Potential Nature Positive response of Expo 2025 to Yumeshima coastal wetland loss:
16 May 2025

Problem: Yumeshima was an internationally important coastal wetland (390ha) providing an oasis for many waterbirds in Osaka Bay. It was a disposal site for dredgings from Osaka Port shipping channel. Its nature conservation value has been destroyed progressively since 2006, and especially since 2021, by land claim for the Osaka Kansai Expo 2025 site, supported by the Osaka Government.

There are plans to turn Yumeshima's small area of remaining wetland into a "Water World", to the detriment of the birds that still use it. Once the Expo is finished, the plan is to convert the whole site into a resort complex that will be integrated with the adjacent casino. This seems counter to Expo 2025's goal "To contribute to the achievement of the Sustainable Development Goals".

Importance of Yumeshima

- one of Japan's top five sites for the globally Critically Endangered Spoon-billed Sandpiper (current world population <800 individuals); it supported 1 to 3 Spoon-billed Sandpipers (all juveniles) each autumn from 2002 to 2006
- hosted internationally important numbers of other waterbirds eg: Common Pochard (Globally Vulnerable), Kentish Plover (dramatically declining species in Japan) and breeding Little Terns
- hosted smaller numbers of the Endangered Nordmann's Greenshank (Endangered, Category IA of Ministry of Environment, Japan) and Black-faced Spoonbill (Endangered, Category IB)
- was used by a total of 113 species, 51 of which are on the Japanese Red List
- cited in Osaka's biodiversity strategy; jointly with neighbouring Nanko Bird Sanctuary, and is one of only 16 Rank A Biodiversity Hot Spots in Osaka Prefecture
- supported many more birds than Nanko Bird Sanctuary, an East Asian Australasian Flyway Partnership Flyway Network Site, which is also negatively impacted by Yumeshima wetland loss
- even since the Expo '25 development, the remaining wetland in Yumeshima continues to host 71 bird species, including 51 species on Japan's Red Data Book.

Opportunities:
Japan is committed to a nature positive approach[1] and implementation of the Kunming Montreal Global Biodiversity Framework (KMGBF), as reflected in Japan's National Biodiversity Strategy 2023-2030 approved by the cabinet on March 31, 2023.

Currently only about 24.6% of Osaka Prefecture's area is Protected, including only 22 hectares of natural coastal habitats (Osaka Prefecture Biodiversity Regional Strategy). In line with the KMGBF, the extent of Osaka's protected area could be increased to 30% by 2030. Turning Expo 2025 from its current nature negative situation to a nature positive exemplar could help achieve this through:

- mitigation/compensation/offsetting by
- protecting, managing adaptively for conservation, restoring, extending and creating coastal wetlands, including intertidal areas, in Osaka Bay
- to result in an area of coastal wetlands equal to or exceeding the area destroyed by Expo '25
- with a focus on habitat provision for endangered migratory shorebirds including Spoon-billed Sandpipers and Nordmann's Greenshank
- as well as adaptation to climate change and delivery of sustainability.

[1] For example, this commitment was recently reiterated in the letter of congratulation of 12 Nov 2024 from the Prime Minister of Japan regarding the award to Dr William Sutherland (Trustee of RSPB, BirdLife in the UK) of the Cosmos Prize, from the International Garden and Greenery Expo 1990 in Osaka which had the theme of "harmonious coexistence of nature and humankind": *In Japan, too, both the public and private sectors will make further efforts to steadily realize the "Nature Positive" concept. I hope that the International Cosmos Prize will contribute to the further development of the philosophy of the "harmonious coexistence of nature and humankind."*

Specifically, this could include the following urgent actions, which there is technical potential to deliver, given necessary political and financial commitment:

