat of Suncheon Bay (2012)
8. Environmental Ecological Status of Suncheon Bay and Its Application to the Criteria of UNESCO World Nature Heritage (2013)
9. Seasonal change of waterbird community in Suncheon Bay (2015), Honam University
10. Migration status of shorebird at Suncheon Bay (2014), Honam University
11. Wintering of Hooded Crane *Grus manacha* in Suncheon Bay (2005)
12. Wintering Behavior of Hooded Crane *Grus monacha* at Suncheon Bay (2003)
13. A Study on the Use of Wintering Habitats of Water Birds Arriving at Coastal Wetlands in Jeollanam Province, Korea (2007)
14. Suncheon City (2009), Status of Wintering of Crane and Winter Migratory Bird in Suncheon Bay 2008-2009
15. Suncheon City (2011), Research report on the migratory bird in Suncheon Bay 2011
16. Green Suncheon 21 (2008), Suncheon Bay Conservation Activity Report

#### 15. 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.

- Origins: Natural
- Water quality
  - Salinity: 1.20~ 31.09 ‰
  - Dissolved Oxygen: 4.91 ~11.77 mg/l (mean : 7.08 mg/l)
  - pH: 7.77~8.35 (mean. 8.09)
  - COD: 1.67~6.16 mg/l (mean: 2.93 mg/l)
  - SS: 9.2~130.0 mg/l (mean: 64.5 mg/l)
- Water depth: 0 ~ 7m
- Water permanence: impermanent (tidal mudflat)
- Tidal range: 1.5 ~ 4.0m
- General climate
  - Air temperature: mean 13°C (-10 ~ +32°C)
  - Precipitation: 1,800 mm
  - Air pressure: 1017 mmHg

#### **16. Physical features of the catchment area:**

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

- Geomorphological features
  - 2<sup>nd</sup> grade stream: Dong cheon, Yisa Cheon, Beolgyo Cheon
  - Small-size stream: Haeryong cheon, Kuryong cheon, Kyo cheon and Chooksan cheon
  - The length of the streams are less than 40km and the surrounding area has a rather small number of pollution sources such as industrial complexes and highly-populated area.
- General soil type
  - The component materials are pebble and sand in the upper streams and sand and mud in the down streams.
- Temperature
  - Annual average 12.5 °C (-6.4 °C ~ 33.4°C)
- General land use
  - Fishery, Aquaculture
- Climate Type
  - Humid Continental climate with 4 different seasons

#### **17. Hydrological values:**

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

Reed communities in upper part of Suncheon Bay provide food resources to living organisms and reduce erosions of shoreline by collecting organic materials and slowing down the velocity of flow. Well preserved environment around the headstream such as Chogye Mountain National Park contributes to clean water quality. Sangsa Dam was built in 1991 to reduce summer floods and control the water quantity in Yisa cheon.

### 18. General ecological features:

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

Suncheon Bay is a relatively clean sea area, which consists of a wide estuary tidal flat of 2,160ha and a reed community of 140ha located 3.5km downstream of Dongcheon and Yisa cheon confluence.

Reeds absorb and purify pollutants and deposit floating substances. They also improve water quality by preventing soil erosion and offer habitats to other living organisms.

Suncheon Bay, a coastal wetland, is the only site in Korea where *Grus monacha* arrives regularly and globally threatened waterbirds such as *Ciconia boyciana* and *Platalea minor* arrive. In addition, it serves as habitats to various migratory birds including *Tadorna tadorna*, *Charadrius alexandrinus* and *Anas platyrhynchos*.

In particular, it is an area of international importance connecting East Asia and Australia along the flyway.

Suncheon Bay has high biodiversity:

- Benthic invertebrates: 5 phyla, 6 classes, 12 orders, 22 families, and 43 species
- Flora (summer halophytes): 36 families, 92 genera, and 116 species
- Birds: 17 orders, 54 families, and 239 species

The total number of bird species inhabiting in the bay is around 239, among which thirty species are registered as the natural monuments and thirty-six species as the internationally protected species.

### 19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy 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 SIS.*

(Please add here the species which do not come under sec no 14)

The most important flora is the coastal plants living in the mud-sand area. In total, there are 116 wild species with 36 families and 92 genera, including *Phragmites communis*, *Zoysia sinica*, *Avena fatua*, *Atriplex subcordata*, *Typhaceae spp*, *Suaeda japonica*, *Phacelurus lalifolius*, *Erigeron bonariensis*, *Suaeda asparagoides*, *Limonium tetragonum*

## 20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 10. Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.

(Please add here the species which do not come under sec no 14)

There are 239 bird species belonging to 17 orders and 54 families in Suncheon Bay.

