



Ramsar Information Sheet

Published on 11 April 2023

China

Zhejiang Pingyang Nanji Islands Wetlands



| | |
|------------------|------------------------|
| Designation date | 28 October 2022 |
| Site number | 2517 |
| Coordinates | 27°27'16"N 121°02'30"E |
| Area | 19 892,87 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

Zhejiang Pingyang Nanji Islands Wetlands is located in the mid-south part of the East China Sea and includes Nanji Island, Xiama'an Island and adjacent bare rocks, submerged rocks, intertidal zones, and sea. It is an offshore marine ecosystem dominated by permanent shallow waters, rocky shores, sandy beaches and gravels. The main components for protection are marine shellfish and algae, marine birds, wild daffodils and their ecological environment.

The Site is situated at the junction of the warm Taiwan current and the coastal current along Jiangsu and Zhejiang, which is a mixed or transition zone for marine organisms distribution and a rare global occurrence. With 2,155 species of marine organisms, the Site is a hotspot for marine biodiversity in the East China Sea. It is also an important habitat for various shellfishes, algae, and marine birds in China, which is of great significance for maintaining regional biodiversity. The geography and hydrological conditions makes it an ecotone of shellfish and algae distribution in the north and south seas of China. There are 422 species of shellfish and 725 species of algae in the Site. Seven new species of algae were discovered in the Site, including *Hippodonta nanjiensis* and *Pleurosira nanjiensis*. The site is a "museum and gene bank of Chinese marine shellfish and algae".

In 1998, Nanji Island was approved by UNESCO as one of the UNESCO World Network of Biosphere Reserves. In 2002, it was listed as one of the four demonstration areas of the GEF/UNDP/SOA project on coastal biodiversity management in southern China. In 2014, it was listed as one of the thirteen demonstration areas of the Partnership in Environmental Management for the Seas of East Asia (PEMSEA) Phase IV project of China, which has an important status in the field of international and domestic marine conservation.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

| | |
|--------------------|--|
| Institution/agency | Administration Bureau of Nanji Islands National Marine Nature Reserve |
| Postal address | 2F, Building 1, Zhenxing Building Jiefang Street Kunyang Town 325499 Pingyang County Wenzhou City Zhejiang Province P.R. China |

National Ramsar Administrative Authority

| | |
|--------------------|---|
| Institution/agency | Ramsar Administrative Authority of the People's Republic of China |
| Postal address | No.18 Hepingli East Road Dongcheng District Beijing 100714 P.R. China |

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

| | |
|-----------|-----------------------------------|
| From year | <input type="text" value="2019"/> |
| To year | <input type="text" value="2021"/> |

2.1.3 - Name of the Ramsar Site

| | |
|---|---|
| Official name (in English, French or Spanish) | <input type="text" value="Zhejiang Pingyang Nanji Islands Wetlands"/> |
|---|---|

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 <input type="radio"/> No <input checked="" type="radio"/> |
| (Update) B. Changes to Site area | No change to area |
| (Update) For secretariat only: This update is an extension | <input type="checkbox"/> |

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? | Not evaluated |
|--|---------------|

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

| | |
|-------------|--------------------------------|
| Former maps | <input type="text" value="0"/> |
|-------------|--------------------------------|

Boundaries description

Nanji Islands Wetlands is located in Zhejiang Nanji Islands National Marine Nature Reserve, which includes the area of the reserve except for two islands of Zhu Island and Chaishi Island. Broadly, the Site boundary is 19.8 km long from east to west and 10.3 km wide from north to south, with the wide East China Sea continental shelf in the east and 25 km from Pingyangzui of Jinxiang Town in the west.

Some marine areas of the broader boundary are neither part of the Reserve nor the Site because these areas are designated for cage aquacultures and hence, are not protected for biodiversity or wetland conservation. There are also some administrative areas including Xing'ao Village, Xinfeng Village, Dongfang'ao Village, Guandi'ao Village and Nanji Town in the broader Site boundary which are not part of the Reserve or the Site. These areas come under consensual administrative planning and were designated to allow local people in the area to settle and utilize the resources in a wise-manner, which overall promotes a harmonious social and infrastructural development and management of the Wetlands.

2.2.2 - General location

| | |
|--|--|
| a) In which large administrative region does the site lie? | <input type="text" value="Wenzhou City, Zhejiang Province"/> |
|--|--|

b) What is the nearest town or population centre?

