

Information Sheet on EAA Flyway Network Sites (SIS) – 2017 version

Available for download from <http://www.eaaflyway.net/about/the-flyway/flyway-site-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. When there is a new nomination or an SIS update, the following sections with an asterisk (*), from Questions 1-14 and Question 30, must be filled or updated at least so that it can justify the international importance of the habitat for migratory waterbirds.
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.

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

Full name: Hiroshi TAKADA

EAAF SITE CODE FOR OFFICE USE ONLY:

Institution/agency: Secretary General, Nankou Group 96 of a local MGO in Osaka

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Telephone:

Fax numbers:

E-mail address:

2. Date this sheet was completed*:

DD/MM/YYYY

10/03/2003

3. Country*:

Japan

4. Name of the Flyway Network site*:

Accepted English transcription of the Site's name.

Osaka Nankou Bird Sanctuary

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.

Latitude 34°38'N, Longitude 135°38'E
(Dec. 34.63333, 135.63333)

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

DL -0.2~+1.6m

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.

19.3 ha (Wetland area: 12.8 ha, Peripheral planting area and observatories: 6.5 ha)

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.

Osaka Nankou Bird Sanctuary is in the northwest corner of Sakishima landfill with about 1,000 ha area in Osaka Bay. West side of the sanctuary faces the Osaka Bay through the barrier of concrete blocks. The climate of this area is temperate. After the reclamation in 1933, shorebirds began to utilize this area, and their numbers have increased gradually. In 1966, NGO actions began to conserve this area as habitat for shorebirds. As the result of these actions, Osaka City decided to build a bird park on the part of the landfill and it opened in 1983. Now Osaka Nankou Bird Sanctuary plays a role as an important stopover site, and is nominated as one of Japan's important wetlands by the Ministry of the Environment.

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:

- it regularly supports > 20 000 migratory waterbirds; or,
- it regularly supports > 1 % of the individuals in a population of one species or subspecies of migratory waterbird; or,
- it supports appreciable numbers of an endangered or vulnerable population of migratory waterbird
- 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.

Osaka Nankou Bird Sanctuar meets the Network criteria in that:

- 1) Little Ringed Plover (*Charadrius dunius*) met the criteria > 1% in the south migrating period in 1997 and 2001.
- 2) And Kentish Plover (*Charadrius alexandrinus*), Red-necked Stint (*Calidris ruficollis*) and Grey-tailed Tattler (*Heteroscelus brevipes*) met the staging criteria on several occasions.
- 3) Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) (IUCN classified as vulnerable – C1) and Spotted Greenshank (*Tringa guttifer*) (classified as Endangered – C1) have been recorded.

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.

Human-made wetland – intertidal mud, sand or salt flats (G) and intertidal marshes (H).

12. Jurisdiction*:

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

City of Osaka

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.

Port and Harbour Bureau trusts the management of Osaka Nankou Bird Sanctuary to the Association for development of Osaka Bay.

Hideo IGARASHI, the Director of Port and Harbour Bureau
Osaka W.T.C Bldg., 1-14-16, Nankou-kita, Suminoe-ku, Osaka 559-0034, Japan.

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.

- 1) Try to attract Bird Sanctuary at Osaka Bay—17 years history of Conserve Wild Bird Society of Osaka Nankou-/ 1985/ Conserve Wild Bird Society of Osaka Nankou
- 2) 500 Important Wetlands in Japan/ 2002/ Nature Conservaation Bureau, Ministry of the Environment, Japan
- 3) Wildbirds Inventory of Osaka, 2001/2002/ Osaka Branch of the Wild Bird Society of Japan
- 4) Osaka Red Data Book 2000/ 2000/ Environment, Agriculture, Forestry and Fisheries Department, Osaka
- 5) Guidebook of Osaka Nankou Bird Sanctuary/ 1988/ Development and Technical Association of Osaka Bay
- 6) The Interim Report of the Shorebirds Cencus in Japan—winter of 1999, spring, autumn and winter of 2001, spring, autumn, and winter of 2002/ 2000-2002/ Nature Conservation Bureau, Ministry of the Environment, Japan, WWF Japan
- 7) WWF Japan Science Report, Vol. 3/ 1996/ WWF Japan
- 8) Migratory Shorebirds, The Globe Trotter/ 2001/ Ministry of the Environment, Japan, WWF Japan, US Fish and Wildlife Service

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.