a) **Protect:** designating the remaining coastal wetlands in Osaka Bay as protected areas, and appropriately managing them, including potentially turning the remaining wetland at Yumeshima into an Expo 2025 attraction for its coastal wetland birds and other associated features.
b) **Restore:** after Expo2025 is finished, restoring the Yumeshima coastal wetlands (instead of the current proposal of turning it into a gambling resort); there is strong potential for it to be a freshwater wetland for migratory birds.
c) **Manage and Extend:** neighbouring Nanko Bird Sanctuary (small area of 19.3 ha), just across the channel from Yumeshima; the same birds, including Spoon-billed Sandpipers and Nordmann's Greenshank, use both sites.
   Nanko Bird Sanctuary, Japan's inspirational first restored coastal wetland, with excellent bird observation facilities, was selected in 2001 by the Ministry of the Environment as one of Japan's "500 Important Wetlands", and in 2003 as an EAAFP Flyway Network Site. See Annex III for background of construction and history of creation of the artificial tidal flat habitat in Nanko Bird Sanctuary.)
   The sanctuary has benefited from continuous adaptive conservation management based on monitoring, since 2002, of waterbirds and other wetland biodiversity conducted by the local Non-Profit Organization, Nanko Wetland Conservation Group (NWCG), with various conservation works undertaken by local junior high school and university student volunteers and NWCG.
   There is potential to extend Nanko Bird Sanctuary by creation of freshwater wetland habitat for resting, roosting and feeding of waterbirds in vacant land next to the Sanctuary.
d) **Create**: creating/restoring wetlands at suitable sites (eg low use/idle land) elsewhere in Osaka Bay eg convert old lumber lakes by filling to create shallow water and deploying Regulated Tidal Exchange; creating a larger wetland by enwalling sub-tidal area and adding suitable fill to create a wetland landform, then allowing tidal function, creating new wetland on island landfill site.
e) **Beneficial Use of Dredged Sediments,** with port and harbour authorities, could contribute to the above measures, helping adapt to sea-level rise and other climate-change related threats.
f) **Demonstrate:** including by drawing on the wisdom and technical knowledge of experts, citizen groups and companies exhibiting at the Expo, and leadership from the Expo 2025 Association and Osaka City and Prefecture, Osaka Bay could become a showcase for coastal wetland restoration to inspire similar efforts elsewhere in Japan, the East Asian Australasian Flyway and beyond.

Such nature positive wetland conservation measures would provide:

- vital rungs in the migratory ladder of several (globally) threatened waterbirds; due to great shortage of sites in Osaka Bay, including for Globally Threatened Birds such as Great Knot and Far Eastern Curlew, any wetland restoration, however small would be of conservation value
- many ecosystem services to ensure sustainability including: climate adaptation and mitigation; an increased area of green space for the people of Osaka which currently has rather a low proportion of such areas compared to many cities.
- a response to calls for Nature Positive leadership from Expo '25 to ensure conservation of Osaka Bay's coastal wetlands, from National (see November 2024 declaration of consortium of national NGOs in Annex I) and International organisations (eg Annex II for 2023 letter from BirdLife International to eg Governor and Mayor of Osaka, Keidanren and the Osaka Expo Committee l which was accompanied by a video message).

ANNEX I To Restore Biodiversity-rich Tidal Flats and Wetlands in the Osaka Bay Area

Joint Declaration (Draft)

In the past, expansive tidal flats and reed beds existed in the inner part of Osaka Bay, and the coast from Sakai to Senboku is lined with beaches of white sand and green pines, which nurtured many living creatures that we have all benefited from. Osaka Bay, located at the eastern end of the Seto Inland Sea, had long been a migratory stopover, breeding and wintering area for shorebirds such as sandpipers and plovers.

Many sandpipers and plovers migrate long distances, but their numbers have been declining worldwide, and the number of individuals migrating to Japan has also plummeted. This main reason is considered to be the loss of tidal flats and wetlands that are their habitat. Migratory shorebirds in Japan have been deprived of their habitat due to the development of the bay area and have been using the waterfront areas that are being reclaimed as alternative habitats, but the environment is unstable. The loss of habitat of migratory shorebirds in Osaka Bay, a major migration route, will accelerate the extinction of waterbirds passing through Japan.

The Nanko Bird Sanctuary (the oldest artificial tidal flat in Japan)*, located in Suminoe-ku, Osaka City, was created at the westernmost end of the Nanko Reclaimed Land in 1978. The sanctuary has a 41-year history of restoring, preserving, and adaptively managing tidal flats. Although not large in area, this Bird Sanctuary is one of the nation's pioneering examples of an artificial tidal flat created for migratory shorebirds.

The wetlands created during the construction of Yumeshima, which is currently designated as a “Biodiversity Hotspot A” on the Osaka Prefecture Red List 2014 along with Nanko Bird Sanctuary, had been the largest migratory site for sandpipers and plovers in Osaka Bay for over 20 years. While ground improvement and other construction work is progressing on Yumeshima in preparation for the Osaka Kansai Expo, 71 bird species, including 51 Red Data Book-listed species, were confirmed in the area around the few remaining sedimentation ponds between May 2023 and September 2024. This wetland is used as the “Shallow Freshwater Pool” (Japanese name: “Tsunagari no Umi”) at the Expo without any consideration for the preservation or maintenance of biodiversity and is planned to be completely reclaimed by the City of Osaka after the Expo is over. Migratory shorebirds are about to lose a precious habitat.