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 | Evergreen sclerophyllous forests, scrubs or woodlands, Oriental Deciduous Forest Biogeographic Province, Palaearctic Realm |

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

Criterion 1: Representative, rare or unique natural or near-natural wetland types

Nanji Islands Wetlands is located in the southeastern part of the East China Sea, at the junction of the warm Taiwan current and the coastal flows of Jiangsu and Zhejiang (Yangtze River runoff, Qiantang River runoff and Ou River runoff), with complex flow systems and fronts. The Site is dominated by the warm Taiwan current in summer and the coastal flows of Jiangsu and Zhejiang in winter, and has unique substrate characteristics and hydrological conditions with significant seasonal changes, making it a unique near-shore archipelago ecosystem in China.

Hydrological services provided

The coastal structure of Nanji Islands is also unique in terms of the seafloor topography dipping from west to southeast, and the water depth is generally between 15 and 25 m. The northeast and southwest sides of Nanji Island are deep-water channels, with water depth of 30-45 m. The complex seafloor topography makes the circulation more complicated, and in the areas near the islands and waterways, the tidal movement is mainly reciprocal, while the open sea is mostly rotating. The Site has regular semi-diurnal tides which has a strong influence on the vertical distribution of organisms. In addition, the upwelling current that exists all year can send the bottom layer of seawater rich in phosphate, nitrate and other nutrients to the upper layer continuously, which maintains the primary productivity of the sea at a high level and provides rich bait for various marine organisms.

Other ecosystem services provided

The Site is located in the subtropical sea. There are variety of beaches such as mudflats, gravel beach, and lithoherm. The Site is located at the junction of the warm Taiwan current and the coastal flows of Jiangsu and Zhejiang, providing ideal habitat conditions for various marine vegetations and animals. There are 422 species of shellfish, 186 species of large benthic algae, and 539 species of small algae. The Site has become a hot spot of marine biodiversity in the East China Sea, an important distribution area of shellfish and algae, and a natural habitat for marine birds in China, which are of great significance to maintain regional biodiversity.

Criterion 3 : Biological diversity

Justification

The Site is located at the junction of the Northern Ocean currents (the Yellow Sea Cold Water Mass) and the Southern Ocean currents (mainly the Taiwan Warm Current) of China and is also the convergence point of the sea salt water and fresh water from the Yangtze River, Qiantang River and Oujiang River system of the mainland. The unique habitat zone created from the mixing of various currents and the coastal structure of Nanji Islands allows a range of shellfish and algae species with different temperature tolerance to coexist.

There are 2,155 species of marine organisms in Nanji Islands Wetlands, including 422 species of shellfish, 186 species of benthic macroalgae, 539 species of micro algae, 72 species of ciliate protozoa, 350 species of crustaceans, 393 species of fish, and 193 species of other marine organisms. Three types of large benthic algae are found in the west part of the East China Sea, which is a transition zone of temperate and subtropical waters in the East China Sea. Micro algae are found in habitats such as lithoherm, beaches and mudflats in the sea area of Nanji Islands and intertidal areas. The algae are food for fish, shrimp, crab, shellfish and other marine animals, and they occupy important positions in the Site's food web and nutrient cycle.

The number of shellfish species found at this Site accounts for about 15% of the total number of shellfish species found in China. Similarly, the number of macroalgae species found at this Site accounts for about 25% of the total number of macroalgae species found in China. This Site accounts for about 80% of all shellfishes and macroalgae species found in the Zhejiang Province. Among them, 36 shellfish species including *Notoacmea concinna* and *Herpetopoma foyeolatum* (see Appendix 1) were first discovered along the China coast. New algae species such as *Sargassum nigrifoloides*, *Sargassum capitatum*, *Giffordia zhejiangensis*, *Pleurosira nanjiensis*, *Fallacia decussata*, *Parlibellus radiatus*, and *Hippodonta nanjiensis* were also found in Nanji wetlands, moreover making this Site an important algae and shellfish conservation area in the biogeographic region.

In addition, there are 390 species of terrestrial vascular plants in the Site which are important to maintain the biodiversity of the biogeographic region. The wild *Narcissus tazetta* var. *chinensis* growing on the islands of Daleishan Island and Xiaoleishan Island has a special polyploid ploidy, which adds to the genetic diversity of the region.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

The complex habitat of the Site comprising grasses, dense scrub, and caves and fish resources as food provide excellent nesting, breeding, and wintering conditions for marine birds such as Black-tailed Gull (*Larus crassirostris*), Little Tern (*Sternula albifrons*), Bridled Tern (*Onychoprion anaethetus*), Bridled Tern (*Larus schistisagus*), Mew Gull (*Larus canus*) and other marine birds. See Appendix 2 for more information.

