

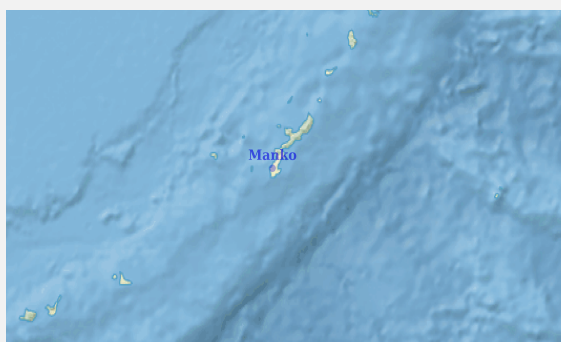


# Ramsar Information Sheet

Published on 13 July 2016

Update version, previously published on : 15 May 1999

## Japan Manko



|                  |                        |
|------------------|------------------------|
| Designation date | 15 May 1999            |
| Site number      | 996                    |
| Coordinates      | 26°11'44"N 127°41'05"E |
| Area             | 58,00 ha               |

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

Summary

Manko is an estuary tidal flat which is formed at the meeting point of the Kokuba River flowing in Naha City and Noha River flowing in Tomigusuku City. It is located 3 kilometers upstream inland and is affected by tidal fluctuations. A maximum of 47 hectares of mudflat appears at low tide. This site is an important stop-over place for migratory waterbirds because there are abundant juvenile fishes and benthos, such as fries or lugworms which are specific to blackish tidal flat. Many shorebirds, such as Pacific Golden Plover (*Pluvialis fulva*), Dunlin (*Calidris alpina*) and Eurasian Curlew (*Numenius arquata*) are often observed. Threatened and vulnerable species such as Black-faced Spoonbill (*Platalea minor*), Far Eastern Curlew (*Numenius madagascariensis*) and Saunder's Gull (*Larus saundersi*) are also observed.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

|                    |                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------|
| Name               | Mr. Manabu Nishimura                                                                               |
| Institution/agency | Naha Nature Conservation Office, Kyushu Regional Environmental Office, Ministry of the Environment |
| Postal address     | 1-15-15, Higawa, Naha-shi, Okinawa-ken, 900-0022, JAPAN                                            |
| E-mail             | NCO-NAHA@env.go.jp                                                                                 |
| Phone              | +81-98-836-6400                                                                                    |
| Fax                | +81-98-836-6401                                                                                    |

#### 2.1.2 - Period of collection of data and information used to compile the RIS

|           |      |
|-----------|------|
| From year | 2005 |
| To year   | 2014 |

#### 2.1.3 - Name of the Ramsar Site

|                                               |       |
|-----------------------------------------------|-------|
| Official name (in English, French or Spanish) | Manko |
|-----------------------------------------------|-------|

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary Yes  No

(Update) B. Changes to Site area No change to area

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS? Yes (actual)

(Update) Are the changes Positive  Negative  Positive & Negative

(Update) Changes resulting from causes operating beyond the site's boundaries?

(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.

Criterion 6 is no longer applicable because the estimated population size of Black-faced Spoonbill (*Platalea minor*) has been continuously increasing and therefore the number of Black-faced Spoonbills at Manko now falls below 1% of its current population size.

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

Boundary of Manko is the same as that of the Special Protection Area within the Manko National Wildlife Protection Area, following the boundaries of the roads and the rivers.

### 2.2.2 - General location

a) In which large administrative region does the site lie? Naha City and Tomigusuku City, Okinawa Prefecture

b) What is the nearest town or population centre? The Center of Naha City, Okinawa Prefecture

### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

#### 2.2.4 - Area of the Site

Official area, in hectares (ha):

Area, in hectares (ha) as calculated from GIS boundaries

#### 2.2.5 - Biogeography

Biogeographic regions

| Regionalisation scheme(s)           | Biogeographic region                                       |
|-------------------------------------|------------------------------------------------------------|
| Udvardy's Biogeographical Provinces | The Palaearctic Realm, Ryukyu islands, Mixed island System |

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

- Criterion 2 : Rare species and threatened ecological communities
- Criterion 4 : Support during critical life cycle stage or in adverse conditions