Protecting migratory shorebirds means protecting the natural environment of the wetlands and tidal flats that are their migratory grounds, which in turn means protecting local assets rich in biodiversity. Natural seashores create wind paths, reduce heat island effect, and help protect valuable places for humans to interact with nature by the sea and for environmental education.

The Kunming-Montreal Biodiversity Framework (GBF) (December 2022) sets a goal of restoring 30% of degraded nature by 2030, along with a “30 by 30” target that seeks to effectively conserve at least 30% of land and sea as healthy ecosystems. It is an urgent international imperative to consider Osaka Bay restoration from the perspective of protecting migratory shorebirds. The conservation of habitats for migratory birds will also lead to the conservation of biodiversity in the Asian region.

Japan's Cabinet approved the “National Biodiversity Strategy 2023-2030” (March 31, 2023), but its efforts are far behind those of other developed countries.

The current protected area in Osaka Prefecture (the actual area designated as an area based on ordinances, etc.) accounts for about 24.6% of the prefecture's total area, and only 22 hectares of sea area is designated as a natural seaside conservation area (according to reference materials related to

Osaka Prefecture's Regional Biodiversity Strategy). In order to reverse the loss of biodiversity, it is essential to make drastic efforts, including securing a budget. In order to fully recover the loss of biodiversity by 2050, conservation must be further strengthened.

Therefore, we, the environmental groups, are committed to the following actions to realize “nature-positive” in the bay area, which connects land and sea areas

1. Remain: The existing natural environment in the Osaka Bay area should be designated as a protected area, and we should work to maintain and preserve it and pass it on to the future. We will strive to maintain and preserve the existing natural environment in the Osaka Bay area and pass it on to the future.
2. Create: In the bay area that has already been developed and degraded, select idle land and low-use land as candidate nature positives, and begin creation of tidal flats and wetlands at an early stage. Start creating tidal flats and wetlands as soon as possible.
3. Expand: For projects that involve reclamation of coastal and marine areas (e.g., port and phoenix projects), the first priority is to restore biodiversity through “Nature-Positive (Nature Revitalization) and create wetlands and tidal flats equal to or larger than the area of the development.

We declare that we will work on the above together with all organizations and citizens, including governments, companies, environmental groups, and private organizations.

Planned Joint Declaration Organizations

Osaka Nature Conservation Society

Wild Bird Society of Japan, Osaka Branch

Wild Bird Society of Japan

The Nature Conservation Society of Japan

Bird Research, an authorized NPO

WWF Japan (in alphabetical order)

ANNEX II

BirdLife INTERNATIONAL | Partnership for nature and people

Yumeshima in Osaka Bay, Japan

To whom it may concern

BirdLife International joins national organisations including the Wild Bird Society of Japan, WWF Japan and the Nature Conservation Society of Japan in calling on the relevant authorities to take all possible measures to conserve and restore the remaining wetland environment in Osaka Bay.

Yumeshima in Osaka Bay is a stop-over site for shorebirds on the East Asian-Australasian Flyway. The Spoon-billed Sandpiper, listed as Critically Endangered by IUCN, has been observed here. The site is complementary to the Nanko Bird Sanctuary, and autumn migration records of Spoon-billed Sandpiper indicate that the same individuals use both sites.

Over many years, such internationally important sites have been converted for industrial, agricultural or residential use, and shorebird populations have seriously declined, and now all efforts are needed to conserve and restore those sites that are remaining.

We understand that developments planned for the 2025 Osaka Expo and use of the site may result in the loss of wetland habitat at Yumeshima. We ask that the Exposition Association, the City of Osaka, and other interested parties, ensure the preservation and restoration of the wetland environment of Yumeshima, drawing on the wisdom and technical knowledge of experts, citizen groups and companies exhibiting at the Expo, and together with the Nanko Bird Sanctuary make it a centre for the restoration of the coastal environment of the inner part of Osaka Bay.

We believe that the conservation and restoration of these ecosystems in Yumeshima would be an important contribution towards to achieving the new global goals for nature, as set out in the Kunming-Montreal Biodiversity Framework, which was agreed upon by the World, including Japan, at the end of last year.

Yours sincerely

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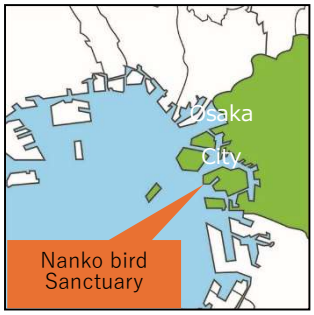
ANNEX III

■ Background of Constructing Osaka Nanko Bird Sanctuary



In the past, the area around Nanko in Osaka was known as "Sumiyoshiura," a region where sediments from the Yodo and Yamato Rivers accumulated, forming shallow waters and mudflats rich in nature. This area was an important stopover for internationally migrating birds such as snipes and plovers. However, with the construction of the port, much of the land was reclaimed, drastically changed the landscape of Nanko. Most of the mudflats disappeared, and the birds lost their crucial resting spots during their migrations across Japan. Concerned that these birds would lose their habitats entirely, local citizens formed a NGO called "Nanko Bird Protection Society" in 1969 and submitted a request to the city government of Osaka. As a result, the construction of a salt marsh started at the western end of Nanko district.