The unique hydrological conditions and coastal structure of the Site provide a high-quality environment for the growth of shellfish and algae of two distinctly different temperature ranges, the temperate and tropical. Some of these species are *Sargassum nigrifoloides*, *Hippodonta nanjiensis*, *Notoacmea concinna*, and *Herpetopoma foyeolatum* (see Appendix 3). Therefore, this zone is known as the ecotone of the distribution of shellfish and algae in the northern and southern of China. The Site also provides a suitable habitat for polyploid wild *Narcissus tazetta* var. *chinensis*.

Criterion 7 : Significant and representative fish

Justification

The site is rich in fish resources, with 393 fish species recorded that accounts for 66% of the marine fish species in the East China Sea. The marine region is both tropical and temperate in nature, therefore most of the fish species are warm-water species and warm temperate water species and fall along the southern edge of the distribution of cold and warm water species. From the perspective of geographical distribution, 45.3% of fish species are widely distributed in the Indian Ocean and the tropical Pacific Ocean, 50.4% of fish species are only distributed in the tropical and subtropical Pacific Ocean, and 4.3% of fish species are distributed in the Pacific Ocean, Indian Ocean and Atlantic Ocean. This highlights the international importance of the Site in terms of its biodiversity.

There are four types of fishes: estuarine fishes, shallow and offshore zone widespread fishes, migratory fishes, and oceanodromous fishes. These species build a complex food web structure in the Nanji Islands Wetlands. The Site is inhabited by six dominant species of Lizardfish (*Harpadon nehereus*), Threadfin (*Polydactylus sextarius*), Pinkgray goby (*Amblychaeturichthys hexanema*), Phoenix-tailed anchovy (*Coilia mystus*), Big head croaker (*Collichthys lucidus*) and Spiny red gumard (*Chelidonichthys kumu*). Other important economic fish species include Large yellow croaker (*Larimichthys crocea*), Yellowfish (*Larimichthys polyactis*), Sweep (*Parastromateus niger*), White pomfret (*Pampus argenteus*), Slender shad (*Ilisha elongate*), Silverfish (*Trichiurus lepturus*). Other rare and endangered fishes include Chinese sturgeon (*Acipenser sinensis*) and Yangtze sturgeon (*Acipenser dabryanus*).

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

| Phylum | Scientific name | Criterion 2 | Criterion 3 | Criterion 4 | IUCN Red List | CITES Appendix I | Other status | Justification |
|----------------------------------|------------------------------------|--------------------------|-------------------------------------|-------------------------------------|---------------|--------------------------|--------------|--|
| Plantae | | | | | | | | |
| OCHROPHYTA/ BACILLARIOPHYCEAE | <i>Fallacia decussata</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | | Crit 3 : The world's first record in Nanji sea area; Crit 4: Growing in the site |
| TRACHEOPHYTA/ LILIOPSIDA | <i>Narcissus tazetta chinensis</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | | Crit 3: Special polyploid ploidy; Crit 4: Growing in the site |
| OCHROPHYTA/ BACILLARIOPHYCEAE | <i>Pleurosira nanjiensis</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | | Crit 3 : The world's first record in Nanji sea area; Crit 4: Growing in the site |

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

| Phylum | Scientific name | Species qualifies under criterion | | | | Species contributes under criterion | | | | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I | CMS Appendix I | Other Status | Justification |
|------------------------------------|-------------------------------------|-----------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-----------|---------------------|-----------------|---------------|--------------------------|--------------------------|-----------------------------|--|
| | | 2 | 4 | 6 | 9 | 3 | 5 | 7 | 8 | | | | | | | | |
| Fish, Mollusc and Crustacea | | | | | | | | | | | | | | | | | |
| CHORDATA/ ACTINOPTERYGII | <i>Acipenser dabryanus</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | EW | <input type="checkbox"/> | <input type="checkbox"/> | National Protection Class I | Crit3: Rare species ; Crit7:Rare fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Acipenser sinensis</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | CR | <input type="checkbox"/> | <input type="checkbox"/> | National Protection Class I | Crit3: Rare species ; Crit7:Rare fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Amblychaeturichthys hexanema</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Chelidonichthys kumu</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Coilia mystus</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species and rare species |