#### 3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

#### 3.3 - Animal species whose presence relates to the international importance of the site

| Phylum          | Scientific name                  | Common name                        | Species qualifies under criterion   |                                     |                          |                          | Species contributes under criterion |                          |                          |                          | Pop. Size | Period of pop. Est. | % occurrence | IUCN Red List | CITES Appendix I                    | CMS Appendix I                      | Other Status                                                                                                                                                 | Justification      |
|-----------------|----------------------------------|------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-----------|---------------------|--------------|---------------|-------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                 |                                  |                                    | 2                                   | 4                                   | 6                        | 9                        | 3                                   | 5                        | 7                        | 8                        |           |                     |              |               |                                     |                                     |                                                                                                                                                              |                    |
| CHORDATA / AVES | <i>Chroicocephalus saundersi</i> | Saunders's Gull                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |              | VU<br>        | <input type="checkbox"/>            | <input type="checkbox"/>            | VU on Japan Red List                                                                                                                                         | A key staging site |
| CHORDATA / AVES | <i>Falco peregrinus</i>          | Peregrine Falcon                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |              | LC<br>        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | VU on Japan Red List, Nationally Endangered Species (the Law for the Conservation of Endangered Species of Wild Fauna and Flora, the Government of Japan)    |                    |
| CHORDATA / AVES | <i>Numerius madagascariensis</i> | Eastern Curlew, Far Eastern Curlew | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |              | EN<br>        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | VU on Japan Red List                                                                                                                                         | A key staging site |
| CHORDATA / AVES | <i>Platalea minor</i>            | Black-faced Spoonbill              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |              | EN<br>        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | EN on Japan Red List,                                                                                                                                        | A key staging site |
| CHORDATA / AVES | <i>Sternula albifrons</i>        | Little Tern                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |           |                     |              | LC<br>        | <input type="checkbox"/>            | <input type="checkbox"/>            | VU on Japan Red List, International Endangered Species (the Law for the Conservation of Endangered Species of Wild Fauna and Flora, the Government of Japan) |                    |

#### 3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

This brackish tidal flat is located approximately 3 kilometers upstream from the mouth of two rivers, lined by mangroves mostly consisted of *Kandelia ovobata*. Mangroves cover approximately 7 hectares. The climate is warm and constant with no distinct seasonal changes, but the mangrove trees bloom and/or produce viviparous seeds during spring and summer. The mudflats exposed at low tide are the habitat for an abundance of benthos and fishes, including crabs, lugworms, gray mullets and tilapias, which provide the birds with food.

### 4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands

| Wetland types (code and name)         | Local name | Ranking of extent (1: greatest - 4: least) | Area (ha) of wetland type | Justification of Criterion 1 |
|---------------------------------------|------------|--------------------------------------------|---------------------------|------------------------------|
| F: Estuarine waters                   |            | 1                                          | 30                        |                              |
| G: Intertidal mud, sand or salt flats |            | 2                                          | 28                        |                              |

### 4.3 - Biological components

#### 4.3.1 - Plant species

Other noteworthy plant species

| Scientific name             | Common name | Position in range / endemism / other |
|-----------------------------|-------------|--------------------------------------|
| <i>Bruguiera gymnorhiza</i> |             |                                      |
| <i>Kandelia ovobata</i>     |             |                                      |
| <i>Rhizophora mucronata</i> |             |                                      |