Geology and geomorphology:	tidal flat
Origins:	Artificial
Soil type and chemistry:	spread sand, clayey soil
Water quality:	pH: 7.9~8.4
	DO: 4.9~13.2 mg/l
	COD: 3.0~9.0 mg/l
	BOD: <0.5~2.1 mg/l
	SS: 3~15 mg/l
Depth:	2 m at maximum
Tidal variation:	M.S.L. +0.6~-1.3m
Climate:	annual mean temperature: 17.2 degree C
	annual precipitation: 1,303 mm
	(average of Osaka City from 1997 to 2001)

16. Physical features of the catchment area:

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

Catchment area: 9 ha at average water level (DL +0.95 m)

17. Hydrological values:

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

The water level almost depends on the sea water level. There is no fresh water inlet by river, fresh water inlet is only rain water. However, South Pond (fresh water lake) is controlled by open/close of the Sluice Gate when the fresh water level is rising.

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.

- 1) Benthos: over 100 species of benthos were identified by benthos research from 2000 to 2002. For example,
 - A. North tidal pool (sea water):
 - i. *Ruditapes philippinarum*, *Musculista senhousia*, *Cirriiformia gtentaculata*, *Neanthes succinea*, Capitellidae gen. Sp, *Grandidierella japonica*, *Corophium indidiosum*, *Carcinus mediterraneus*, etc.
 - B. West tidal pool (sea water):
 - i. *Littorina brevicula*, *Reishia clavigera*, *Crassostrea gigas*, *Perinerels nunita*, *Hemigrapsus sanguineus*, *Hemigrapsus peniciliatus*, etc.

- C. South pond (fresh water):
 - i. *Chironomus salinarius*, etc.
- 2) Fish:
 - i. *Triedentiger obsurus*, *Luciogobius* sp., *Acanthogobius flavimannus*, *Favonigobius gymnauchen*, *Mugil cephalus cephalus*, etc.
- 3) Flora:
 - i. *Ulva* spp., *Gracilaria* sp., *Phragmites communis*, etc.
- 4) Utilization by birds:
 - A. The total number of species which identified at this site from 1983 to 2002 are 236 species, especially the total number of species of shorebird are 51 species.
 - B. Total population and species of shore birds:
 - i. See Figure 1 below,
 - C. Dominant species:
 - i. *Charadrius alexandrinus*, *Calidris ruficollis*, *Calidris alpina*, etc. See figure 2 below,