| Phylum | Scientific name | Species qualifies under criterion | | | Species contributes under criterion | | | | Pop. Size | Period of pop. Est. | % occurrence 1) | IUCN Red List | CITES Appendix I | CMS Appendix I | Other Status | Justification |
|-----------------------------|-------------------------------|-----------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|---------------------|-----------------|---------------|--------------------------|--------------------------|--------------|---|
| | | 2 | 4 | 6 | 9 | 3 | 5 | 7 | | | | | | | | |
| CHORDATA/ ACTINOPTERYGII | <i>Collichthys lucidus</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | EN | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Harpadon nehereus</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | NT | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Ilisha elongata</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Larimichthys crocea</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | GR | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Larimichthys polyactis</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| MOLLUSCA/ GASTROPODA | <i>Nipponacmea concinna</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: Endemic species; Crit4: First recorded in China's coast |
| CHORDATA/ ACTINOPTERYGII | <i>Pampus argenteus</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Parastromateus niger</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| CHORDATA/ ACTINOPTERYGII | <i>Polydactylus sextarius</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| MOLLUSCA/ SCAPHOPODA | <i>Pulsellum hige</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: Endemic species; Crit4: First recorded in China's coast |
| MOLLUSCA/ POLYPLACOPHORA | <i>Rhyssoplax kurodai</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: Endemic species; Crit4: First recorded in China's coast |
| CHORDATA/ ACTINOPTERYGII | <i>Trichiurus lepturus</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine wetlands in the site; Crit7:Indigenous fish species |
| MOLLUSCA/ GASTROPODA | <i>Vaceuchelus foveolatus</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: Endemic species; Crit4: First recorded in China's coast |
| MOLLUSCA/ BIVALVIA | <i>Yoldia glauca</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: Endemic species; Crit4: First recorded in China's coast |
| Birds | | | | | | | | | | | | | | | | |
| CHORDATA/ AVES | <i>Larus canus</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine or coastal wetlands in the site; Crit4:Living in this Site |
| CHORDATA/ AVES | <i>Larus crassirostris</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine or coastal wetlands in the site; Crit4:Breeding in this Site |
| CHORDATA/ AVES | <i>Larus schistisagus</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine or coastal wetlands in the site; Crit4:Living in this Site |
| CHORDATA/ AVES | <i>Onychoprion anaethetus</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine or coastal wetlands in the site; Crit4:Breeding in this Site |
| CHORDATA/ AVES | <i>Sternula albifrons</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | LC | <input type="checkbox"/> | <input type="checkbox"/> | | Crit3: specifically adapted to marine or coastal wetlands in the site; Crit4:Breeding in this Site |

1) Percentage of the total biogeographic population at the site

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

The Site is located in the biome of evergreen sclerophyllous forests, scrubs or woodlands, and Oriental Deciduous Forest Biogeographic Province in the Palaearctic Realm. With a humid subtropical climate, the site is hot in summer, windy and foggy. The altitude is -39~292.1 m. The soil types of the island can be divided into five soil types: red soil, rhogosol, coastal solonchak, moisture soil and aeolian sand. The substrate of the sea area is mainly silty clay. The Site is an offshore marine ecosystem consisting of permanent shallow waters, rocky shores, sandy beaches, gravels and other wetland types. The main ecological components for protection are marine shellfish, algae, marine birds, wild daffodils and their ecological environment.

Large benthic seaweeds are mainly distributed on rocky reefs and are vertically distributed due to the regular rise and fall of the tides. The green algae such as *Pediastrum simplex* and *Dictyocha fibula* decrease gradually from the high tide zone to the low tide zone. Brown algae such as *Undaria pinnatifida*, *Sargassum nigrifoloides* and *Sargassum capitatum* exhibit stripe distribution in the mid-tidal zone. Red algae such as *Gloiopeltis furcata* and *Gelidium divaricatum* and seaweed species and abundances increase gradually from the high tide zone to the low tide zone. Micro algae are mainly distributed in the sea and intertidal areas of beaches, lithoherm, and mudflats. The dominant taxa in the sea, sediment, and intertidal zones are *Chaetoceros* sp., *Skeletonema costatum*, and *Navicula corymbosa* and *Phormidium* respectively. The average abundance of micro algae is the highest in the beach, followed by the lithoherm, and lowest in the mudflats. In the vertical distribution, micro algae species in the beach area decrease significantly from the high tide to the low tide area and in the mudflats and lithoherm areas, they increase significantly from the high tide to the low tide area.

Shellfishes are distributed in the intertidal zone of beach, mudflat, boulder, submerged rocks, subtidal zone, and shallow sea areas. The high tide zone is dominated by *Tetraclita japonica*, *Nerila yoldii*, and *Monodonta labio*. The middle tide zone is dominated by *Mytilisepta virgata* and *Monodonta labio* and the low tide area is dominated by large mollusks, providing sufficient food sources for the survival of birds such as White-bellied Sea-eagle (*Haliaeetus leucogaster*) and Pacific Reef-egret (*Egretta sacra*).