#### 4.3.2 - Animal species

Other noteworthy animal species

| Phylum                  | Scientific name                         | Common name                  | Pop. size | Period of pop. est. | % occurrence | Position in range / endemism / other |
|-------------------------|-----------------------------------------|------------------------------|-----------|---------------------|--------------|--------------------------------------|
| CHORDATA/ACTINOPTERYGII | <i>Acentrogobius viridipunctatus</i>    |                              |           |                     |              | VU on Japan Red List                 |
| MOLLUSCA/GASTROPODA     | <i>Auriculodes incrassatum</i>          |                              |           |                     |              | CR on Japan Red List                 |
| MOLLUSCA/GASTROPODA     | <i>Blauneria quadrasi</i>               |                              |           |                     |              | VU on Japan Red List                 |
| CHORDATA/AVES           | <i>Butastur indicus</i>                 | Grey-faced Buzzard           |           |                     |              | VU on Japan Red List                 |
| CHORDATA/AVES           | <i>Charadrius alexandrinus</i>          | Kentish Plover; Snowy Plover |           |                     |              | VU on Japan Red List                 |
| ARTHROPODA/INSECTA      | <i>Cybister tripunctatus lateralis</i>  |                              |           |                     |              | VU on Japan Red List                 |
| CHORDATA/AVES           | <i>Himantopus himantopus</i>            | Black-winged Stilt           |           |                     |              | VU on Japan Red List                 |
| CHORDATA/REPTILIA       | <i>Japalura polygonata polygonata</i>   |                              |           |                     |              | VU on Japan Red List                 |
| MOLLUSCA/GASTROPODA     | <i>Laemodonta siamensis</i>             |                              |           |                     |              | VU on Japan Red List                 |
| CHORDATA/AVES           | <i>Lanius cristatus</i>                 | Brown Shrike                 |           |                     |              | EN on Japan Red List                 |
| CHORDATA/AVES           | <i>Pericrocotus divaricatus</i>         | Ashy Minivet                 |           |                     |              | VU on Japan Red List                 |
| CHORDATA/REPTILIA       | <i>Plestiodon marginatus marginatus</i> |                              |           |                     |              | VU on Japan Red List                 |
| CHORDATA/AVES           | <i>Tadorna tadorna</i>                  | Common Shelduck              |           |                     |              | VU on Japan Red List                 |
| CHORDATA/ACTINOPTERYGII | <i>Taenioides cirratus</i>              |                              |           |                     |              | EN on Japan Red List                 |
| CHORDATA/ACTINOPTERYGII | <i>Taenioides limicola</i>              |                              |           |                     |              | VU on Japan Red List                 |
| CHORDATA/AVES           | <i>Tringa totanus eurhina</i>           | Common Redshank              |           |                     |              | VU on Japan Red List                 |

### 4.4 - Physical components

#### 4.4.1 - Climate

| Climatic region                                 | Subregion                                                    |
|-------------------------------------------------|--------------------------------------------------------------|
| C: Moist Mid-Latitude climate with mild winters | Cfa: Humid subtropical (Mild with no dry season, hot summer) |

More on climate: Average temperature is 22.3 degrees Celsius. Annual rainfall is 2087.1 mm (average from 1891 to 2011).

#### 4.4.2 - Geomorphic setting

RIS for Site no. 996, Manko, Japan

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

More than one river basin

Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean. **Manko is an estuary tidal flat which is formed at the meeting point of the Kokuba River flowing in Naha City and Noha River flowing in Tomigusuku City. It is located 3km upstream inland and affected by tidal fluctuations.**

4.4.3 - Soil

Mineral

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Organic

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional) **Soil type is mainly clay (montmorillonite illite, kaolinite).**

4.4.4 - Water regime

Water permanence

| Presence?                       | Changes at RIS update |
|---------------------------------|-----------------------|
| Usually permanent water present | No change             |

Source of water that maintains character of the site

| Presence?                       | Predominant water source            | Changes at RIS update |
|---------------------------------|-------------------------------------|-----------------------|
| Water inputs from surface water | <input checked="" type="checkbox"/> | No change             |
| Marine water                    | <input checked="" type="checkbox"/> | No change             |

Water destination

| Presence? | Changes at RIS update |
|-----------|-----------------------|
| Marine    | No change             |

Stability of water regime

| Presence?                                  | Changes at RIS update |
|--------------------------------------------|-----------------------|
| Water levels fluctuating (including tidal) | No change             |

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology. **Water depth is 2 m at the average tidal level. Tidal variation: Average tidal level alt. 5.2 cm, average high tidal level alt. 98 cm, average low tidal level alt. -111.8 cm (at Naha part, from 2006 to 2010). Hydrology: Inflow and outflow 326,061 m<sup>3</sup>/day (March 12 - 13, 1998).**

4.4.5 - Sediment regime

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Sediment regime unknown

Please provide further information on sediment (optional): **An alluvium of Holocene sediment is ranged in this area and local Ryuku limestones are also found. The alluvium along Kokuba River is vast and some of the layers are around 15 to 20 m thick.**

4.4.6 - Water pH

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Alkaline (pH>7.4)

(Update) Changes at RIS update No change  Increase  Decrease  Unknown

Please provide further information on pH (optional): **pH 7.2 - 8.1 (at Naha Ohashi Bridge, 2010).**

4.4.7 - Water salinity

Mxohaline (brackish)/Mxosaline (0.5-30 g/l)

(EOD) Dissolved gases in water **DO 3.6 - 6.5 mg/L (at Naha Ohashi Bridge, 2010).**

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

(ECD) Dissolved organic carbon BOD < 0.5 - 2.9 mg/L (at Naha Ohashi Bridge, 2010).