During the survey period, on an average, 9,847 individuals of birds were seen. However, a sum of the highest number of individuals observed by species was over 20,000.

The most dominant species is *Charadrius alexandrinus*, of which 11,000 individuals were observed. It was followed by *Calidris alpina* (4,330 individuals), *Tadorna tadorna* (3,186 individuals) and *Larus ridibundus* (2,043 individuals).

36 rare bird species were observed including *Platalea leucorodia*, *Cygnus cygnus*, *Cygnus columbianus*, *Buteo buteo*, *Circus cyaneus*, *Falco peregrinus*, *Falco tinnunculus*, *Grus grus*, *Grus monacha*, *Grus vipio*, *Haematopus ostralegus*, *Numenius madagascariensis*, and *Saundersilarus saundersi*.

Benthic invertebrates include: 5 phyla, 6 classes, 12 orders, 22 families, 43 species.

## 21. Social, economic and cultural values:

**a)** Describe if the site has any general social, economic 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:

Suncheon city has beautiful scenery with mountains, rivers, lakes and various cultural heritages such as Songgwang Temple, Seonam Temple and Nakan-eupseong Folk Village, etc. Palma (eight-horses) spirit of the Magistrate ChoiSok is honored here from the Korea Dynasty.

Fishing activities using simple tools such as small hoe or shovel are carried generally out in the tidal flat of Suncheon Bay. The major products of this kind of fishing are polychaetes, small octopus (*Octopus variabilis*), short-necked clams (*Tapes japonica*, *Paphia undalata*), natural oysters, flat oyster (*Ostrea denselamellosa*), and purple shell (*Rapana venosa*). *Acanthogobius flavimanus* and *Boleophthalmus pectinirostris* are collected with fishing hook, and sedentary or coastal migratory species with fishing net. The number of households and persons engaged in fisheries in tidal flat of Suncheon Bay are 651 and 1,333, respectively, living in three towns. Production of fisheries in the Suncheon Bay area is 142,127 tons, 409,100 tons of seaweed, and 16,347 tons of mollusks. In case of Yongdoo fishing village, the total sales of razor clam reached about 0.8 million dollars in 2003.

**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? (Double-click the checkbox to check and choose "Checked" under "Default Value" from "Check Box Form Field Options" window)



If yes, tick the box  and describe this importance under one or more of the following categories:

- I. Sites which provide 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. Sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- III. Sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- IV. Sites 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:

**22. Land tenure/ownership:**

a) Within the Flyway Network site:

State-owned

b) In the surrounding area:

Local resident owned

**23. Current land (including water) use:**

Fishery resources in Suncheon Bay are 22 species of fishes, 70 species of Crustacea, 8 species of Mollusca and 2 species of seaweed.

Cockle aquaculture is the biggest part of land use.

a) Within the Flyway Network site:

Local residents

b) In the surroundings/catchment:

Local residents

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

a) Within the Flyway Network site:

Fishery, aquaculture

b) In the surrounding area:

Vinyl greenhouse, electric pole, and buildings

**25. Conservation measures taken:**

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

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

- Suncheon Bay: Wetland Protected Area (2003. 12. 31) designated by MOF
- Dongcheon Estuary: Wetland Protected Area (2015. 12. 24) designated by MOE
- Ramsar Site (2006. 1) designated by Ramsar Convention
- Cultural Heritage Protection Area (2008. 6. 13) designated by Cultural Heritage Administration
- Ecosystem Conservation Area (2009. 3)

**b)** If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate, see Annex 3):

Ia ; Ib ; II ; III ; IV ; V ; VI ; N/A

**c)** Does an officially approved management plan exist; and is it being implemented?

Suncheon Bay management plan was developed in 2008 and is being actively implemented. Suncheon City is separated into four different areas, which are permanent conservation area, buffer area, transition area and urban area. Based on the zoning in the management plan, Suncheon City built a National Garden in the transition area to release pressure from increasing number of visitors to Suncheon Bay and to avoid urban expansion into the conservation area. Currently, the 2nd longterm conservation plan is getting developed.

If yes, is it being implemented?: If no, is one being planned?

**d)** Describe any other current management practices:

**26. Conservation measures proposed but not yet implemented:**

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

Suncheon City is planning to designate rice paddies and estuarine area adjacent to the Suncheon Bay as a Ramsar Site.