The abundant shellfish and algae are important gene pool for human mariculture and help regulate air quality and carbon dioxide fixation from the atmosphere. The site also has a greater impact on regional air humidity, temperature, and other climatic aspects.

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 |
|------------------------------------|------------|--|---------------------------|------------------------------|
| A: Permanent shallow marine waters | | 1 | 19008.06 | Unique |
| D: Rocky marine shores | | 2 | 783 | Unique |
| E: Sand, shingle or pebble shores | | 3 | 101.81 | Unique |

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

| Phylum | Scientific name | Position in range / endemism / other |
|----------------------------|------------------------------|--------------------------------------|
| TRACHEOPHYTA/MAGNOLIOPSIDA | <i>Cinnamomum yabunikkei</i> | National Protection Class II |

Optional text box to provide further information

There are four criteria for the selection of species in the List of Wild Plants under Key State Protection: 1, endangered species with very small number and narrow distribution range; 2, endangered and rare species with important economic, scientific and cultural values; 3, wild populations of important crops and related species with genetic value; 4, the species with important economic value, and resources are sharply reduced due to over-exploitation and utilization.

4.3.2 - Animal species

Other noteworthy animal species

| Phylum | Scientific name | Pop. size | Period of pop. est. | % occurrence | Position in range /endemism/other |
|------------------------|-------------------------------|-----------|---------------------|--------------|-----------------------------------|
| CHORDATA/AVES | <i>Accipiter gentilis</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Accipiter soloensis</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Buteo japonicus</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Buteo lagopus</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Cygnus cygnus</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Egretta sacra</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Garrulax berthemyi</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Garrulax canorus</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Glaucidium brodiei</i> | | | | National Protection Class II |
| CHORDATA/AVES | <i>Haliaeetus leucogaster</i> | | | | National Protection Class I |
| CHORDATA/AVES | <i>Milvus migrans</i> | | | | National Protection Class II |
| MOLLUSCA/GASTROPODA | <i>Monodonta labio</i> | | | | dominant species |
| MOLLUSCA/BIVALVIA | <i>Mytilisepta virgata</i> | | | | dominant species |
| CHORDATA/AVES | <i>Pandion haliaetus</i> | | | | National Protection Class II |
| ARTHROPODA/MAXILLOPODA | <i>Tetraclita japonica</i> | | | | dominant species |
| CHORDATA/AVES | <i>Tyto longimembris</i> | | | | National Protection Class II |

Optional text box to provide further information

Wild animals have important ecological value. The State Council of the People's Republic of China has approved and issued the list of rare and endangered wild animals under national key protection, and the protection of these wild animals has been raised to the legal level.

4.4 - Physical components

4.4.1 - Climate

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

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

Entire river basin

Upper part of river basin

Middle part of river basin

Lower part of river basin

More than one river basin

Not in 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.

East China Sea

4.4.3 - Soil

Mineral

(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)

The soil types of the island can be divided into five soil types: red soil, rhogosol, coastal solonchak, moisture soil and aeolian sand. Nanji main island is a rock baldness formed by wave impact in the strip area from the junction of sea surface to about 30 m above sea level; as the altitude increases, the soil layer gradually thickens, and the top of hills and gentle slope areas are mostly distributed with saturated red soil subclasses. The soils are mainly reddish brown, mostly acidic, with pH ranging from 6.0-7.4 and a median value of 6.6. Both mud and sand are alkaline. Soil organic matter content and nitrogen content are moderately low, with low phosphorus content, rich potassium content, and high calcium and magnesium concentrations. The substrate of the sea area is mainly silty clay.

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 |
|--------------|-------------------------------------|-----------------------|
| 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.

The tide of the sea area is a regular semi-diurnal tide, and the tidal action is strong, with an average tidal difference of 3.74 m and a maximum tidal difference of 6.76 m. The Site is at the intersection of two flow systems: the coastal current of Jiangsu and Zhejiang (flowing from north to south in winter and turning to south to north in summer, low temperature and low salinity) and the warm current of Taiwan (flowing from south to north, high temperature and high salinity), which are influenced by their alternating waxing and waning, forming a relatively typical convergent current with obvious seasonal changes in water temperature, salinity, transparency and other hydrological characteristics. The upwelling along the coast exists all year round, and its flow velocity is generally $1.0 \times 10^{-4} \sim 1.0 \times 10^{-3}$ m/s, which is strengthened in summer under the influence of southwest monsoon. In addition, there are many islands and reefs in the area. The local eddy currents are well developed by the influence of the topography, and the water bodies exchange well.