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar  ii) significantly different  site itself:

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Please describe other ways in which the surrounding area is different:

The upstream part and middle stream part of the catchment area are agricultural fields and the downstream part is mostly cities. The catchment is covered with Shimajiri layer mudstones and the Jahgaru soil which is made by weathering of the mudstones distributed widely over the catchment. The climate in the catchment area is the same as Manko and its surrounding areas. The mean annual rainfall in the catchment is ca.1,900mm. Regarding geographical features, there are mostly rolling hills with less than 100m difference of elevation, and most of the rainwater flows into rivers because there are few areas to accumulate rainwater on the ground.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

| Ecosystem service | Examples                                             | Importance/Extent/Significance |
|-------------------|------------------------------------------------------|--------------------------------|
| Food for humans   | Sustenance for humans (e.g., fish, molluscs, grains) | Medium                         |

Regulating Services

| Ecosystem service  | Examples                              | Importance/Extent/Significance |
|--------------------|---------------------------------------|--------------------------------|
| Erosion protection | Soil, sediment and nutrient retention | Medium                         |

Cultural Services

| Ecosystem service          | Examples                                                                                 | Importance/Extent/Significance |
|----------------------------|------------------------------------------------------------------------------------------|--------------------------------|
| Recreation and tourism     | Nature observation and nature-based tourism                                              |                                |
| Scientific and educational | Educational activities and opportunities                                                 | Medium                         |
| Scientific and educational | Important knowledge systems, importance for research (scientific reference area or site) |                                |
| Scientific and educational | Major scientific study site                                                              |                                |

Supporting Services

| Ecosystem service | Examples                                                                                                                                                | Importance/Extent/Significance |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Biodiversity      | Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part | Medium                         |

Other ecosystem service(s) not included above: More on Provisioning services: Fisheries of mangrove crabs, *Scylla serrata* and *Scylla olivacea*, are conducted here for livelihoods in an inland water area.

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

4.5.2 - Social and cultural values

<no data available>

4.6 - Ecological processes

<no data available>



## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

##### Public ownership

| Category                                           | Within the Ramsar Site              | In the surrounding area             |
|----------------------------------------------------|-------------------------------------|-------------------------------------|
| Provincial/region/state government                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Local authority, municipality, (sub)district, etc. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Public land (unspecified)                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

##### Private ownership

| Category                                   | Within the Ramsar Site   | In the surrounding area             |
|--------------------------------------------|--------------------------|-------------------------------------|
| Other types of private/individual owner(s) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Provide further information on the land tenure / ownership regime (optional):

The whole area of the Ramsar Site is public water.

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Naha Nature Conservation Office, Kyushu Regional Environmental Office, Ministry of the Environment

Provide the name and title of the person or people with responsibility for the wetland:

Mr. Manabu Nishimura

Postal address:

1-15-15, Higawa, Naha-shi, Okinawa-ken, 900-0022, JAPAN.  
Tel: +81-98-836-6400, Fax: +81-98-836-6401

E-mail address:

NCO-NAHA@env.go.jp

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

#### Human settlements (non agricultural)

| Factors adversely affecting site | Actual threat | Potential threat | Within the site          | Changes   | In the surrounding area             | Changes |
|----------------------------------|---------------|------------------|--------------------------|-----------|-------------------------------------|---------|
| Housing and urban areas          | Medium impact |                  | <input type="checkbox"/> | No change | <input checked="" type="checkbox"/> | unknown |

#### Transportation and service corridors

| Factors adversely affecting site | Actual threat | Potential threat | Within the site          | Changes | In the surrounding area             | Changes |
|----------------------------------|---------------|------------------|--------------------------|---------|-------------------------------------|---------|
| Roads and railroads              | Medium impact | Medium impact    | <input type="checkbox"/> | unknown | <input checked="" type="checkbox"/> | unknown |

#### Natural system modifications

| Factors adversely affecting site     | Actual threat | Potential threat | Within the site                     | Changes | In the surrounding area             | Changes |
|--------------------------------------|---------------|------------------|-------------------------------------|---------|-------------------------------------|---------|
| Vegetation clearance/land conversion | Medium impact |                  | <input checked="" type="checkbox"/> | unknown | <input checked="" type="checkbox"/> | unknown |

#### Invasive and other problematic species and genes

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes  | In the surrounding area  | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|----------|--------------------------|-----------|
| Problematic native species       | High impact   |                  | <input checked="" type="checkbox"/> | increase | <input type="checkbox"/> | No change |

#### Pollution

| Factors adversely affecting site | Actual threat | Potential threat | Within the site                     | Changes | In the surrounding area  | Changes   |
|----------------------------------|---------------|------------------|-------------------------------------|---------|--------------------------|-----------|
| Garbage and solid waste          | Medium impact |                  | <input checked="" type="checkbox"/> | unknown | <input type="checkbox"/> | No change |

Please describe any other threats (optional):

More on vegetation clearance/land conversion:  
- Rapid expansion of afforested mangrove and parching of tidal flat by sediment within the Ramsar Site.

### 5.2.2 - Legal conservation status

National legal designations

| Designation type                                             | Name of area                                                                 | Online information url | Overlap with Ramsar Site |
|--------------------------------------------------------------|------------------------------------------------------------------------------|------------------------|--------------------------|
| Special Protection Area of National Wildlife Protection Area | Manko Special Protection Area within Manko National Wildlife Protection Area |                        | whole                    |

Non-statutory designations

| Designation type                | Name of area                                  | Online information url | Overlap with Ramsar Site |
|---------------------------------|-----------------------------------------------|------------------------|--------------------------|
| Important Bird Area             | Manko tidal flat                              |                        | whole                    |
| Other non-statutory designation | Manko (500 important wetlands in Japan(2002)) |                        | whole                    |

5.2.3 - IUCN protected areas categories (2008)

IV Habitat/Species Management Area: protected area managed mainly  for conservation through management intervention

5.2.4 - Key conservation measures

Legal protection

| Measures         | Status      |
|------------------|-------------|
| Legal protection | Implemented |

Human Activities

| Measures                                                             | Status      |
|----------------------------------------------------------------------|-------------|
| Harvest controls/poaching enforcement                                | Implemented |
| Communication, education, and participation and awareness activities | Implemented |
| Research                                                             | Implemented |

Other:

More on legal protection: Manko is designated as Special Wildlife Protection Area under the "Law for the Protection of Birds and Mammals and Hunting" of Japan. In this area, capture of wild birds and mammals, installation of artificial structures, reclamation of water body, and tree logging are prohibited without permission by the Minister of the Environment, Japan.

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

There is "Manko Waterbird and Wetland Center" next to the site. Students from the mainland of Japan visit the center as part of school trip;  
 Manko Churakagi (cleaning) Event for general public (once a year) including cleaning activities and nature observation programs: 100–200 participants;  
 Kokuba River Mizu Ashibi Event for general public (once a year) including cleaning activities and nature observation programs: ca.160 participants;  
 Workshop for wise use of Manko by Manko Natural Environment and Conservation Liaison Council;  
 Environmental Meeting by Children in Okinawa (once a year) participated by ca.20 children who take part in conservation activities in Ramsar sites of Okinawa;  
 Bird watching and nature observation programs of benthos such as fishes or crabs in mud with interpretation by experts, experience-based water quality survey, dyeing program using mangrove, lectures on nature and sampling of live creatures for parents and their children, etc. are often conducted.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

5.2.7 - Monitoring implemented or proposed

| Monitoring       | Status      |
|------------------|-------------|
| Plant community  | Implemented |
| Animal community | Implemented |
| Birds            | Implemented |

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

2012 Measurement result of water quality, Okinawa Prefecture  
2007 Revised plan of official Manko Wildlife Protection Area, Ministry of the Environment, Japan  
2005 Revised Red Data Okinawa, threatened wildlife in Okinawa Prefecture, Okinawa Prefecture  
2008 Report of Conservation project examination and survey in Manko National Wildlife Protection Area, Ministry of the Environment, Japan

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Manko from Haryu Bridge (  
*Ministry of Environment, the  
Government of Japan, 20-12-  
2005* )



Manko from Toyomi Bridge (  
*Ministry of Environment, the  
Government of Japan, 02-02-  
2006* )

#### 6.1.4 - Designation letter and related data

Designation letter

<no file available>

Transboundary Designation letter

<no file available>

Date of Designation