Suncheon City is planning to purchase privately owned land near the mudflats, such as aquaculture sites, abandoned saltpans to expand the habitats of diverse fauna and flora, to develop ecotourism with local residents and for mudflat restoration.

**27. Current scientific research and facilities:**

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

- Longterm research on efficient conservation and wise use of Suncheon Bay (Korea Maritime Institute)
- Periodical water quality survey in wetland protected area and inflowing streams (Sunchon National University)
- Research on economic value of selected area for restoration in Sunchon Bay (Korea Marine Environment Management Corporation)
- Hooded Crane Monitoring in Suncheon Bay (East Jeonnam Social Research Institute)

**28. 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.

- Suncheon Bay Nature Class (monthly)
- Special Expert Lecture (monthly)
- Suncheon Bay Junior Ranger program
- Suncheon Bay Mudflat Eco-guide program
- Grant program for local residents
  - Awareness programs
  - Conservation activities
  - Eco-village program
- Hooded Crane Farmers
  - Removal of electric poles in 59 ha farmland
  - Eco-friendly farming practice
  - Feeding Hooded Crane in wintering season

**29. Current recreation and tourism:**

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

- Number of visitors: 2.3 million
- Recreation facilities
  - Suncheon Bay Nature Eco-park (Visitor Center)
  - Boardwalk
  - Yongsan Observatory
  - Bird watching tour boat

**30. Threats**

Which of the following threats is present historically – when the threat stopped but the effects are still there (H), currently (C) or potentially (P)?

	Historically	Currently	Potentially
<b>Residential and commercial development</b>			

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housing and urban areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
commercial and industrial areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
tourism and recreation areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Agriculture and aquaculture</b>			
annual and perennial non-timber crops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wood and pulp plantations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
livestock farming and ranching	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
marine and freshwater aquaculture	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Energy production and mining</b>			
oil and gas drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
mining and quarrying	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
renewable energy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Transportation and service corridors</b>			
roads and railroads	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
utility and service lines	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
shipping lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
flight paths	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Biological resource use</b>			
hunting and collecting terrestrial animals	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
gathering terrestrial plants	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
logging and wood harvesting	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
fishing and harvesting aquatic resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Human intrusions and disturbance</b>			
recreational activities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
war, civil unrest and military exercises	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
work and other activities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Natural system modifications</b>			
fire and fire suppression	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
dams and water management/use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other ecosystem modifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Invasive and other problematic species and genes</b>			
invasive non-native/alien species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
problematic native species	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
introduced genetic material	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Pollution</b>			
household sewage and urban waste water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
industrial and military effluents	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
agricultural and forestry effluents	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
garbage and solid waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
air-borne pollutants	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
excess energy	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Geological events</b>			
volcanoes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
earthquakes/tsunamis	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
avalanches/landslides	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Climate change and severe weather</b>			
habitat shifting and alteration	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
droughts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
temperature extremes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
storms and flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Please write here any additional threats and comments/queries you have on the threats.**

## **Annex 1: Criteria for the inclusion of sites in the Flyway Site Network**

(From the Partnership Text)

To be considered for inclusion in the Flyway Site Network, this Partnership adopts the following criteria:

- a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:
  - Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
  - Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
  - Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
  
- b. The staging criteria as applied under the Asia - Pacific Migratory Waterbird Conservation Strategy. That is:
  - i. A staging site should be considered internationally important if it regularly supports 0.25% of individuals in a population of one species or subspecies of waterbirds on migration.
  - ii. A staging site should be considered internationally important if it regularly supports 5,000 or more waterbirds at one time during migration.
  
- c. Under exceptional circumstances a site can be nominated if it supports migratory waterbirds at a level or stage of their life cycle important to the maintenance of flyway populations. Justification of such nominations will be considered by the Partnership on a case by case basis.

## Annex 2: Ramsar Classification System for Wetland Type

The codes are based upon the Ramsar Classification System for Wetland Type as approved by Recommendation 4.7 and amended by Resolutions VI.5 and VII.11 of the Conference of the Contracting Parties. The categories listed herein are intended to provide only a very broad framework to aid rapid identification of the main wetland habitats represented at each site.

To assist in identification of the correct Wetland Types to list in section 19 of the RIS, the Secretariat has provided below tabulations for Marine/Coastal Wetlands and Inland Wetlands of some of the characteristics of each Wetland Type.

### Marine/Coastal Wetlands

- A -- **Permanent shallow marine waters** in most cases less than six metres deep at low tide; includes sea bays and straits.
- B -- **Marine subtidal aquatic beds**; includes kelp beds, sea-grass beds, tropical marine meadows.
- C -- **Coral reefs.**
- D -- **Rocky marine shores**; includes rocky offshore islands, sea cliffs.
- E -- **Sand, shingle or pebble shores**; includes sand bars, spits and sandy islets; includes dune systems and humid dune slacks.
- F -- **Estuarine waters**; permanent water of estuaries and estuarine systems of deltas.
- G -- **Intertidal mud, sand or salt flats.**
- H -- **Intertidal marshes**; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.
- I -- **Intertidal forested wetlands**; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.
- J -- **Coastal brackish/saline lagoons**; brackish to saline lagoons with at least one relatively narrow connection to the sea.
- K -- **Coastal freshwater lagoons**; includes freshwater delta lagoons.
- Zk(a) – **Karst and other subterranean hydrological systems**, marine/coastal

### Inland Wetlands

- L -- **Permanent inland deltas.**
- M -- **Permanent rivers/streams/creeks**; includes waterfalls.
- N -- **Seasonal/intermittent/irregular rivers/streams/creeks.**
- O -- **Permanent freshwater lakes** (over 8 ha); includes large oxbow lakes.
- P -- **Seasonal/intermittent freshwater lakes** (over 8 ha); includes floodplain lakes.
- Q -- **Permanent saline/brackish/alkaline lakes.**
- R -- **Seasonal/intermittent saline/brackish/alkaline lakes and flats.**

- Sp -- **Permanent saline/brackish/alkaline marshes/pools.**
- Ss -- **Seasonal/intermittent saline/brackish/alkaline marshes/pools.**
- Tp -- **Permanent freshwater marshes/pools;** ponds (below 8 ha), marshes and swamps on inorganic soils; with emergent vegetation water-logged for at least most of the growing season.
- Ts -- **Seasonal/intermittent freshwater marshes/pools on inorganic soils;** includes sloughs, potholes, seasonally flooded meadows, sedge marshes.
- U -- **Non-forested peatlands;** includes shrub or open bogs, swamps, fens.
- Va -- **Alpine wetlands;** includes alpine meadows, temporary waters from snowmelt.
- Vt -- **Tundra wetlands;** includes tundra pools, temporary waters from snowmelt.
- W -- **Shrub-dominated wetlands;** shrub swamps, shrub-dominated freshwater marshes, shrub carr, alder thicket on inorganic soils.
- Xf -- **Freshwater, tree-dominated wetlands;** includes freshwater swamp forests, seasonally flooded forests, wooded swamps on inorganic soils.
- Xp -- **Forested peatlands;** peatswamp forests.
- Y -- **Freshwater springs; oases.**
- Zg -- **Geothermal wetlands**
- Zk(b) – **Karst and other subterranean hydrological systems, inland**

Note: “**floodplain**” is a broad term used to refer to one or more wetland types, which may include examples from the R, Ss, Ts, W, Xf, Xp, or other wetland types. Some examples of floodplain wetlands are seasonally inundated grassland (including natural wet meadows), shrublands, woodlands and forests. Floodplain wetlands are not listed as a specific wetland type herein.

#### **Human-made wetlands**

- 1 -- **Aquaculture** (e.g., fish/shrimp) **ponds**
- 2 -- **Ponds;** includes farm ponds, stock ponds, small tanks; (generally below 8 ha).
- 3 -- **Irrigated land;** includes irrigation channels and rice fields.
- 4 -- **Seasonally flooded agricultural land** (including intensively managed or grazed wet meadow or pasture).
- 5 -- **Salt exploitation sites;** salt pans, salines, etc.
- 6 -- **Water storage areas;** reservoirs/barrages/dams/impoundments (generally over 8 ha).
- 7 -- **Excavations;** gravel/brick/clay pits; borrow pits, mining pools.
- 8 -- **Wastewater treatment areas;** sewage farms, settling ponds, oxidation basins, etc.
- 9 -- **Canals and drainage channels, ditches.**
- Zk(c) -- **Karst and other subterranean hydrological systems, human-made**



## **Annex 3: IUCN Protected Areas Categories System**

IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognised by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.

### **Ia Strict Nature Reserve**

Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.

### **Ib Wilderness Area**

Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

### **II National Park**

Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.

### **III Natural Monument or Feature**

Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

### **IV Habitat/Species Management Area**

Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

### **V Protected Landscape/ Seascape**

A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

### **VI Protected area with sustainable use of natural resources**

## Information Sheet on EAA Flyway Network Sites

Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.