4.4.5 - Sediment regime

Sediment regime is highly variable, either seasonally or inter-annually

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

Sediment regime unknown

Please provide further information on sediment (optional):

There is no obvious erosion, accretion or sedimentation in Nanji Islands Wetlands with high water flow and rapid water exchange. The sediments include two kinds: intertidal sediments and shallow marine sediments. The median particle size range of intertidal sediments is 5.10-7.27, and the main component is silt; the median particle size range of shallow marine sediments is 1.56-7.70.

| | |
|----------------------------------|---|
| (ECD) Water turbidity and colour | The waters of the sea are relatively clear, with water color of green to light blue. |
| (ECD) Light - reaching wetland | Transparency is generally greater than 2m, with a maximum of 7m or more in summer and autumn. |
| (ECD) Water temperature | The annual average surface water temperature is 20.42°C, with obvious seasonal variation. |

4.4.6 - Water pH

Alkaline (pH>7.4)

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

Unknown

Please provide further information on pH (optional):

The pH range is 8.03-8.12 in winter and 7.98-8.17 in summer.

4.4.7 - Water salinity

Euhaline/Eusaline (30-40 g/l)

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

Unknown

Please provide further information on salinity (optional):

The salinity of seawater in the Site is relatively stable, with an average value of 30.03 g/l in winter and 33.95 g/l in summer.

(ECD) Dissolved gases in water

The mean dissolved oxygen concentration of surface is 9.37 mg/L in winter and 6.15 mg/L in summer.

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

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

Unknown

Please provide further information on dissolved or suspended nutrients (optional):

The mean value of active phosphate concentration is 0.024 mg/L in winter and 0.012 mg/L in summer; the mean value of inorganic nitrogen concentration is 0.454 mg/L in winter and 0.049 mg/L in summer.

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.

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) | High |
| Genetic materials | Ornamental species (live and dead) | High |

Regulating Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|--------------------|--|--------------------------------|
| Climate regulation | Local climate regulation/buffering of change | High |
| Climate regulation | Regulation of greenhouse gases, temperature, precipitation and other climactic processes | High |
| Hazard reduction | Coastal shoreline and river bank stabilization and storm protection | High |

Cultural Services

| Ecosystem service | Examples | Importance/Extent/Significance |
|-----------------------------|---|--------------------------------|
| Recreation and tourism | Nature observation and nature-based tourism | High |
| Spiritual and inspirational | Inspiration | High |
| Spiritual and inspirational | Contemporary cultural significance, including for arts and creative inspiration, and including existence values | High |
| Spiritual and inspirational | Aesthetic and sense of place values | Low |
| Scientific and educational | Educational activities and opportunities | High |
| Scientific and educational | Important knowledge systems, importance for research (scientific reference area or site) | High |
| Scientific and educational | Long-term monitoring site | High |
| Scientific and educational | Major scientific study site | High |

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 | High |
| Soil formation | Sediment retention | High |
| Nutrient cycling | Storage, recycling, processing and acquisition of nutrients | High |
| Nutrient cycling | Carbon storage/sequestration | High |

Within the site:

Outside the site:

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

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):

Yi Pan., Shufeng Ye, et al. Studies on marine ecosystem services and valuation: a case of Nanji Archipelagos Natural Marine Reserve[J]. Marine Environmental Science, 2009, 28(2):176-180.

4.5.2 - Social and cultural values

- i) the site provides 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) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) 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

<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 |
|-----------------------------|-------------------------------------|-------------------------------------|
| National/Federal government | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

5.1.2 - Management authority

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

Administration Bureau of Nanji Islands National Marine Nature Reserve

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

Director, Xidan Huang

Postal address:

009 Room, 2F, Building 1, Zhenxing Building, Jiefang Street, Kunyang Town 325499, Pingyang County, Wenzhou City, Zhejiang Province, P.R. China

E-mail address:

njbhggj@163.com

5.2 - Ecological character threats and responses (Management)

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

Agriculture and aquaculture

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|-----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Marine and freshwater aquaculture | Low impact | | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Biological resource use

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|--|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Fishing and harvesting aquatic resources | Low impact | | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