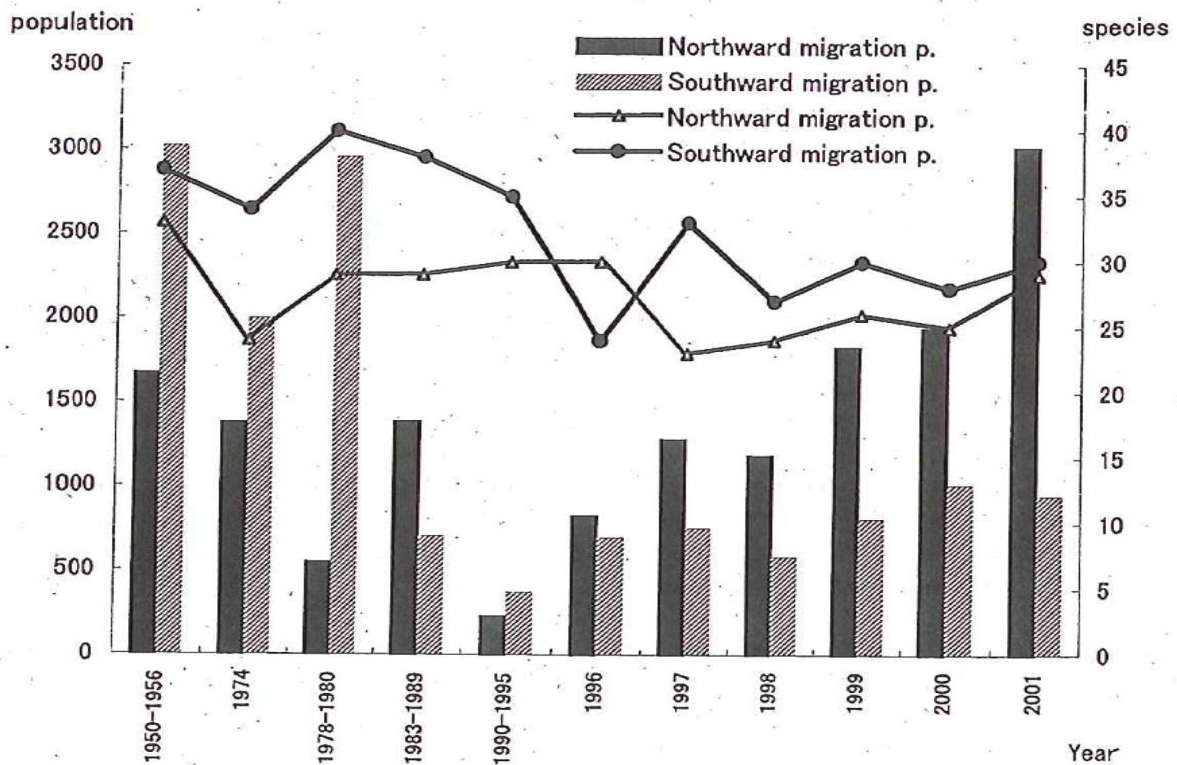


Figure1 Total population (bars) and species (lines) of shorebirds in Osaka Nankou Bird Sanctuary (established: Sep.1983)

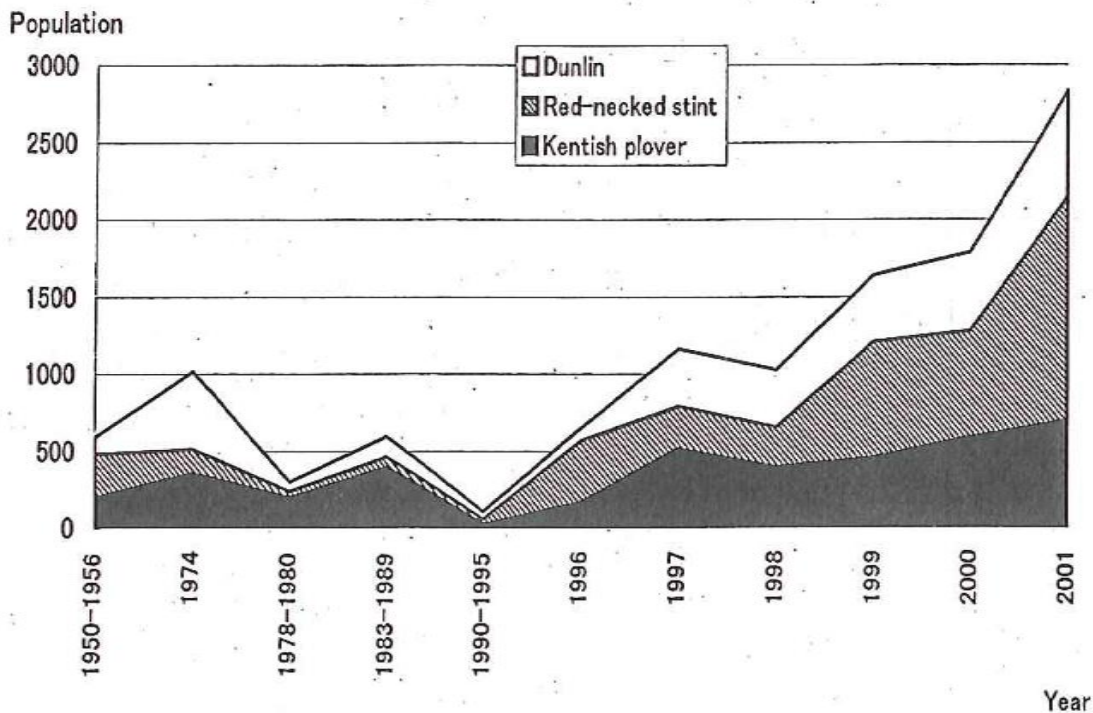


Figure 2 Changes of dominant 3 species in Osaka Nankou Bird Sanctuary (Northward migration period) (Establishment of the Sanctuary: Sep., 1983)