■ Osaka Nanko Bird Sanctuary

The "Osaka Nanko Bird Sanctuary" opened on September 17, 1983. This saltmarsh was established to protect and observe birds inhabiting the Osaka Bay area and to preserve the resting and feeding grounds for many migratory birds such as sandpipers and plovers. The saltmarsh occupies approximately 19.3 hectares, of which 12.8 hectares consist of reed beds, mudflats, ponds, and other wetlands, while 6.5 hectares are allocated to green space. The saltmarsh was selected in 2001 by the Ministry of the Environment, Japan as one of the "500 Important Wetlands in Japan," recognizing their crucial role in preserving biodiversity. Notably, the Osaka Nanko Bird Sanctuary was the only man-made saltmarsh to be chosen.

■Creation of the Saltmarsh in Nanko District

Reclamation works of Nanko began in 1958. This sea area originally had a depth of several meters. The reclamation area was initially surrounded with concrete revetment, and then soft soil dredged from the seabed was dumped. The development of the bird sanctuary began in 1978. The creation of artificial saltmarsh on the reclaimed land was the first attempt in Japan and was a highly challenging task. The saltmarsh was designed with the anticipation of 1m subsidence due to the soft bottom sediment. Sheet nets were laid on the ground, and marine sand were covered at a thickness of 40cm. The bird sanctuary now has three ponds: North Pond, West Pond, and South Pond. They were planned not to be entirely salty, having different concentrations of salinity. The brackish South Pond was connected with the West Pond after the ground levels was stable in 2003.

South Tidal Pond and Freshwater Pool

West Tidal Pond and Reed bed

North Tidal Pond and Mudflat

Panoramic View of Nanko Bird Sanctuary

Bird Observation Center

These two ponds had several pipes in the embankment, allowing seawater to flow in and out from Osaka Bay. In 1994 s ix steel pipes were installed as well in the embankment of North Pond where natural seawaters flew in from Osaka Bay. This contributed to creating a brackish wetland. The ground levels continued to change and reached its current state around 2004. Continuous monitoring and investigation of the environment are essential for the waterfowls since the artificial saltmarsh is ecologically fragile. After the wetland opened, government agencies, colleges, NGOs, NPO (Nanko Wetland Conservation Group), and citizens have cooperated in environmental conservation activities such as maintenance and cleaning of the wetlands and surrounding green spaces. Observation and learning sessions for citizens are also held periodically.

■Observed Birds and Benthic Invertebrates

The wetlands of the bird sanctuary form various environments like reed field, mudflats, rocky shores and oyster reefs. These areas serve as feeding and resting habitats for many waterbirds throughout the year. 219 benthic invertebrates excluding fish were observed until November 2024 with 50 Red Data Book species. Over 41 years, 263 bird species including 55 shorebird species (including the globally threatened Spoon-billed Sandpiper, Nordmann's Greenshank and Far-eastern Curlew) have been observed in the Sanctuary. In 2003, Osaka Nanko Bird Sanctuary was registered in the "East Asian-Australasian Flyway Shorebird Network

Site," an international wetland conservation system by the "Migratory Waterbird Conservation Committee." This was the 33rd site in the East Asian-Australasian region and the 6th in Japan.

■Contents of Recent Wetland Conservation Observed

・Working with local junior high and high school students to build a dike to prevent mud from flowing out of the tidal flat surface layer using native oysters.
・Working with local junior high and high school students and citizens, we mature fallen leaves from deciduous broadleaf trees in the sanctuary and throw them into ponds in the reed beds to maintain habitats for tidal flat creatures.

■Survey and Climate Effects

1. Survey
   ・Bird survey
   ・Survey of tidal flat organisms such as benthos and nekton
   ・Survey of tidal flat habitat

2. Climate Effects
   From August to September, when migratory birds visit here in, seawater and tidal flat surface temperatures are high (37°C or higher), causing a drastic decrease in the number of organisms on the tidal flat surface and the death of seaweed. As a result, there is less food for migratory birds (especially, waders), and the number of migratory shorebirds has also decreased. This situation has continued especially in the past few years.