Human intrusions and disturbance

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

Climate change and severe weather

| Factors adversely affecting site | Actual threat | Potential threat | Within the site | Changes | In the surrounding area | Changes |
|----------------------------------|---------------|------------------|-------------------------------------|-----------|-------------------------------------|-----------|
| Storms and flooding | Low impact | | <input checked="" type="checkbox"/> | No change | <input checked="" type="checkbox"/> | No change |

5.2.2 - Legal conservation status

Global legal designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|--------------------------|--|---|--------------------------|
| UNESCO Biosphere Reserve | Nanji Islands World Biosphere Reserve, China | http://www.unesco-hist.org/index.php?r=article/info&id=813 | partly |

National legal designations

| Designation type | Name of area | Online information url | Overlap with Ramsar Site |
|--------------------------------|---|------------------------|--------------------------|
| National Marine Protected Area | Zhejiang Nanji Islands National Marine Nature Reserve | | partly |

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve

Ib Wilderness Area: protected area managed mainly for wilderness protection

II National Park: protected area managed mainly for ecosystem protection and recreation

- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

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

Habitat

| Measures | Status |
|---|-------------|
| Catchment management initiatives/controls | Implemented |
| Improvement of water quality | Implemented |
| Habitat manipulation/enhancement | Implemented |
| Hydrology management/restoration | Implemented |
| Re-vegetation | Implemented |
| Soil management | Implemented |
| Land conversion controls | Implemented |
| Faunal corridors/passage | Implemented |

Species

| Measures | Status |
|---|-------------|
| Threatened/rare species management programmes | Implemented |
| Reintroductions | Implemented |
| Control of invasive alien plants | Implemented |
| Control of invasive alien animals | Implemented |

Human Activities

| Measures | Status |
|--|-------------|
| Management of water abstraction/takes | Implemented |
| Regulation/management of wastes | Implemented |
| Livestock management/exclusion (excluding fisheries) | Implemented |
| Fisheries management/regulation | Implemented |
| Harvest controls/poaching enforcement | Implemented |
| Regulation/management of recreational activities | Implemented |
| Communication, education, and participation and awareness activities | Implemented |
| Research | Implemented |

Other:

In 1990, the State Council approved the establishment of the Zhejiang Nanji Islands National Marine Nature Reserve, and in 1992, the Administration Bureau of Nanji Islands National Marine Nature Reserve was established, and in 1998, it joined the UNESCO World Network of Biosphere Reserves.

In 1996, the Zhejiang Provincial People's Congress adopted the Regulations on the Management of Zhejiang Nanji Islands National Marine Nature Reserve (revised in 2017), and in 1998, the Zhejiang Province Bureau of Oceanic Administration promulgated and implemented the Implementation Rules of Management Regulations of Zhejiang Nanji Islands National Marine Nature Reserve. The Administration Bureau of the Reserve had promulgated the Management System Collection of Nanji Reserve Management Bureau and other systems, established village patrol teams, linked the effectiveness of management and protection to ecological compensation; innovated the creation of a joint meeting system, in which all major departments on the island hold joint meetings through regular monthly meetings. The joint law enforcement actions are carried out regularly with all relevant departments, with an annual average of 286 times; the Nanji Islands National Marine Nature Reserve Capital Construction Project Management Measures is introduced to reduce the damage to the environment caused by the construction of the project; passenger ship flights to the island are reasonably arranged, and the number of visitors to the island is strictly controlled within 1800 people/day.

The Site has published scientific research and popularization books such as A Brief History of Nanji Reserve and Into the Kingdom of Shellfish, filmed short films, built the Nanji Marine Science Education Center and educational signs, and raised the public's awareness of marine ecology and biodiversity protection through new media campaigns, summer camps, lectures on marine knowledge, and marine environmental volunteer actions.

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

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

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, the site has already been restored

5.2.7 - Monitoring implemented or proposed

| Monitoring | Status |
|---------------------------------|-------------|
| Animal species (please specify) | Implemented |
| Birds | Implemented |
| Plant species | Implemented |
| Animal community | Implemented |
| Water regime monitoring | Implemented |
| Water quality | Implemented |
| Soil quality | Implemented |
| Plant community | Implemented |