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)

Fimbristylis ferruginea var. *sieboldii* (are designated as necessity watch species in Osaka Red Data book), *Spergularia marina*, *Atriplex hastate*, *Calstegia soldanella* (are designated as necessity watch species in Osaka Red Data Book), *Typha latifolia*, *Carex scabrifolia* (are designated as necessity watch species in Osaka Red Data Book)

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)

Angustassimineia sp., *Rapana venosa* (are designated as vulnerable species in WWF Japan Science Report, Vol. 3), *Mya arenaria oonogai* (are designated as vulnerable species in WWF Japan Science Report, Vol. 3), *Parasesarma plicatum* (are designated as near threatened species in WWF Japan Science Report, Vol. 3), *Uca (Celuca) lace lacteal* (are designated as vulnerable species in WWF Japan Science Report, Vol. 3), *Paratachus plagiatus shimosa*.

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:

- 1) Landscape of view for sea
- 2) The place for environmental education
- 3) The place for wetland restoration

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:
public-owned land

b) In the surrounding area:

23. Current land (including water) use:

a) Within the Flyway Network site:
Observation facilities, etc.

b) In the surroundings/catchment:

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:

- 1) Increase alien species: *Carcinus mediterraneus*, *Perna viridis*, etc.
- 2) Extreme overgrowth: *Ula* spp., etc.
- 3) Effect to environment or bird by fisherman
 - A. Tidal flat are contaminated by dust of fisherman's and wild-bird are also effected by theirs especially fishing guy.

b) In the surrounding area:

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.

- 1) Withdrawal *Ulva* spp. which were extreme overgrowth.
- 2) Recover the topography of tidal flat
- 3) Pick up the waste which thrown by fisherman
- 4) Cut reeds
- 5) Designated for hunting reserve area

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?:

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.

None

27. Current scientific research and facilities:

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

Scientific Research:

- Wild-bird census: 1 or 2 times per every month
- Shorebirds census: Started from 1983, done on every spring, autumn and winter
- Benthos research: Started from 1983, done on 30 times per every year
- Goby research: Done on 2002
- Flora research: Done on 1983, 1989, 1995, and 2001, 2002
- Insect research: Done on 2000, 2001, 2002

Facilities:

- Sediment monitoring and water quality survey
- Measurement of ground level
- Topography of tidal flat survey
- Environmental survey for modification of pure water reserve

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.

- 1) Wetlands Environmental Education Lecture Course had been held on 9 March, 2002.
- 2) School correspondence have been conducted environmental education activities for local elementary school students with Migratory Shorebirds, The Globe Trotter.
- 3) Short course of study Wetlands or bird-watching events have been held for citizens.

29. Current recreation and tourism:

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

The total number of tourists are around 100,000 per annual years. Observant events are held every Sunday and public holidays by volunteer staff, and Osaka Branch of the Wild Bird Society of Japan conducts bird-watching events ever 4th Sunday of each month. And also the Bird-weeks bird-watching for citizens are held by Port and Harbour Bureau, City of Osaka with supportable NGO's staff on every May.

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

Residential and commercial development

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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"/>

Agriculture and aquaculture

annual and perennial non-timber crops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wood and pulp plantations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
livestock farming and ranching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
marine and freshwater aquaculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Energy production and mining

oil and gas drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mining and quarrying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
renewable energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Transportation and service corridors

roads and railroads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
utility and service lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
shipping lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
flight paths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Biological resource use

hunting and collecting terrestrial animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
gathering terrestrial plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
logging and wood harvesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fishing and harvesting aquatic resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Human intrusions and disturbance

recreational activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
war, civil unrest and military exercises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
work and other activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Natural system modifications

fire and fire suppression	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

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