

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties

2JPO11

1. Date this sheet was completed/updated:

5 February 1999

2. Country:

Japan

3. Name of wetland:

Manko

4. Geographical coordinates:

26° 11'N 127° 41'E

5. Altitude:

average -0.5m above sea level

6. Area:

58 ha

7. Overview:

Manko is a brackish tidal flat, covering an extensive area at low tide, located in the southern part of the main island of Okinawa, approximately 3 km upstream of the mouth of the Kokuba and Noha Rivers which pass through the commercial district of Naha City and Tomigusuku Village. The Manko Tidal Flats are an important transit point for shorebird whose migration route brings them along the Nansei Islands. The tidal flat is registered with the Environment Agency of Japan as one of 12 important shorebirds visiting sites nationwide.

8. Wetland Type:

| | | | | | | | | | | | |
|-----------------|---|----|----|---|----|----|---|----|----|----|----|
| marine-coastal: | A | B | C | D | E | F | G | H | I | J | K |
| inland: | L | M | N | O | P | Q | R | Sp | Ss | Tp | Ts |
| | U | Va | Vt | W | Xf | Xp | Y | Zg | Zk | | |
| man-made: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | |

Please now rank these wetland types by listing them from the most to the least dominant:

G, F

9. Ramsar Criteria:

1a 1b 1c (1d) (2a) 2b 2c 2d 3a 3b (3c) 4a 4b

the most significant criterion applicable to this site: 1d

10. Map of site included? Please tick YES --or-- NO

YES

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

Shin INOUE

Wildlife Protection Division, Nature Conservation Bureau, Environment Agency

1-2-2 Kasumigaseki Chiyoda-ku Tokyo 100-8975 Japan

12. Justification of the criteria selected under point 9

Manko is located in the southwestern part of Japan. It is one of the most important visiting grounds for migratory birds, being a place of transit for those species whose migration route passes along the Nansei Islands. The Manko Tidal Flats also have particular significance since they are located in an urban area. (Criteria for Identifying Wetlands of International Importance 1(d))

The most numerous subspecies seen on the flats are the Pacific Golden Plover *Pluvialis dominica*, the Eurasian Curlew *Numenius arquata orientalis*, and the Grey-tailed Tattler *Tringa brevipes*. Although the estimated minimum number of individual birds of the species is below the 1% criteria stated in the Annexes to Recommendation C4.2, the turnover at migration periods of 5 species, Pacific Golden Plover *Pluvialis dominica*, the Lesser Sandplover *Charadrius mongolus stegmanni*, the Eurasian Curlew *Numenius arquata orientalis*, the Grey-tailed Tattler *Tringa brevipes*, and the Dunlin *Calidris alpina sakhalina* meets the network participation criterion of 0.25% of the "The East Asian-Australasian Shorebird Reserve Network". The Manko tidal flats are also visited by the Black-faced Spoonbill *Platalea minor* which is listed internationally as endangered. Approximately 1% of the estimated number of individuals of this subspecies visit this wetland. (Criteria for Identifying Wetlands of International Importance 3(c))

globally threatened,
criterion 2a

13. General location:

Located in an area of the prefectural capital of Naha City (population approximately 300,000; area, approximately 39 km².) adjoining the village of Tomigusuku (population approximately 45,000; area approximately 18 km².) which is part of the Naha metropolitan area.

14. Physical features:

- Geography: Tidal flat
- Origins: Natural
- Hydrology: Inflow and outflow 326,061 m³/day (12-13 March 1998)
- Soil type: Mainly clay (Montmorillonite, illite, kaolinite), alkaline
- Water quality: BOD 3.6-13 mg/L, pH 7.9-8.1, DO 1.7-5.5 mg/L, SS 7-82 mg/L
- Water depth: -0.5
- Tidal variations: Average water level, 118 mm; average high tide level, 212 mm; average low tide on flats, 3 mm
- Catchment area: 39.8 km² (Hilly area: 22.1 km²; Flat area, 17.7 km²)
- Downstream area: Sea (Naha port). No flood control.
- Climate: Semi-tropical climate. Average annual temperature 22.4 degrees C; average annual rainfall, 2,036.8 mm (average figures 1961-1986).

15. Hydrological values:

Regular dredging to remove sediment

16. Ecological features: (main habitats and vegetation types)

Brackish tidal flats located approximately 3 kilometers upstream of the mouth of two rivers, lined by mostly Druce, *Kandelia candel*, mangroves. The area covers approximately 11 hectares. The climate is warm and constant, with no distinct seasonal changes, but the mangrove trees produce viviparous seeds during spring and summer. The mudflats exposed at low tide are the habitat for an abundance of bottom-dwelling marine life, including crabs, lugworms, gray mullet, and terapia which provide the birds with food.

Flora: *Kandelia candel*, *Rhizophora mucronata*, *Bruguiera gymnorrhiza* etc.

Fauna: lugworms, crabs, fishes, birds

17. Noteworthy flora:

None

18. Noteworthy fauna:

Birds

- *Platalea minor* (Critically Endangered: The Red List of Japan)
- *Tadorna tadorna* (Endangered: The Red List of Japan)
- *Himantopus himantopus himantopus* (Endangered: The Red List of Japan)
- *Falco peregrinus japonensis* (Vulnerable: Red List of Japan, National Endangered Species: Law for the Conservation of Endangered Species of Wild Fauna and Flora)
- *Sterna albifrons sinensis* (Vulnerable: Red List of Japan, National Endangered Species: Law for the Conservation of Endangered Species of Wild Fauna and Flora)
- *Tringa totanus ussuriensis* (Vulnerable: Red List of Japan)
- *Larus saundersi* (Vulnerable: Red List of Japan)
- *Egretta intermedia intermedia* (Near Threatened: The Red List of Japan)
- *Pandion haliaetus haliaetus* (Near Threatened: The Red List of Japan)

- *Ixobrychus cinnamomeus* (Rare: The Red Data Book of Okinawa)

- *Charadius alexandrinus* (Rare: The Red Data Book of Okinawa)

Crayfishes

- *Laomedia astacina* de Haan (Rare: The Red Data Book of Okinawa)

- *Neosarmatium smithi* (Rare: The Red Data Book of Okinawa)

Fishes

- *Periophthalmus modestus* (Threatened Local Population: The Red List of Japan)

19. Social and cultural values:

(Social values)

- Fisheries: Gasami crabs

- Others: Birdwatching and similar activities

20. Land tenure/ownership of:

(a) site

Non-private owned lake 58 ha

(b) surrounding area

Local Government owned land, Private owned land

21. Current land use:

(a) site:

small-scale fishery (unlicensed); unpopulated

(b) surroundings/catchment:

establishment nearby of city parks, residential and commercial districts

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

(a) at the site

past construction of landfills, roads and bridges

(b) around the site

urban development

23. Conservation measures taken:

- Special wildlife protection area 58 ha (Wildlife Protection and Hunting Law)

All of the following are prohibited in this area: placement of man-made objects; landfill; tree or bamboo felling; wildlife hunting, etc.

24. Conservation measures proposed but not yet implemented:

None

25. Current scientific research and facilities:

- monitor organisms on the tidal flats (Naha City)

- monitor wild bird breeding (Environment Agency)

26. Current conservation education:

- establish wild bird observation space on the bridge across the lake surface

- conduct bird watching sessions (local associations and ornithological society)

- conduct tidal flats observation (autonomous local body)

27. Current recreation and tourism:

None

28. Jurisdiction:

(territorial)

Ministry of Construction (Non-private owned lake)

(functional)

Nature Conservation Bureau, Environment Agency (National)

Department of Civil Engineering and Construction, Okinawa Prefectural Government (Local)

29. Management authority:

- Nature Conservation Division, Department of Culture and Environment, Okinawa Prefectural Government

1-2-2 Izumizaki, Naha city, Okinawa Prefecture, 900-8570 Japan

- River Division, Department of Civil Engineering and Construction, Okinawa Prefectural Government
1-2-2 Izumizaki, Naha city, Okinawa Prefecture, 900-8570 Japan

30. Bibliographical references:

- Impact of the Inflow of Hazardous Materials on the Mangrove Ecosystem (Annual Report on Mangrove Ecosystem Research), 1992, Oyama and others

- 1998 Annual Okinawa Prefecture Hydrological Observation Report, 1998, Okinawa Prefecture Government

- Report on the Survey of Birds around Toyomi-Ohashi Bridge 1994-1998, National Roads Southern Districts Office, Okinawa Regional Management Department