The reserve has carried out a number of monitoring work such as intertidal monitoring, subtidal monitoring and marine ecosystem monitoring. In 1989, a large-scale comprehensive survey was carried out to grasp the resource background of the reserve. From 1992 to 1993, intertidal shellfish and algae surveys were carried out. Starting from 2009, long-term monitoring of benthic macro-resources and habitat environment in spring and autumn was carried out. Starting from 2010, long-term monitoring of summer migratory birds (*Larus crassirostris*) and wild daffodils were carried out. In 2012-2013 and 2017-2018, forest dynamic sample plot construction and forest dynamic monitoring were carried out. Starting from 2013, marine biological resources and habitat surveys were carried out. And the reserve increased intertidal monitoring sections and carried out long-term sampling survey in four seasons and two seasons (spring and autumn), respectively. Since 2012, The reserve has cooperated with Zhejiang Ocean University, Institute of Oceanology, Chinese Academy of Sciences, Beijing Normal University, Nanjing Forestry University and other universities and research institutes to establish field observations and research platforms to further improve the monitoring and scientific research capacity of the reserve. At present, the Nanji Big Data Management Platform and Underwater Monitoring Platform have been built to make intelligent law enforcement management and biodiversity monitoring come true. The reserve insists on regular sampling and monitoring of marine organisms in the intertidal zone, mainly shellfish and algae, as well as regular monitoring of seabirds and daffodils, which are other major objects of protection. The reserve had established an expert advisory committee composed of domestic well-known marine biology experts, created provincial-level postdoctoral research stations, Wenzhou academician expert workstations and other scientific research platforms. The reserve further continued to promote cooperation with Institute of Oceanology, Chinese Academy of Sciences and other more than a dozen research institutes, jointly trained six postdoctoral and other types of high-level talents, carried out thirty biodiversity surveys and other marine scientific researches on shallow sea, intertidal and subtidal areas. The reserve had published nine papers in domestic core journals, among which two are published by SCI.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Zhu H, Ku W P., Rong J T., et al. Species diversity and floristic characteristics of vascular plants in Nanji Island, Zhejiang province [J]. *Plant Diversity*, 2015, 37(6):713-720.

Rong J T., Zhu H, Ku W P. et al. Characteristics of vegetation communities of the main forest types in Nanji Island, Zhejiang province[J]. *Journal of Northwest Forestry University*, 2017, 32(2):294-300.

Xie X., Yu C G., Cai H C., et al. The composition and distribution of fish assemblage in the shallow waters around Nanji Islands and its relationship with environmental factors [J]. *Journal of Guangdong Ocean University*, 2017, 37(4):46-54.

Zhu S X., Cai H C., Zhu H., et al. Investigation and invasive analysis of alien invasive plants in Nanji Islands, Zhejiang province [J]. *Journal of Beihua University (Natural Science)*, 2019, 20(6): 800-805.

Zhang W J., Yu C G., Jian K K., et al. Study on the characteristics of fish community structure in the east of Nanji Islands Marine Nature Reserve [J]. *Journal of Zhejiang Ocean University (Natural Science)*, 2019, 38(6):487-494.

Zhang K., Lv S S. Discussion on the role and historical changes of Nanji Island in navigation routes by marine navigation manual in Ming and Qing dynasties [J]. *Marine History Research*, 2020(1):147-166.

Xiao J M. Ecosystem assessment of Nanji Island based on PSR model[D]. Xiamen University, 2007.

He X B. Community structure characteristics of coral reef area fishes in Nanji Islands marine nature reserve[D]. Zhejiang Ocean College, 2013.

Dai D X. Study on the structure of marine fishery community and its niche and interspecific association in the east of Nanji Islands[D]. Zhejiang Ocean University, 2020.

Cai H C. A Brief History of Nanji Islands National Marine Nature Reserve [M]. Beijing: Ocean Press, 2021.

Master Plan of Zhejiang Nanji Islands National Marine Nature Reserve, 2014.

Udvardy M. 1975. Classification of the Biogeographical Provinces of the World. IUCN Occasional Paper No. 18.

Catalog of Wildlife under Key State Protection. 2021. http://www.gov.cn/xinwen/2021-02/09/content_5586227.htm.

List of Wild Plants under Key State Protection. 2021. http://www.gov.cn/zhengce/zhengceku/2021-09/09/content_5636409.htm.

6.1.2 - Additional reports and documents

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

<4 file(s) uploaded>

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:



Nanji overview (Nanji Reserve Research Institute, 27-07-2020)



Beacon Hill (Nanji Reserve Research Institute, 15-08-2019)



Beach plant (Nanji Protected Area Research Institute, 09-11-2019)



Beach (Nanji Reserve Research Institute, 15-08-2019)



Green algae in Huokun'ao Bay (Nanji Reserve Research Institute, 18-05-2019)



Intertidal algal Sargassum hemiphylum community (Nanji Reserve Research Institute, 01-05-2022)



Larus crassirostris in Xama'an island (Erwei Wu, 25-05-2020)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation